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ONTARIO GEOLOGICAL SURVEY
Open File Report 5551

Handbook for Prospectors
and Developers in the
Kenora Area

by

H.G. Clark

Sponsored by: Tri-Municipal Economic Development
Commission

1985

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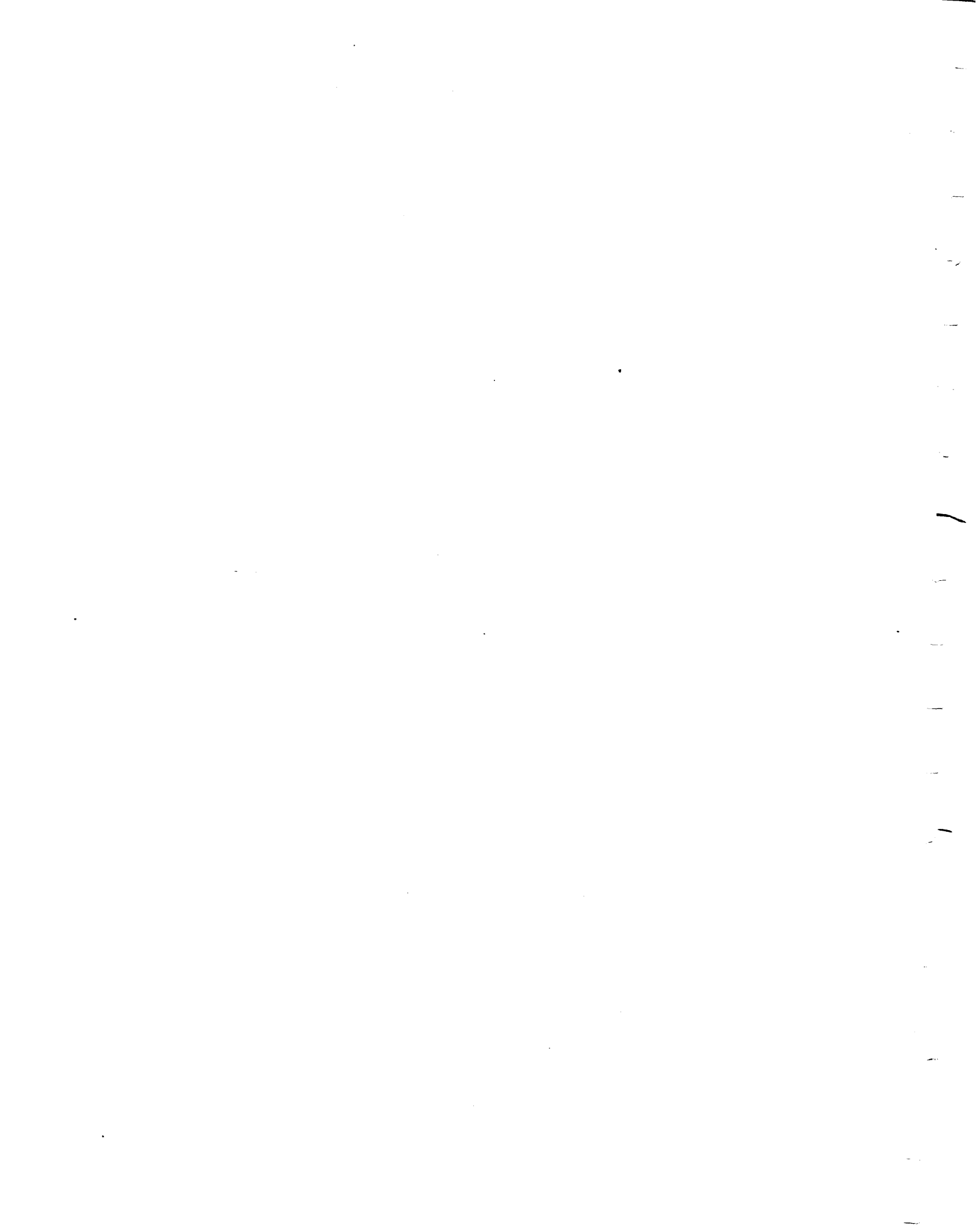
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V. G. Milne, Director
Ontario Geological Survey

Preface

The Handbook for Prospectors and Developers in the Kenora Area provides a guide for persons interested in gold exploration and development in the Kenora area. Most of the information contained in this handbook applies to gold in particular but is applicable to other mineral commodities.

During the preparation of this handbook the wisdom of Boyle (1980, p.452) was observed:

"It is worth mentioning that the prospector should prospect in old geological reports, ancient treaties and narratives of explorers. Gold has been sought by men for thousands of years, and he has documented its occurrence since the invention of writing. Old gold workings, prospects and chance occurrences of the precious metal are described in the most ancient writings, some now long forgotten. Perusal of these descriptions so often is valuable in selecting auriferous areas for further work not only in the search for gold but also for silver, copper and other base metals with which gold is commonly associated."





Frontispiece: Landsat imagery of the Kenora Service Area. Lake of the Woods in center of image is ice covered. Kenora is located to the upper left of center, Shoal Lake is in the lower left corner and Cameron Lake is in the lower right corner. Gold exploration activity presently is most active in the Shoal Lake and Cameron Lake areas. Image from Canada Center for Remote Sensing, Ottawa, Ontario.



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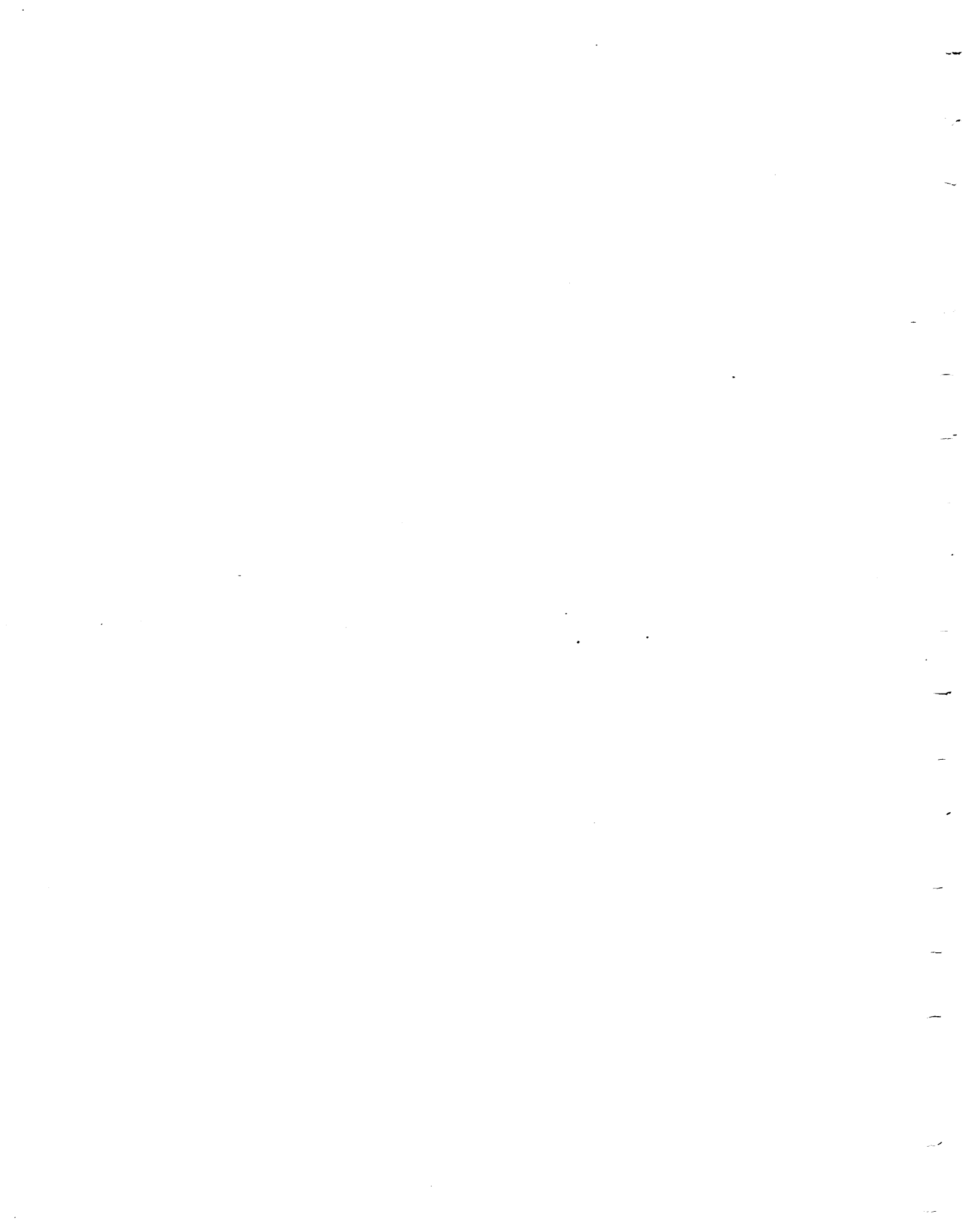
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Chart in back pocket

Exploration & Development History in the
Kenora Area 1881 - 1946



HANDBOOK FOR PROSPECTORS
AND DEVELOPERS
IN THE KENORA AREA

by

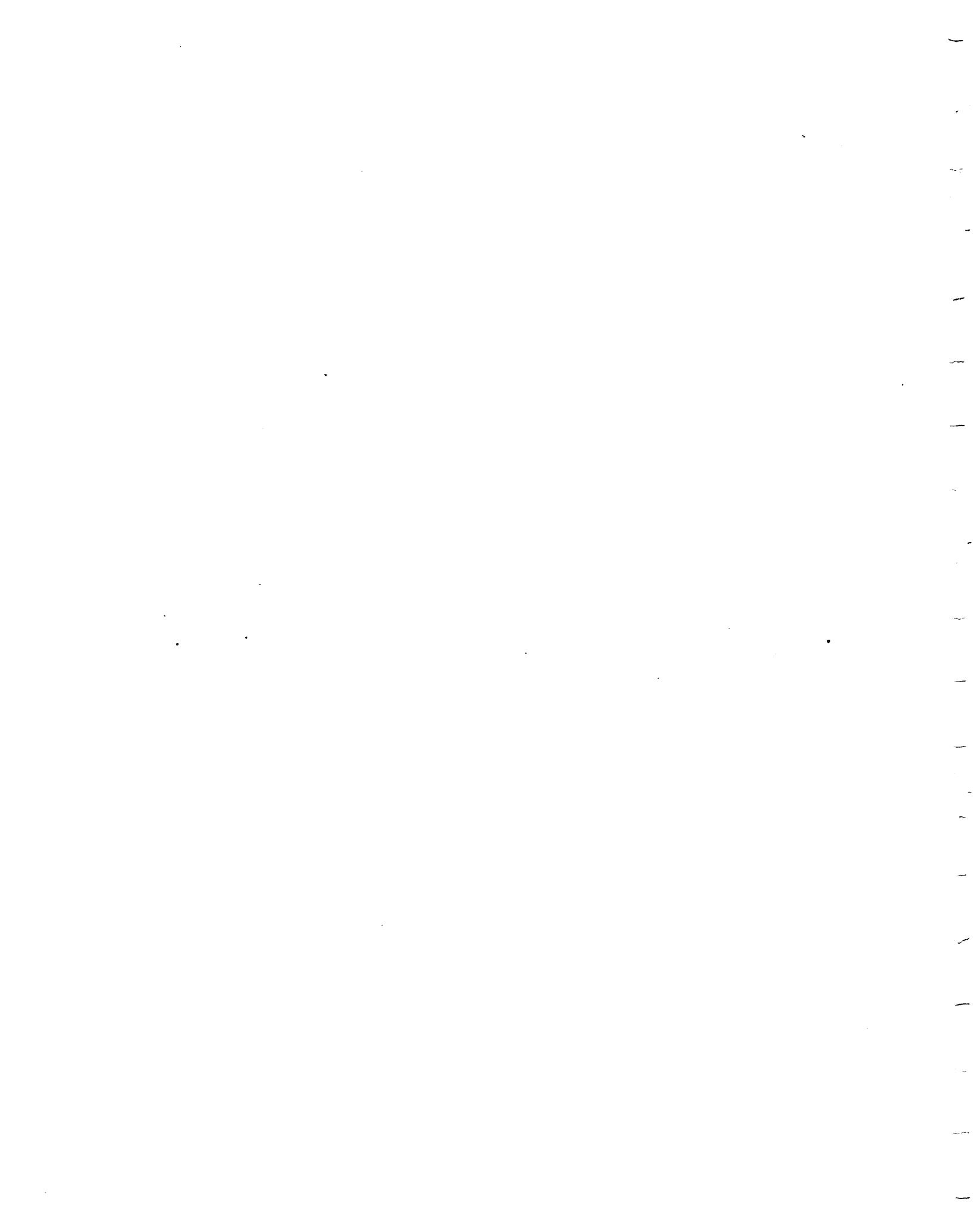
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**** INTRODUCTION ****



Introduction

This handbook has been produced by the Tri-Municipal Economic Development Commission to aid the exploration and development of gold prospects in the Kenora service area. The Kenora service area is considered to extend from the Manitoba boundary in the west to Vermilion Bay in the east, and from Nestor Falls in the south to latitude 50° in the north. See fig. 1.

The handbook consists of five sections, each providing useful information which may not easily be found in any one place. Thus, it may act as a starting point for further investigation into the topic of concern. The five sections are:

- 1) General Geology
- 2) History of Gold Exploration in the Kenora Area
- 3) Gold Potential in the Kenora Area
- 4) Guidelines for Developers
- 5) Guidelines for Prospectors

The section on General Geology gives a brief overview of the geology of this part of the Superior Province.

The section on Gold Exploration in the Kenora area outlines past prospecting and mining activity on the Lake of the Woods set against the economic and political climate at the turn of the century. It is hoped that this will give the reader a better understanding of production difficulties of this period and their implications in terms of current development.

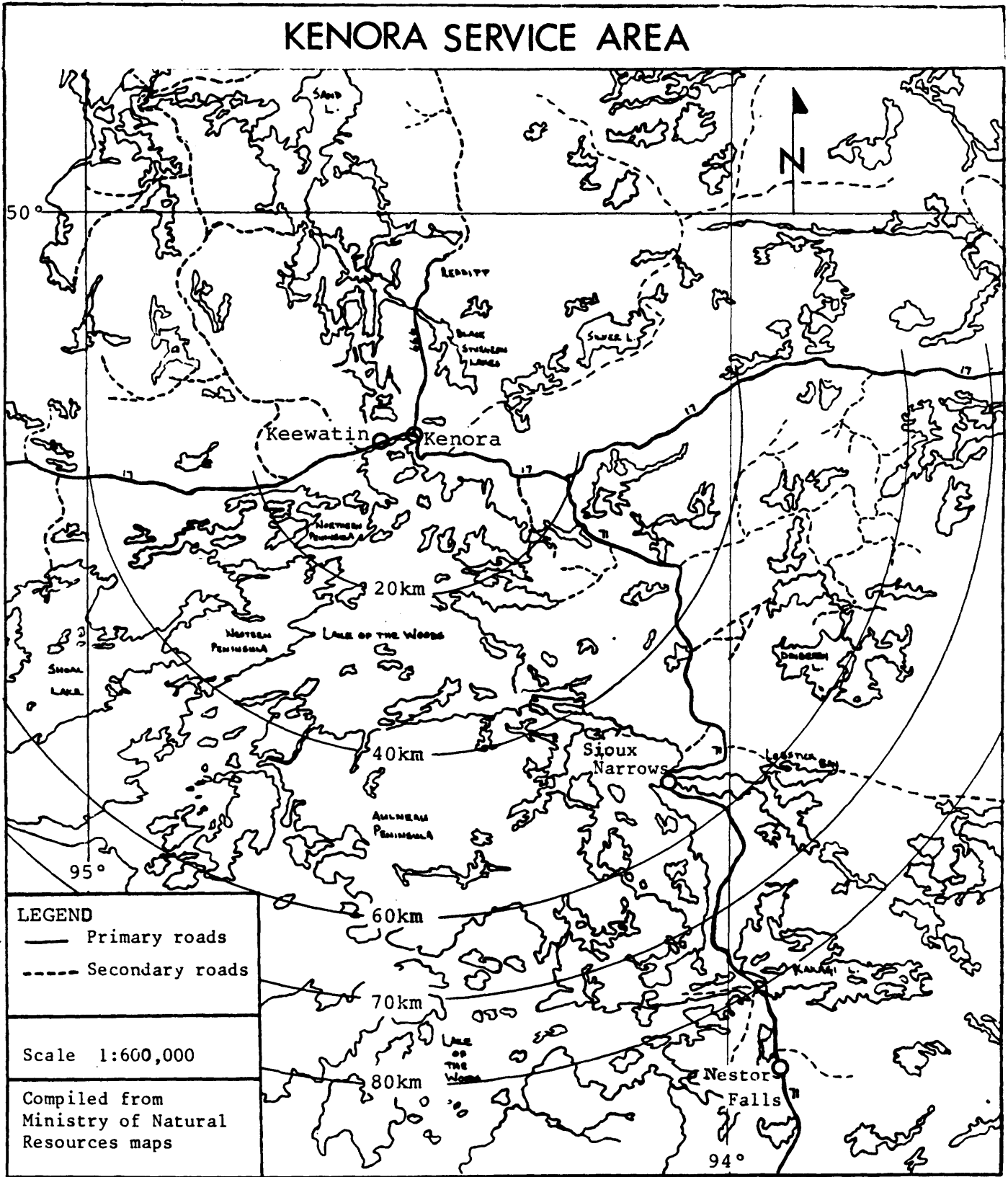


Figure 1: Area considered as the Kenora Service Area.

The section on Gold Potential in the Kenora Area has three parts. The first is a review of an Ontario Geological Survey (OGS) Open File Report #5332; the Feasibility of Small Scale Gold Mining in Northwestern Ontario, by Neilson and Bray (1981). Accompanying figures show the location of mineral deposits in the Kenora area. The second part is a review of present exploration activity in the area, based largely on the Annual Report of the Resident Geologist, published by the OGS. The third part is a summary of recent field work carried out by the OGS in the area to study some of the gold occurrences of the Lake of the Woods.

The section on Guidelines for Developers provides information which will assist mine developers and small operators working in the area, covering such topics as availability of financing, financial incentives, governmental approvals required, and general environmental concerns.

The section on Guidelines for Prospectors provides general information on option agreements, selected reading for the Kenora area, and exploration and sampling techniques for gold.

The Appendices consist of: Appendix A, a newspaper and journal bibliography of gold properties in the Kenora area active from 1880 until 1950; Appendix B, a list of alternate names for the gold occurrences in the area; Appendix C, a description of the stamp milling process and operations of the two local reduction works which were located in Kenora and Keewatin; and Appendix D, a bibliography of Government Publications relating to the Kenora area.

Access

Transportation to and from the Kenora area is excellent. The Tri-Municipal area is served daily by commuter aircraft connecting with major Canadian and International carriers. Charter aircraft operate from the airport as well as from water base locations. A heliport is situated in Jaffray-Melick.

The Trans-Canada Highway passes through the heart of the area. Many secondary roads provide access to numerous points, (Fig.1). Most major transport carriers have terminal facilities and bonded warehousing in the community. Greyhound Bus Lines operate several scheduled trips daily; Excel Coach Lines, a local carrier, provides regional transportation to Fort Frances and Red Lake. Three major courier firms are represented locally.

Kenora is a major station on the Canadian Pacific Railway, and Via Rail transcontinental passenger trains make daily scheduled stops in town.

Canadian Customs officers are stationed in Kenora providing clearances for international travellers and goods.

Services

The Tri-Municipal Economic Development Commission has compiled a listing of all supplies and services which are offered in Kenora including a listing of all contact people in governmental and non-governmental services. A copy of this publication is located in the back pocket of this handbook. Additional copies may be obtained by writing to:

James Doty
Economic Development Commissioner
Tri-Municipal Economic Development Commission
P.O. Box 399
Kenora, Ontario
P9N 3X4

Most Federal Departments and Provincial Ministries have branch offices within the town of Kenora. Assessment files, federal and provincial government publications and other sources of geotechnical information are available in the Kenora Resident Geologist's office.

Kenora is also the site of the Mining Recorder's office for the Kenora Mining Division and the Land Titles Registry office.

Acknowledgements

Special appreciation is extended to the following agencies, Ministries and individuals for their assistance and support in preparation of this Handbook.

The Tri-Municipal Economic Development Commission of Kenora, Keewatin and Jaffray-Melick, for sponsoring the program, and to the Commissioner, Mr. James Doty, for his assistance and confidence.

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L. Aupperle, P. Doty, and M. Lemay who typed the many drafts and final copy of the handbook.

K. Fenwick, Mineral Resource Co-ordinator, Ministry of Natural Resources, Thunder Bay, who provided copies of many newspapers and journals.

----- GENERAL GEOLOGY -----

General Geology

The area covered by this handbook includes parts of two subprovinces of the Early Precambrian Superior Province (See figure 2). The more southerly Wabigoon Subprovince is comprised largely of metavolcanics and metasediments predominantly of greenschist facies metamorphic grade intruded by granitoid batholiths and stocks. The English River Subprovince to the north is characterized by higher grade gneissic terrain developed from metasediments and metavolcanics intruded by extensive granitoid bodies.

All of the gold occurrences referred to in this handbook are found in the Wabigoon Subprovince. No attempt has been made to plot old occurrences newly identified during this study on a map, since for many, no location other than the general area is known. References are given to these old occurrences, in the hope that with a little further work they can be located in the field.

A short description of each of the two subprovinces follows, which provides a regional overview of rock types in the Kenora area. For more detailed geological descriptions, the reader is referred to the numerous publications found in Appendix D.

Wabigoon Subprovince

The Wabigoon metavolcanic-metasedimentary belt trends east-west and comprises 80% of the lithologies present in the Kenora service area. Trowell et al (1980) describe the

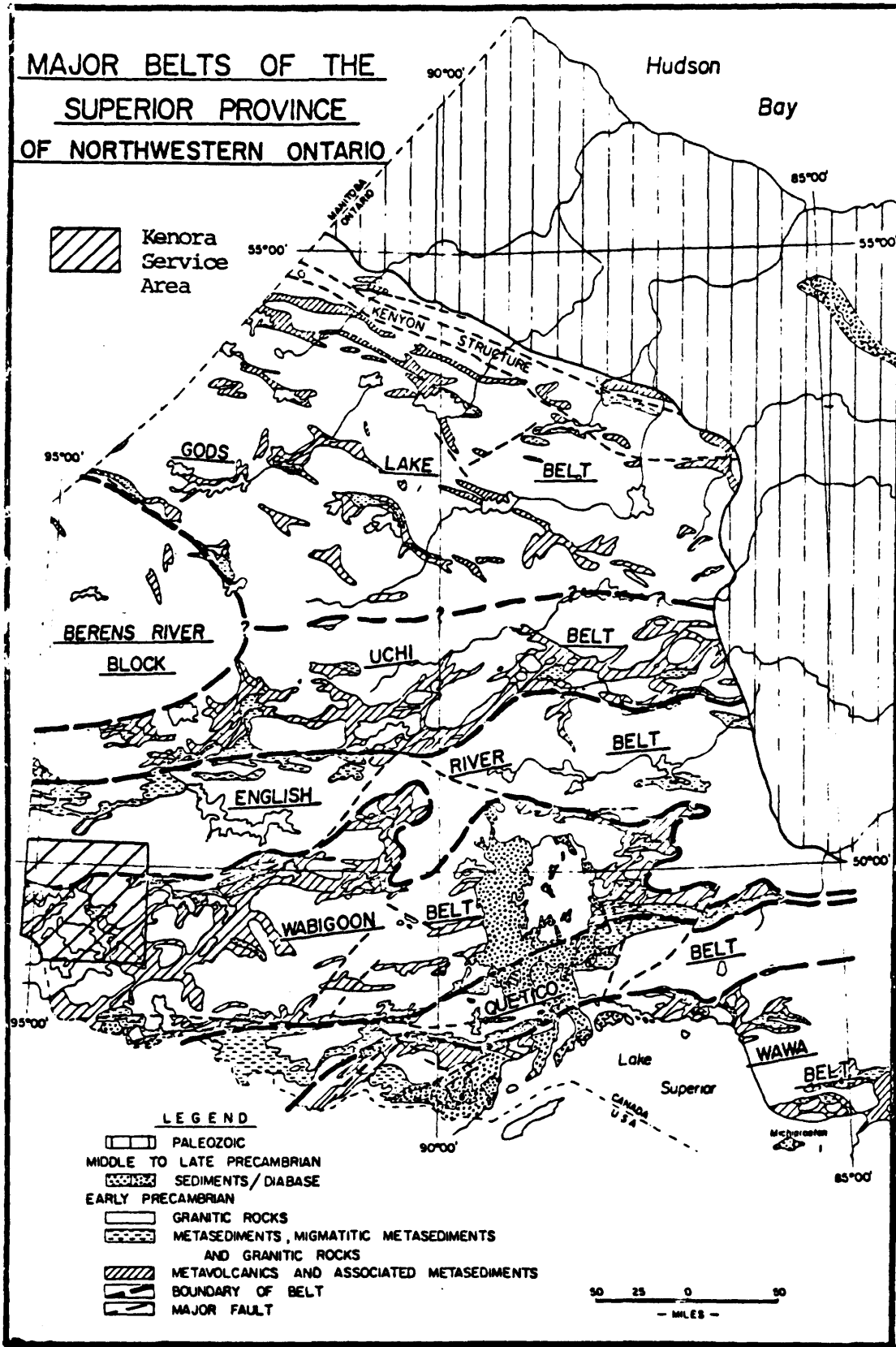


Figure 2: Map showing the Kenora Service Area in relation to the subprovinces of the Superior Province. (after Riley et al 1971)

Wabigoon Subprovince as follows:

"The Wabigoon metavolcanic-metasedimentary belt is composed of submarine and subaerial, mafic to felsic, tholeiitic to calc-alkaline to marginally alkaline, volcanic rocks and associated clastic and chemical sedimentary rocks. Marginal batholiths have been recognized to both intrude and act as feeders for more felsic parts of the volcanic terrain. Lowermost volcanic rocks are recognized to be submarine, tholeiitic predominantly magnesian basalts. No feeders have been recognized for the lowermost sequence. Middle sequences are mixed tholeiitic to calc-alkaline submarine to subaerial, flows and pyroclastics of basalt to rhyolitic composition, with minor trachyandesites. Subvolcanic feeders can be traced to batholithic rocks. Clastic and chemical sedimentary rocks are predominantly associated with these middle sequences. Sedimentary rocks vary from proximal facies, alluvial to submarine inner fan deposits to distal outer submarine tholeiitic, Fe tholeiitic basalts. The mixed sequences are locally cyclical...Discounting the many reversals due to folding, doming due to faulting, it can be noted that sequences predominantly face inward, toward the center of the belt. In particular, volcanic rocks near the contact with enclosing batholiths invariably face inward around the periphery of the belt."

Most of the potential for discovery and development of gold occurrences in the Kenora area lies within the Wabigoon Subprovince. Prospectors of the turn of the century concentrated their efforts on quartz veins in the metavolcanic-metasedimentary assemblages. The discrete quartz veins had the following characteristics: sharp contacts, coarse visible gold in high grade sections, narrow widths and short strike lengths. Today's exploration for gold has concentrated both on examining known occurrences by modern techniques and on grassroots exploration in areas of known gold potential. The most favourable gold occurrences now being examined are: wide shear zones mineralized with disseminated pyrite, commonly containing zones of silification and carbonization.

Past records show that prospectors encountered occurrences from which gold could be panned over considerable widths, but lack of quartz veining resulted in these occurrences being given only cursory examination. More recently, publication such as the Ontario Division of Mines, Mineral Deposit Circular #16 mentions:

"The geology, however, appears very favourable for gold mineralization. There are numerous areas of felsic tuffs, many small porphyry masses and larger high level granitic intrusions as well as several major "breaks" or fault zones along which gold occurrences appear to be concentrated. With the large number of small occurrences known throughout the area, there would seem to be good potential for future discoveries of major proportions." (R.C. Beard and G.L. Garratt, 1976,P4)

Past records as well as more recent references suggest that there may be deposits which contain large amounts of gold but are not the more traditional quartz vein type which all past exploration has been centered on.

English River Subprovince

The English River Subprovince is situated to the north of the Wabigoon Subprovince. Douglas et al (1970) described the English River Subprovince as follows:

"English River Subprovince is characterized mainly by linear structures that strike easterly. The belt extends eastward from Lake Winnipeg to the Phanerozoic cover of the Hudson Platform and has a minimum width of 60 miles. The rocks in the interior of the belt are highly metamorphosed sediments, their granitized equivalents, migmatite and granitic rocks that range in composition from quartz diorite to granite."

Regional geological mapping of the English River Subprovince carried out by Breaks et al (1978) led to the conclusion that:

"A two-fold subdivision of the English River Sub-province into lithologically contrasting domains has been firmly established.

They are:

- 1) A northern supercrustal, metasedimentary domain
- 2) A southern granitoid intrusive and gneissic domain

The grade of metamorphism of the sediments is in the amphibolite facies and is locally in the granulite facies. The rocks grade through zones of migmatite and granitic gneisses to quartz diorite, granodiorite, and granite. Metamorphism has generally destroyed the primary sedimentary structures and textures, but the composition of the metasediments suggest that originally they were greywacke and shale. The borders of the English River Sub-province are defined by belts of mafic metavolcanics, intermediate to felsic metavolcanics, pyroclastics, greywacke, and shale."

Only the lithological units of the Southern Supercrustal Domain occur in the Kenora service area.

Introduction

At the turn of the century, mines in the Lake of the Woods gold fields produced 55% of Ontario's gold production. Within a few miles of Kenora there were seven moderate producers and numerous smaller operations. The total production from these mines is unknown, but may lie in the 50,000 oz. range. To understand why more gold was not produced from the area, it becomes necessary to understand the economic climate and mining techniques which prevailed during the period when production occurred and the reasons why most mines terminated operations.

Economic events and technical advances which occurred outside of the Lake of the Woods region had a profound effect on prospecting, financing and development of the Kenora area's gold occurrences. A summary of these events and their effects are listed in Table 1. A chart on the Exploration and Development History in the back pocket of the book portrays in histogram form the active properties during the years 1881 - 1946. Variations in the histogram may be clarified somewhat by notations made from Table 1 and shown next to the year in which the event took place. Also presented on this chart are the production periods for nineteen mines which operated seven years or more. The histogram clearly shows that mining and related activities in the Kenora area occurred during two periods - (1892 - 1906 and 1932 - 1938). Table 1 and the chart provide a general framework for the history of gold production in the Lake of the Woods gold fields.

Appendix A refers to articles which the reader can use to compile histories on individual properties. The information available from this source is not generally available elsewhere. The histories of individual properties become even more meaningful when they are considered in context with other information presented in this section of the handbook.

Table 1: Events affecting Gold Production in the Kenora Area

<u>Date</u>	<u>Event</u>	<u>Effect</u>
1872	Gold discovered on island in Partridge Lake, Northern Peninsula. Other gold discoveries followed in the Lake of the Woods area.	
1880-1890	55% of Ontario's gold production from the Lake of the Woods area.	
1880-1892	Town of Rat Portage considered part of Manitoba.	Uncertainty of title on mineral claims results in sporadic activity until title registration procedures settled in 1892.
1882	Introduction of Mining Royalty by Ontario	Probably results in recorded production being less than actual production.
1886	Witwatersand gold discoveries (South Africa)	Influenced thinking on gold genesis in area.
1891	Cyanide process for extracting gold introduced. Sultana gold mine began operation, Lake of the Woods.	Increased recoveries possible from processed ore. Lowers losses in slimes and tailings. Sultana becomes flagship of Lake of the Woods gold fields.
1892-1906	Gold mining boom in the Lake of the Woods area of Northwestern Ontario - chief mines: Wendigo, Mikado, Sultana, Regina.	
1892	Town of Rat Portage becomes part of Ontario for land title purposes until boundary dispute can be settled by Privy Council.	Prospecting activity increased due to recording of mining claims becoming possible.

<u>Date</u>	<u>Event</u>	<u>Effect</u>
1893	Price of silver falls on world market. Mikado gold site discovered on Shoal Lake.	Crisis frees manpower and capital for Lake of the Woods gold fields.
1895	Regina gold mine commenced output, Lake of the Woods.	
1896	Klondike, placer gold rush begins in Canada.	No early effect on activity in the Lake of the Woods gold fields.
1897	Rat Portage Mining exchange formed.	Local merchants try to consolidate and finance activity on local properties.
1898	Border dispute between Ontario and Manitoba was decided by Privy Council in favour of Ontario.	Settlement opened up gold fields in the Lake of the Woods and Seine River areas.
1899	Boer War in South Africa begins. Peak of Klondike gold rush. Peak production from Lake of the Woods gold mines.	British capital dries up in the Lake of the Woods area as a result of it being diverted to the British war effort. Prospectors are lured away to the "easier" placer gold.
1902	End of Boer War in South Africa. Britain in control of the gold mines.	
1903	Discovery of rich silver deposits at Cobalt.	Capital is diverted from the Lake of the Woods gold fields to more promising prospects in Cobalt.

<u>Date</u>	<u>Event</u>	<u>Effect</u>
1905	Town of Rat Portage becomes Kenora, Ontario.	
1909	Porcupine gold rush, N.E. Ontario.	Capital drain from area continues.
1911-1912	Gold rush at Kirkland Lake, North-eastern Ontario	Veteran prospectors leave Kenora for the new gold camps.
1914	World War I broke out.	All capital sources dry up.
1917	United States enters war.	
1918	End of World War I.	
1925	Gold discovered at Red Lake, Ontario.	Local prospectors leave for the new gold camp.
1925-1926	Gold rush to Red Lake.	
1928	Discovery of gold at Pickle Lake in Northwestern Ontario.	
1929	World Economic Crisis. United States stock market collapses.	
1930	Britain leaves gold standard.	Results in increased activity.
1933	United States leaves gold standard.	
1934	Gold price fixed at \$35.00 per ounce. United States returns to gold standard.	
1934-1972	No change in official gold price for 38 years.	

<u>Date</u>	<u>Event</u>	<u>Effect</u>
1936	Three year tax exemption for gold production.	Large increase in number of active properties.
1938	Increasing hostilities in Europe.	Capital begins to dry up.
1939	World War II breaks out.	
1940-1944	Royal Commission on gold in Ontario.	Situation in the gold mining industry reaches crisis stage and a Royal Commission is appointed to look into the industry.
1945	World War II ends.	Frees capital for investment.
1948	Emergency Gold Milling Assistance Act (EGMAA) goes into effect.	EGMAA tries to help ailing gold industry with financial support.

Sources: Ontario Geological Survey, Mineral Policy Background Paper No. 12, and local newspaper articles.

History of Exploration

The construction of the transcontinental railroad opened remote areas of Canada. Rat Portage (Kenora) and the Lake of the Woods were accessible only by canoe until the construction. Coincident with construction of the railroad was the mapping of the right of way by a survey crew of the Geological Survey of Canada. Their objective besides plotting the nature of the land, was to determine the exploitable resources including minerals and timber. The politicians and business men who planned the construction viewed the mining industry as competition for agriculture and logging. This began a rivalry between the different industries as to who had first right to the newly discovered resources.

Of immediate interest to entrepreneurs in the province, who were suffering from the depression of the late 1860's, was the discovery of silver near Fort William (Thunder Bay). These finds of high grade silver were quickly exploited by companies formed in Montreal, Toronto, Boston and New York, and by local merchants in Fort William. For ten years, until the mid-1870's the silver industry boomed, attracting both investment capital and labour to the sparsely inhabited regions of Northwestern Ontario.

In 1872 gold was discovered on an island in Partridge Lake by prospectors. This is the earliest reported occurrence of gold in the Kenora area. Prospecting continued on

the Lake of the Woods and in 1879 a promising gold occurrence was located on Hay Island. Announcement of this spread quickly because of the railroad construction. The following year many prospectors were in the area and numerous gold bearing quartz veins were being uncovered. During the succeeding four or five years some high grading took place around the northern part of the Lake of the Woods. However, due to the difficulty of obtaining land titles it was virtually impossible to obtain sufficient capital to develop the properties.

E. Coste (1884) stated that:

"the so-called mines are all still in an entirely primitive state. Everywhere the shafts and openings are quite shallow."

Coste also noted that there were many occurrences of gold which may have a mean value of more than \$12.00 per ton. This reference to high grade sections of quartz veins attracted more prospectors to the area.

With the large increase in activity the first gold rush to the Lake of the Woods began. Records of this first rush are scant as no newspapers reported the activity. Coupled with this was a section of the 1869 Mining Act which required a royalty to be paid to the Ontario Government by prospectors. The royalty probably resulted in prospectors not reporting any production. The act read as follows:

"Proprietors have the right to mine gold on their lands, subject to a royalty of two to ten percent, as fixed from time to time by order in council, and that payment of the same royalty should also be required of all miners working claims on crown lands; each licenced mill-owner to keep back and pay the royalty on each lot or parcel

of quartz as crushed, as shown by his books, and to be allowed five percent on the amount paid over by him to the Treasurer of the province for his remuneration." (Mining Act of 1869)

In the late 1880's silver was found close to Fort William and a second rush to this camp began. By the early 1890's the North American economy entered a depression. In 1893 the silver market was in trouble and the final blow to the market occurred when the United States government withdrew all subsidy on silver and the industry collapsed. The silver market crisis helped the emerging gold activity on the northern part of the Lake of the Woods. The labour and capital that was freed by the shift from silver moved to the Lake of the Woods area and spilled over onto Shoal Lake.

The logging industry also had an influence on events at this time. Campbell & Cuming (1979) state that;

"Not only was the land opened, explored, and its resources assessed, but much of the funding for prospecting and initial mine development came from logging entrepreneurs. Many other business people such as saloon keepers and hotel keepers who were drawn to the region because of logging participated in grubstaking and mining. These people also provided links with outside sources of capital and were instrumental in attracting investment once the boom was underway."

Capital for Ontario's gold industry originated from three pools. Half of the total amount invested originated south of the border in the United States; Canadian capital exceeded that of British capital for the remaining 50%. Yet little of this capital found its way into the Lake of the Woods gold fields until after 1895. Financing of the area's

goldfields was carried by local entrepreneurs from Rat Portage, Fort William, and Duluth. In most cases these people were anticipating the investment boom and with their limited capital resources were speculating in gold properties. With one or two exceptions, most property owners backed by local investors did only development work. Owners sought to increase the value of their companies through construction of mills, high-grading, stock manipulation, and deception.

Two reduction works were constructed in the early 1890's to provide custom milling for property owners who wanted their ore milled without building a mill on their property. The reduction works which operated in Rat Portage was constructed by American capitalists anticipating the need for such a facility. Very little ore was processed here as start-up difficulties were never overcome. The reduction works which operated in Keewatin provided most of the custom milling of local ore. Ore from numerous deposits was tested at this facility and some production occurred. The exact amount is difficult to state as there are no records of operation. See Appendix C for information concerning the operations of these two reduction works.

Speculative tendency within the region and the pattern of capital investment mentioned earlier influenced the actual mode of gold production. Other factors which shaped the nature of exploration activity in the Lake of the Woods goldfields were: chronic shortage of skilled labour, inexperienced management, the cost of production, and the actual nature of the

gold deposits.

Complaints were made that in many instances English companies sent out managers who knew little about their business, and that resulting incompetent management resulted in discrediting Canadian mining investments in the eyes of English capitalists. This, coupled with the Boer War in South Africa, caused a large drop in exploration activity during 1900 in the Lake of the Woods gold fields.

During the last years of the 19th century the gold industry began to lose its importance. After 1896/97 the industrial economy of North America began to revive, in part due to the Spanish - American war and the technological and market changes in the industrial sector.

As a result, speculative capital began to move into areas of greater profitability. In mining, this shift was reflected by increased investment in base metals, of which northwestern Ontario became a minor center.

Another event which hastened the flight of capital was the discovery of placer gold in the Yukon and Alaska. The richness of these fields and the low cost of production caused an exodus from the area.

Initially, marginal operations shut down, but eventually the larger operations such as the Mikado and the Sultana were forced to shut their doors. By 1906, most of the mining in the area had stopped.

The final blow was the discovery of gold and the resulting gold rush to the Porcupine in 1909. This exodus of labour

and capital essentially finished gold mining in North-western Ontario, ending 20 years of intense activity.

Rat Portage (Kenora) at it's height ran a mining school to train people to prospect for gold, and a Rat Portage Metal Exchange was incorporated to provide financial and technical expertise to prospectors. In addition, many world-renown people came to visit the Lake of the Woods gold fields and attend conventions on gold mining and milling.

In 1930 Britian left the gold standard, and the United States followed in 1933. Prior to this time, the price of gold was about \$20.00 per ounce. The United States decided to peg the price of gold at \$35/ounce in 1934. These events led to the second gold boom on the Lake of the Woods. This boom increased in momentum with the declaration of a three-year tax exemption for gold production in 1936.

No sooner had the boom gathered momentum when it was deflated as a result of World War II. After the war a minor revival took place but it was short lived. Even the Emergency Gold Milling Assistance Act of 1948 did nothing to revitalize the gold industry of the Lake of the Woods region.

Only sporadic activity occurred in the area until the spectacular rises in the price of gold in the early 1970's and the gold finds at Hemlo in the early 1980's which rekindled interest in the Lake of the Woods gold fields. Since the announcement of Hemlo almost every known gold occurrence has been acquired and Kenora is experiencing it's third major gold rush.

Mining and Milling Techniques

The turn of the century production was by what would currently be considered very crude methods. Highlighted here, from Campbell & Cuming (1971), are some of the important technological advances made during this period.

"In the late 1860's the use of dynamite quickly spread, replacing black powder in blasting. Owners were then able to decrease the size of 'traditional' drilling teams from two or three miners to one while increasing output per miner. In the 1870's machine drills did away with hand drilling entirely at the bigger mines. By the 1890's most mines benefitted from this new technology which dramatically increased output."

"The major concern of operators after 1896 was to increase the rate of recovery. Some also placed emphasis on the percentage of recovery. The basic mill consisted of a jaw crusher, normally of the Blake type although Gates' crushers were infrequently used, Challenge ore feeder, gravity stamps, amalgamation plates, a classifier for the tailings and frue vanners to recover the concentrates.

To increase the rate of recovery, operators increased the weight of the stamps from 850 lbs. to 1,000 lbs., a trend which reflected that of the industry as a whole. By this means the capacity of the mill was doubled. For a ten-stamp mill the capacity rose from 20 to 40 tons per day (tpd). In addition later mills such as the Laurentian used the new Wilfley table to replace the frue vanner, increasing the rate of concentration."

The trend to cyanidation started during the mid 1890's. The Sultana mine on Lake of the Woods was reportedly the first to try this processing technique and was quickly followed by the other mines in the Lake of the Woods region.

Introduction

The potential for developing gold deposits in the Kenora area is good. An attempt has been made here to present data which will enable the reader to evaluate for themselves this potential. The following three sections provide an overview from which to accomplish this aim.

1) Feasibility of Small Scale Mining

Neilson and Bray (1981), produced an Open File Report for the Ontario Geological Survey entitled "The Feasibility of Small Scale Mining in Northwestern Ontario". This report has been summarized and augmented with figures by the writer.

2) Activity in the Kenora area, 1983

This summary of recent activity in the Kenora area is taken from recent issues of the Kenora Resident Geologists Annual Report, published by the Ontario Geological Survey.

3) Lake of the Woods Gold Study

A progress report on the Lake of the Woods Gold Study, conducted by the Ontario Geological Survey, is reprinted here from the Summary of Field Work, 1983.

Feasibility of Small Scale Mining

Data from Neilson and Bray (1981) is presented here in a different format from which it was presented in Open File Report 5332. The subject matter is broken down into four parts.

- 1) Potential for small scale operations
- 2) Custom Milling
- 3) Portable Milling
- 4) Heap Leaching

The sections on Custom Milling, Portable Milling and Heap Leaching consist of a text portion, giving a brief discussion of the topic; a table of available tonnages grouped by distance of the deposits from Kenora; and figures which show the special relationships of the deposits. For more information the reader is referred to Neilson and Bray (1981).

Potential for small scale operations

Based upon existing data, most deposits in the Kenora area do not appear to have sufficient reserves to warrant conventional large scale mining and milling under the prevailing economic climate. In figure 3, deposits for which Neilson and Bray (1981) have calculated tonnage potential are shown. They may be mineable on a small scale basis only. Small scale may here be considered as less than 300 tpd. or approximately 100,000 tons annually. Since only a few deposits are known to have tonnage figures in this range, some form of co-operative operation by several individual property owners may be required. Alternately a mining

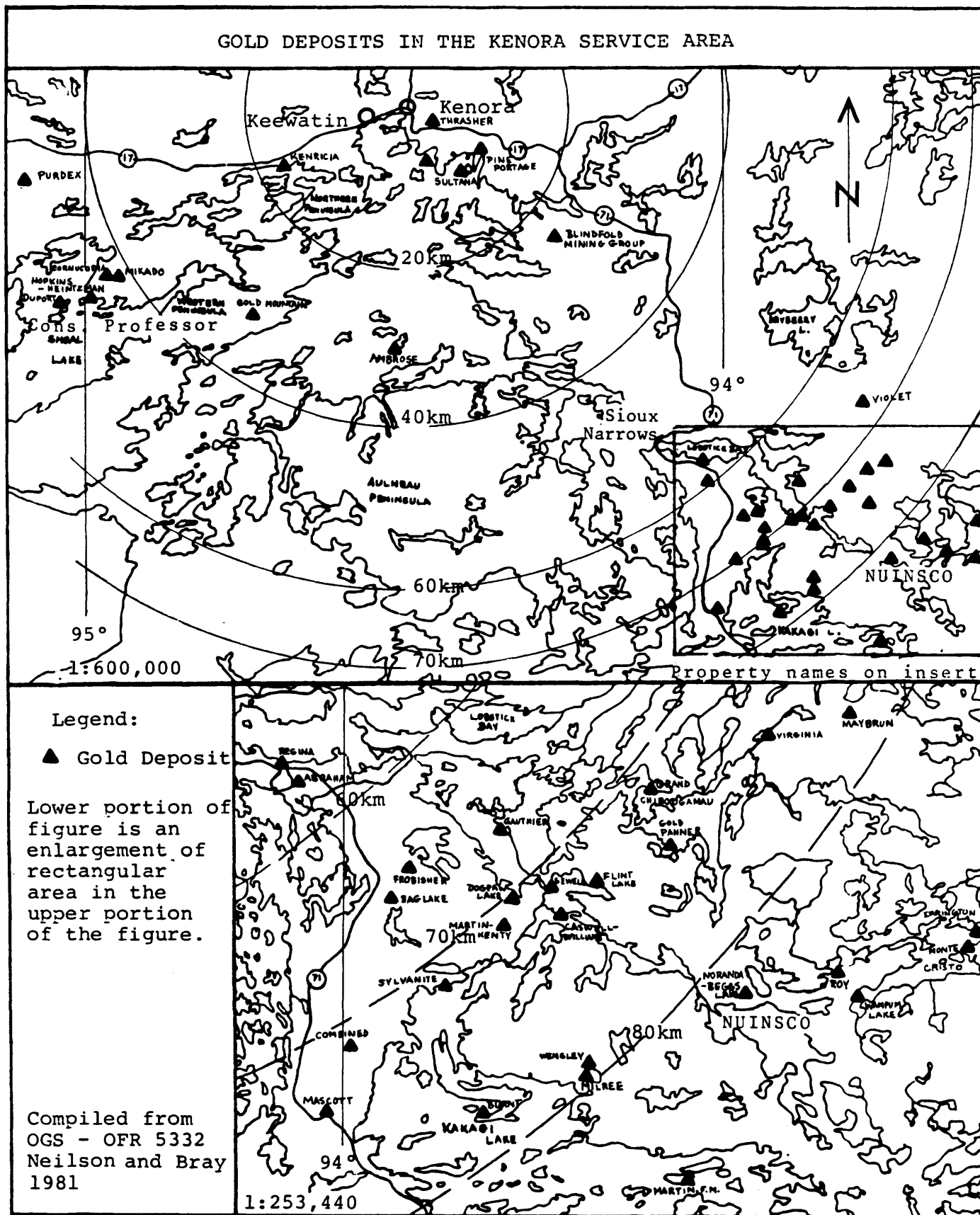


Figure 3: Gold deposits in the Kenora Service Area for which Neilson and Bray (1981) summarized tonnage potential.

company might develop a number of small ore deposits and transport the ore to a central processing facility.

Operations in the Kenora area would not require a great amount of additional infrastructure beyond the provision of access roads and power to the sites. Portable power plants probably could be installed if necessary.

Given the right incentives and assistance on the part of Government, small scale mining of gold should be entirely feasible in the Kenora area. Even "very small scale" operations of 10-20 tpd. may be practicable in some instances.

Custom Milling

Smelting on a custom basis has been an established concept in the industry for many years. Custom milling, leading to the preparation of smelter concentrates, is perhaps not as common but is still an established procedure. The services provided range from rather primitive crushing and sorting facilities to technologically sophisticated treatment of ore to provide concentrates suitable for smelting and further refining. Goldlund Mines Ltd., north of Dryden, has announced plans to provide milling services up to the concentrate stage as part of its GOMILL agreement with the Government of Ontario. Wilanor Resources Ltd. in Red Lake is presently closed but might be available for custom ore shipments in the future. A small milling operation for high grade ores is reportedly available in Thunder Bay.

For additional details regarding probable milling fees, contract arrangements and services available, the reader is

advised to contact the operations directly.

Custom milling will depend not only on anticipated custom tonnage requirements but also on the rate of development in the area. This, in turn, may be related directly to the provision of infrastructure such as road construction, hydro extensions, etc. The municipality of Kenora may be able to provide assistance to any company which plans to locate a small scale operation in the immediate area.

Deposits which custom milling of ore is envisaged by Neilson and Bray (1981) are listed in Table 2. The table lists available tonnage by distance, from Kenora, classification of tonnage and grade, location and mineability. The distribution of the deposits in Table 2. are shown in Figure 4.

Portable Milling

Portable and semi-portable mills are becoming increasingly popular in North America. Capital and operating costs are lower than conventional mills of comparable capacities.

Portable milling may be the solution to the problem of low tonnage deposits in the Kenora area. Since costs are low and the mill easy to move from deposit to deposit, the portable mill would make a deposit economically viable at a lower price for gold.

Deposits on which a portable mill may be feasible are listed in Table 3. The table lists available tonnage by distance from Kenora, classification of tonnage and grade, location and mineability. The distribution of the deposits are shown in Figure 5.

Table 2

AVAILABLE TONNAGE FOR CUSTOM MILLING IN KENORA AREA

<u>Distance from Kenora</u>	<u>Tonnage, Grade and Location</u>	<u>Mineability</u>
20 km	Proven Probable Possible Speculative - 4,500/0.16 oz.Au/ton (Thrasher)	Open cut to -40' w/Air-Trac
40 km	Proven Probable Possible Speculative - 2,600/0.17 oz.Au/ton (Ambrose)	Open cut to -40' w/Air-Trac
60 km	Proven Probable Possible Speculative - 4,150/unknown grade (Abraham)	Narrow open cut to -40'
70 km	Proven Probable Possible - 2,500/0.18 oz.Au/ton (Gauthier) Speculative - 22,500/0.25 oz.Au/ton (Bag Lake) - 3,750/0.25 oz.Au/ton (Violet)	Decline to -150' w/scoop tram Decline or open cut to -75'
80 km	Proven Probable Possible - 40,000/0.25 oz.Au/ton (Sewell) - 12,000/0.07 oz.Au/ton (Sewell) - 1,150/0.45 oz.Au/ton (Grand Chibougamou) Speculative - 320,000/0.20 oz.Au/ton #3) - 16,200/0.15 oz.Au/ton #4) (Wensley) - 61,250/0.20 oz.Au/ton #5) - 32,500/0.12 oz.Au/ton to -150 ft. (Milree) - 2,300/0.15 oz.Au/ton (Gold Panner)	#1 Zone: decline to -100' #2 Zone: open pit to -40' Open cut to -40' w/Air-Trac Decline or shaft to -400' Decline to -325' w/shrinkage

from Neilson and Bray (1981)

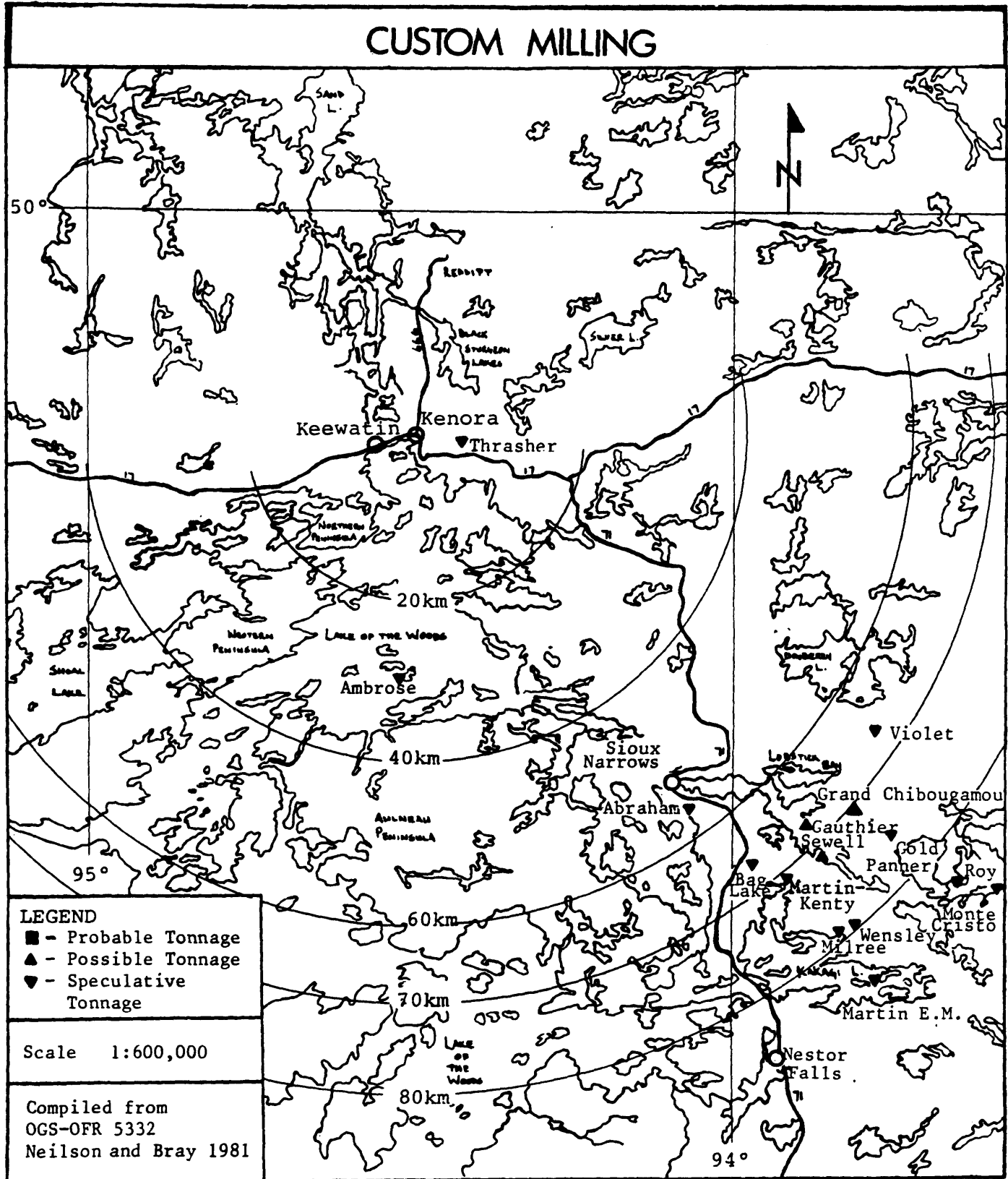


Figure 4: Distribution of deposits which may be suited to custom milling.

Table 3

AVAILABLE TONNAGE FOR PORTABLE MILLING IN THE KENORA AREA

<u>Distance from Kenora</u>	<u>Tonnage, Grade and location</u>	<u>Mineability</u>	
20 km	Proven		
	Probable		
	Possible	- 10,900/0.68 oz.Au/ton (#1 vein Kenricia)	Shaft to -530+' w/stopping
		- 28,125/0.15 oz.Au/ton (#3 vein Kenricia)	
	- 2,100/2.05 oz.Au/ton (Pine Portage)	Shaft to -100' (?)	
Speculative	- 4,500/0.16 oz.Au/ton (Thrasher)	Open cut to -40' w/Air-Trac	
40 km	Proven		
	Probable		
	Possible		
	Speculative		
60 km	Proven		
	Probable	- above 9th (Regina)	Shaft and shrinkage in mine
		- 28,000/0.50 oz.Au/ton (from 1936 longitudinal section-Cornucopia)	
	Possible	- 6,000/0.41 oz.Au/ton (Regina)	Tailing w/Payloader/dragline
		- 8,000/0.15 oz.Au/ton (tailings-Regina)	
	Speculative	- 3,600/0.57 (9th - Regina)	Narrow open cut to -40'
		- 4,800/0.43 (Winze - Regina)	
	- 11,250/0.40 (6th-9th - Regina)		
	- 4,150/unknown (Abraham)		
70 km	Proven		
	Probable	- 3,500/0.27 oz.Au/ton (Frobisher)	Narrow open cut w/Air-Trac
	Possible		
	Speculative		
80 km	Proven		
	Probable	- 30,000/0.30 oz.Au/ton (Dogpaw Lake)	Shaft or decline to -600'
	Possible	- 70,000/0.30 oz.Au/ton (to 600' Dogpaw Lake)	#1 Zone: decline to -100'
		- 40,000/0.25 oz.Au/ton (Sewell)	
		- 12,000/0.07 oz.Au/ton (Sewell)	#2 Zone: open pit to -40'
	Speculative	- 80,000/0.30 oz.Au/ton (to 1,000' Dogpaw Lake)	Open pit to -40' w/Payloader
	-240,000/0.30 oz.Au/ton (Combined)		

from Neilson and Bray (1981)

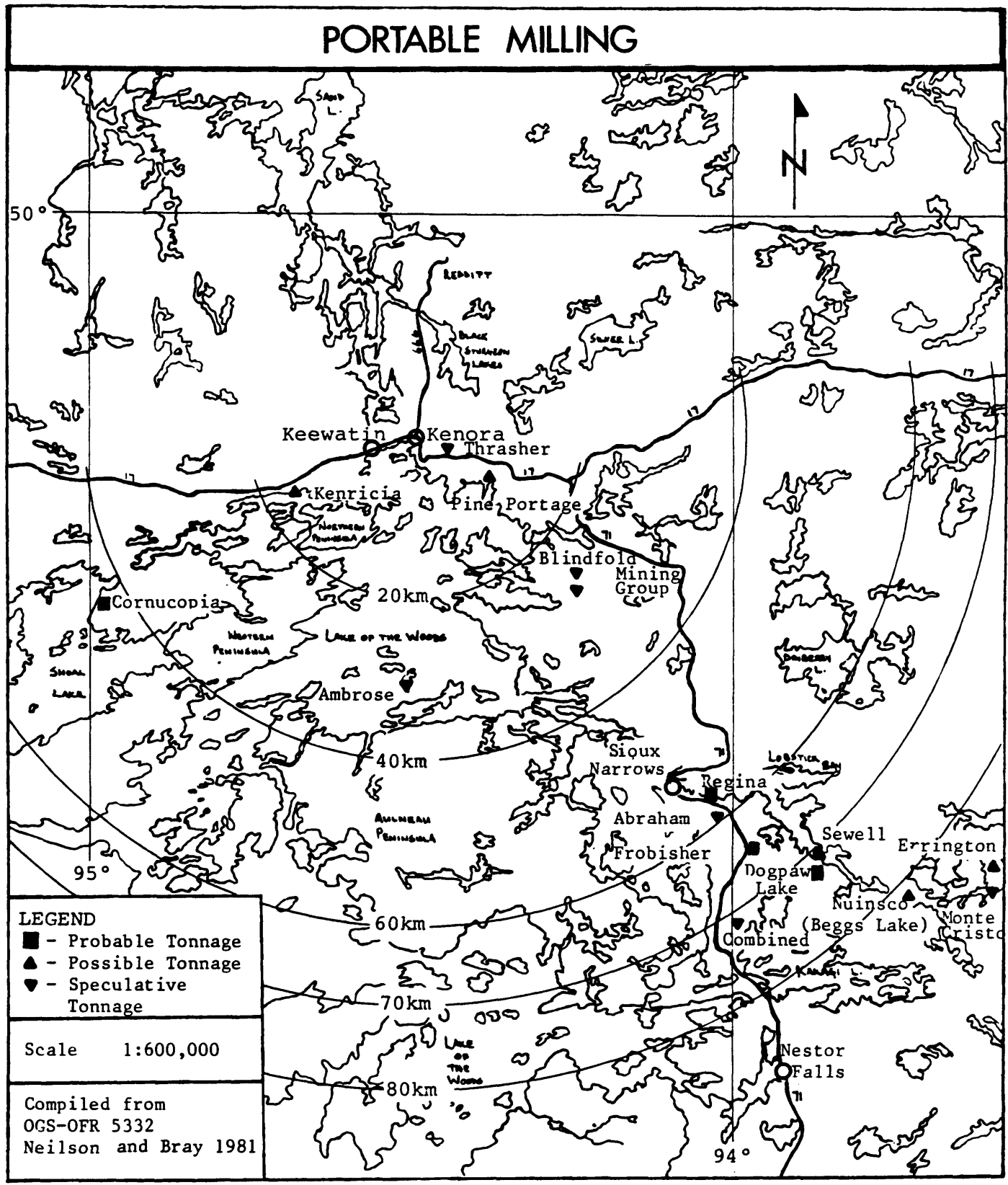


Figure 5: Distribution of deposits which may be suited to portable milling.

If the deposit is of large enough size a more permanent on-site milling operation may be possible. The portable mill would then become a permanent mill and, in the future may accept custom ore. The deposits which Neilson and Bray (1981) classified this way are listed in table 4. The table lists available tonnage by distance from Kenora, classification of tonnage and grade, location and mineability. The distribution of the deposits are shown in Figure 6.

Table 4

AVAILABLE TONNAGE FOR ON SITE MILLING IN THE KENORA AREA

<u>Distance from Kenora</u>	<u>Tonnage, Grade and Location</u>	<u>Mineability</u>
20 km	Proven Probable Possible Speculative	
40 km	Proven Probable Possible Speculative	
60 km	Proven - 2,000,000/0.31 oz.Au/ton (Duport) Probable Consolidated Professor Possible - 5,200/0.56 oz.Au/ton (N.lens Mikado) - 6,100/0.69 oz.Au/ton (S.lens Mikado) - 6,400/0.09 oz.Au/ton (offshore Mikado)	Shaft to -375' -shrinkage Shaft to -560' -shrinkage Tailings (in lake) -dragline
70 km	Proven Probable Possible Speculative	
80 km	Proven - 1,000,000/0.15 oz.Au/ton (Cameron Lake- Beggs Lake) Nuinsco or 750,000/0.20 oz.Au/ton - 30,000/0.30 oz.Au/ton (Dogpaw L.#1 to 150') - 13,750/0.21 oz.Au/ton (Caswell-Williams) - 25,300/0.28 oz.Au/ton (Caswell-Williams) - 1,000,000/0.03 oz.Au/ton (Maybrun) Possible - 70,000/0.30 oz.Au/ton (to 600' Dogpaw Lk.) - 20,250/0.28 oz.Au/ton (Caswell-Williams) -179,000/0.20 oz.Au/ton (Maybrun) - 73,500/0.18 oz.Au/ton (Maybrun) - 28,500/0.14 oz.Au/ton (Maybrun) - 312,500/0.03 oz.Au/ton (Maybrun) Speculative - 80,000/0.30 oz.Au/ton (to 1,000' Dogpaw Lk.) - 45,400/0.28 oz.Au/ton (Caswell-Williams) -146,000/0.20 (1.00% Cu) (Maybrun) - 73,500/0.18 (0.50% Cu) (Maybrun) - 28,500/0.14 (1.41% Cu) (Maybrun) - 312,500/0.03 (1.12% Cu) (Maybrun)	Shaft or decline to -600' Shaft to -125' w/shrinkage To -225' + -450' Open pit to -150' :B-Zone Shaft or decline to -600 ft. To -225' + -450' Ross Zone: shaft to -275'/-500 Bay Zone: decline to -150'/300 Pot Hole: decline to -150'/300 Open pit to -150' To -225' + -450' Ross Zone: shaft to -275'/-500' Bay Zone: decline to -150'/300' Pot Hole: decline to -150'/300' Open pit to -150'

Note: Tonnage figures for Nuinsco and Consolidated Professor properties are approximate and may be in error.

from Neilson and Bray (1981)

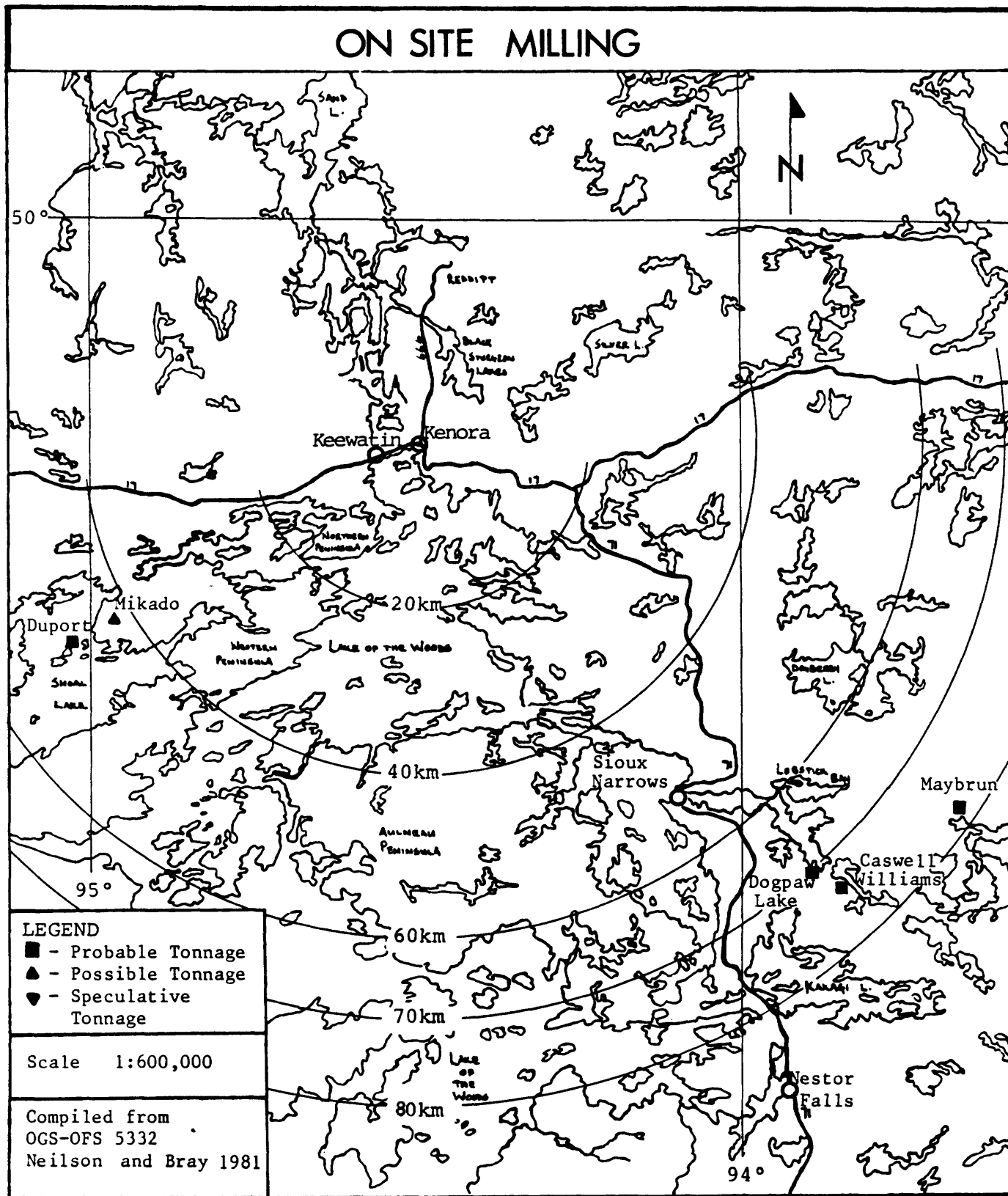


Figure 6: Distribution of deposits which may be suited to on site milling.

HEAP LEACHING

There has been some interest expressed recently in Northwestern Ontario in the concept of heap leaching of gold ores. Although the process is used extensively in the Southwestern United States and the basic principles are well understood, there is still much to be learned concerning the amenability of different types of Canadian gold ores to the leaching process. The method should be applicable to some types and grades of ore in the Kenora area, specifically ores that are friable or fracture easily to expose fine gold to leach solutions, and grading 0.20 oz/ton, or less. The ore should not be intimately associated with complex sulphide minerals.

Climatic constraints throughout Northwestern Ontario are viewed as a problem but not insurmountable, since stockpiling of ore can take place during winter months.

Neilson and Bray (1981) believe that the heap leaching concept has considerable merit and should be investigated fully as a possible means of treating low grade ores or small tonnages at a low cost. In fact, it may prove to be the only feasible method of treating certain types of ore in an otherwise high-cost-per-ton situations.

Neilson and Bray (1981) estimate the capital and operating costs of heap leaching system at only one fifth to one quarter the costs of a semi-portable mill. This, if true, would be an attractive feature of heap leaching of ore in Northwestern Ontario.

Deposits which Neilson and Bray (1981) feel are amenable are listed in table 5. The table lists available tonnage by distance from Kenora, classification of tonnage and grade, where located and mineability. The distribution of the deposits are shown in Figure 7.

Table 5

AVAILABLE TONNAGE FOR HEAP LEACHING IN THE KENORA AREA

<u>Distance from Kenora</u>	<u>Tonnage, Grade and Location</u>	<u>Mineability</u>
20 km	Proven Probable Possible Speculative	
40 km	Proven Probable Possible Speculative -100,000/0.4 ozAu/ton (Gold Mountain)	Open pit to -125'
60 km	Proven Probable Possible - 6,000/0.41 oz.Au/ton above 9th) (Regina) - 8,000/0.15 oz.Au/ton tailings) - 5,200/0.56 oz.Au/ton N. lens) (Mikado) - 6,100/0.69 oz.Au/ton S.lens) - 6,400/0.09 oz.Au/ton tailings (offshore) Speculative - 3,600/0.57 oz.Au/ton on 9th) - 4,800/0.43 oz.Au/ton in winze) (Regina) -11,250/0.40 oz.Au/ton 6-9th)	Shaft and shrinkage in mine Shaft to -560' -shrinkage Shaft and shrinkage in mine
70 km	Proven Probable Possible Speculative	
80 km	Proven Probable -50,000/0.10 oz.Au/ton (Sylvanite) -1,000,000/0.03 oz. Au/ton (Maybrun) Possible - 40,000/0.25 oz.Au/ton) - 12,000/0.07 oz.Au/ton) (Sewell) -179,000/0.20 oz.Au/ton) - 73,500/0.18 oz.Au/ton) (Maybrun) - 28,500/0.14 oz.Au/ton) -312,500/0.03 oz.Au/ton) Speculative - 15,750/0.08 oz.Au/ton (Flint Lake) - 32,500/0.12 oz.Au/ton to -150 ft. (Milree) -830,000/0.08 oz.Au/ton (Virginia) -146,000/0.18 oz.Au/ton) - 73,500/0.18 oz.Au/ton) (Maybrun) - 28,500/0.14 oz.Au/ton) -312,500/0.03 oz.Au/ton)	Open pit to -100 ft. Open pit to -150' :B-Zone #1 Zone: decline to -100' #2 Zone: open pit to -40' Ross Zone: shaft to -275/500' Bay Zone: decline to -150/300' Pot Hole: decline to -150/300' Decline to -150' w/scoop trams Decline to -325' w/shrinkage Open pit to -200' Ross Zone: shaft to -275/500' Bay Zone: decline to -150/300' Pot Hole: decline to -150/300'

from Neilson and Bray (1981)

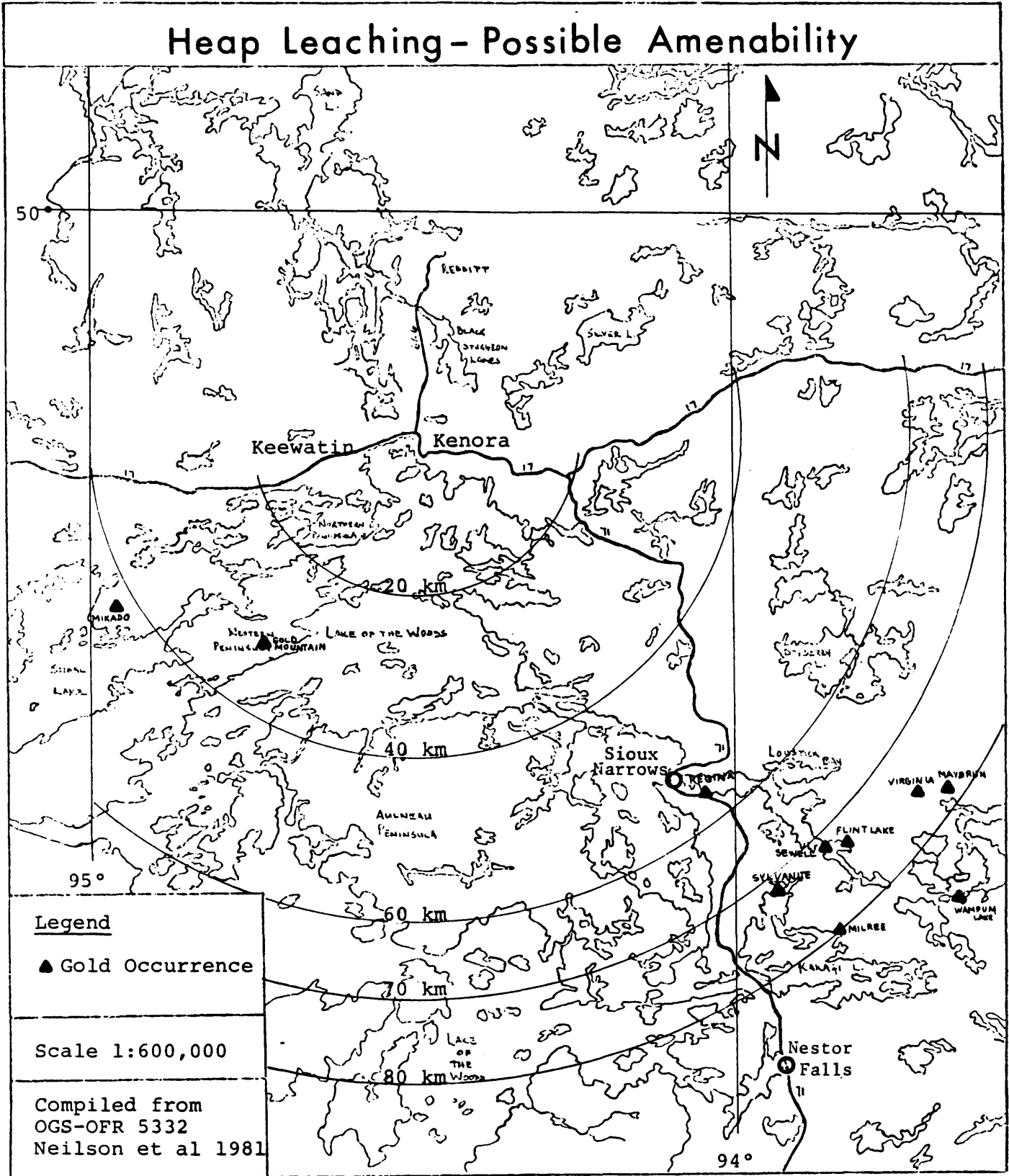


Figure 7 : Distribution of deposits which may be amenable to heap leaching.

Activity in the Kenora Area, 1983

Exploration for gold has increased dramatically in the Kenora area since the discovery of Hemlo. A 600% increase in the number of claims staked in the Kenora mining division during 1983, gives an indication of the interest which the gold occurrences of this historic camp have generated. The announcement of exploration work on the Nuinsco Resources and Lockwood Petroleum deposits spurred a staking rush in the Cameron Lake area. A large tract of ground withdrawn from staking for research by AECL and located adjacent to the Nuinsco discovery was reopened in mid 1983, causing yet another staking rush. Figure 8 shows areas which have been staked in the Kenora area over the past year or so. It should be noted that many occurrences occur on patented property which is not shown on Figure 8. The reader is referred to the Mining Recorder's or Land Registrar's offices in Kenora for current status of any ground which he is interested in acquiring.

The large number of claims recently staked has also increased the amount of assessment work which has been filed with the Ministry of Natural Resources. For a complete summary of recent exploration activity in the Kenora area the reader is referred to the Resident Geologist's Report of Activities for the year 1983. Activity in the Kenora area has been summarized on Figure 9. The figure displays the type of work and where located. The figures also include exploration activity other than gold exploration. It is readily evident that the majority of work is located in the Cameron Lake area.

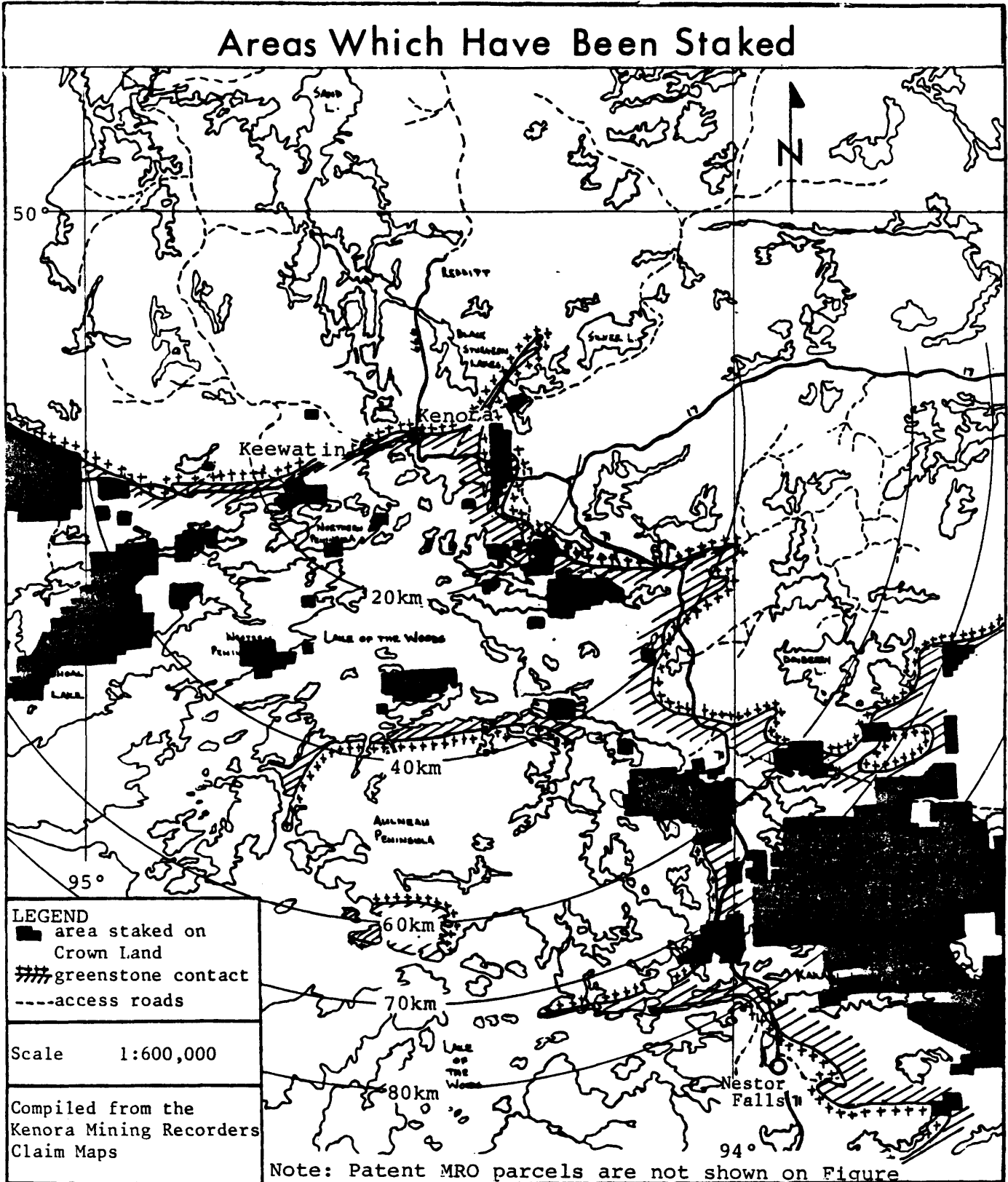


Figure 8: Areas staked in the Kenora Service Area during 1983.

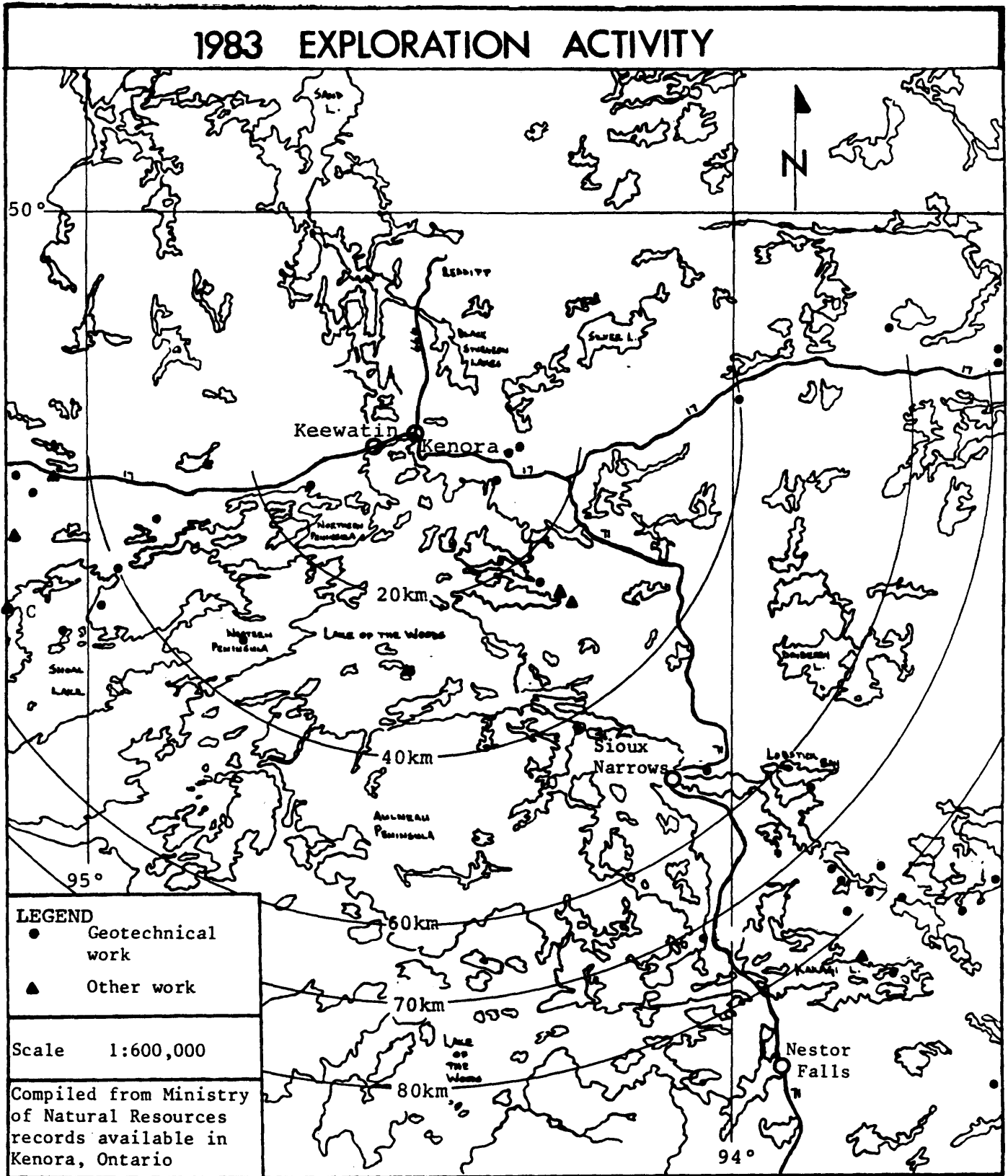


Figure 9 : Reported Exploration Activity, 1983, in the Kenora Service area.

Lake of the Woods Gold Study

A two year program was begun in May 1983, to study gold occurrences in the Lake of the Woods area. This project was funded under the Northern Ontario Rural Development Agreement, a joint federal-provincial program. A summary of the first summer's field work can be found in Ontario Geological Survey MP 116, Summary of Field Work, 1983, p 241. The purpose of the study is to provide a review of gold occurrences, assessment of lithological, structural and geochemical factors relating to gold mineralization in the Kenora area.

J.C. Davies, 1983, has concluded from this first year of research that:

"Known gold occurrences in the Lake of the Woods area are associated with shear or fault zones along which there has been silicification, carbonatization, and sulphide mineralization. Tourmaline is commonly associated with the quartz in these zones. In the Shoal Lake area most gold occurrences are within cross-faults or shears. The Cameron Island gold zones have considerable length, apparently conformable with the volcanic stratigraphy, and may represent mineralized felsic tuff. At High Lake, major faults have provided some control of the mineralization although, at present, this appears to be erratic. Virtually all of the mineralization in the Bigstone Bay-Kenora area is along shear zones which parallel the volcanic stratigraphy. Most of these are narrow and of limited strike length."

Introduction

This section of the Handbook is intended to provide some helpful information on the requirements for developing mineral properties in the area. The material has been compiled from numerous sources.

In the Kenora area there are numerous gold occurrences held by private individuals who would like to see their small-tonnage deposits developed. Many good suggestions have been made (Neilson & Bray 1981, Beard 1983) regarding the actual mining and milling of small scale deposits; however, little information has been published on the financial aspects of advanced exploration and development of small properties.

The potential for development of small gold prospects are dependent on many variables, the greatest being the stage of exploration and development which properties are currently at. A property may be at any one of four stages; 1) discovery, 2) definition of mineralization, 3) feasibility and 4) financing-of production. The first two stages, discovery and ore definition, are geologically oriented; and the last two stages, feasibility and financing of production, are financially oriented. The last two stages of bringing a property into production often pose the greatest problem, since most geological personnel have little financial or managerial background. Funding sources, government approvals required and contact personnel for further information regarding these two concerns will be examined for each stage of property development in the Kenora area.

The discussion of the first two stages will be geologically oriented and will be aimed at the prospectors. The last two stages of a property development are more financially oriented and the discussion will be aimed at small scale developers who may need assistance in putting the ore deposit into commercial production.

Discovery Stage

Exploration assistance available from government for prospectors and mining companies includes an incentive program provided by the Ontario Government (OMEP) and a tax break (CEE) from the Federal Government. The Ontario Mineral Exploration Program (OMEP) was designed to encourage mineral exploration in Ontario. Those eligible are non-producing exploration companies and prospectors. It is directed at those persons and companies who do not have mineral income and thus cannot obtain the full income and mining tax relief for expenditures. The assistance is in the form of a grant of a tax credit for up to 25% of allowable exploration expenditures. It is very important to discuss the exploration program with the Ministry of Natural Resources and then apply for program designation BEFORE starting any work. Eligible exploration expenditures for this program are divided into two categories: (1) preliminary, and (2) advanced exploration expenses.

Preliminary exploration expenses are 100% eligible for OMEP and include prospecting, linecutting, geophysical surveys, map and report preparation, drilling, stripping, trenching and sampling. 25% of advanced exploration and temporary construction expenses are eligible for OMEP. Advanced exploration expenses are shaft sinking, drifting, and other lateral excavation. Temporary construction expenses are building of an access road and temporary camps.

Eligible exploration ceases when a production decision is made. For more detailed information the reader is referred to OMEP pamphlets published by the Ministry of Natural Resources, available in local MNR offices.

When OMEP grants are combined with the new Federal income tax rules for deduction of "earned depletion" (for individuals, these rules also apply for provincial income tax purposes), mining exploration in Ontario can become very attractive.

In the April 19, 1983 budget the existing 33 1/3% depletion allowance for mining exploration would be made deductible against other income of investors. That is, the allowance may be taken only at the rate of \$1.00 for every \$3.00 of so-called eligible expenditures made since November 7, 1969. Eligible expenditures is another way of saying "all Canadian exploration and development costs." Depletion, earned but unclaimed, can be carried forward indefinitely in determining future income. What constitutes eligible "expenditures" is set out in paragraphs 1205 (a) to (b) of the Income Tax Regulations.

The section of the Tax Act of most interest to prospectors and developers is section 66.1. Canadian Tax Service defines expenses in section 66.1 as follows:

"Canadian Exploration Expense (CEE), refers to expenses incurred by a taxpayer in searching for a mineral resource in Canada. Specifically, the provision includes the expenses of prospecting, carrying out geological, geophysical or geochemical surveys, drilling by rotary, diamond, percussion or other methods

or trenching, digging test pits and preliminary sampling. Excluded, are Canadian development expenses and expenses that may reasonably be considered to be related to a mine or to an extension thereof, whether or not owned by the taxpayer, that has already come into production in reasonable commercial quantities. However, development expenses incurred after November 16, 1978 are included in Canadian development expense (subparagraph 66.1(6) (a) (iii.1). These include, generally, expenses incurred for the purpose of bringing a mineral resource in Canada into production and incurred prior to the commencement of production from the resource in reasonable commercial quantities. Where a mine was previously in production but has been definitively abandoned, and all equipment has been removed, the Department will normally accept as qualifying under this subparagraph expenses incurred to rehabilitate the mine and bring it again into production."

The reader is referred to an accounting firm for interpretation BEFORE expenditures are made. The accounting firm will be more familiar with the Tax Act and be able to assist you in your planning to take advantage of this section of the Federal Income Tax Act.

More traditional sources of funding should not be overlooked, in particular the grubstaking agreement. This is an agreement by which private investors provide money for an experienced prospector to search for promising mineral occurrences which can be staked and optioned. It may be possible to find such investors in the Kenora area.

Definition Stage

After a promising property has been located, the funding of the preliminary surveys must be put into place. At this stage of property development OMEP and CEE are still applicable and now the stock market may be used to raise capital to finance the outlining of any possible ore-body. A common capital source on the stock market is flow-through shares. These are ordinary voting common shares, except investors get to claim their respective portions of the exploration costs on their own income tax returns.

Private investors may also be a source of financing at this stage. Many business and professional people are interested in diversifying their investments and find the tax benefits available in the development of a mining property to be an excellent way to do so. This locally available money can be found with a little work by word of mouth in the community. A good place to begin may be the Chamber of Commerce or any organization of local business people.

Feasibility Studies

During development of a mining property, funding and governmental approvals necessary to continue are important. Funding may be available from Government grants, a stock issue on one of the exchanges or private capital. The Canadian Exploration Expense still applies as a tax credit lessening the financial burden of this "up front" type of expense. Governmental approvals which must be addressed are varied and in most cases site - specific. Briefly, concerns which must be studied for their potential impact on the development are:

- 1) Metallurgical Accounting
- 2) Cost Accounting
- 3) Economic Constraints
- 4) Government Regulations
- 5) Environmental Requirements
- 6) Water Supply
- 7) Hydro

Each of these items will be expounded upon. The reader will be directed to other information, or to contact people who may be of help.

Metallurgical Accounting

Bulk sampling of a deposit often plays a very important role in determining its economic feasibility. Results of the sampling provides detailed information on the grade and metallurgical characteristics of the ore. After the bulk sample is taken, ore must be classified.

"The elemental analysis of the bulk sample combined with basic mineralogical examination enables a specific ore to be classified as:

- a) Simple or so-called "free-milling" ores.
- b) Simple sulphide ores, usually carrying pyrite, and to a lesser extent pyrrhotite.
- c) Complex ores, or those containing minerals which interfere with the extraction of the gold, and must be removed or otherwise treated to mitigate their effect prior to treatment." (Lindsay, 1982)

After the ore is classified, metallurgical testing begins. Lindsay, (1982) states:

"Before subjecting the ore to standard laboratory metallurgical testing, a series of grinding tests is performed to establish the grinding work index (kilowatt hours/short dry ton) and the degree of mineral liberation at various grinds for the custom ore.

When it is felt optimum metallurgical results have been achieved, applying the standard metallurgical testing procedures, then relatively simple calculations can be made to estimate the net value of a particular custom ore. The net value of the ore is determined by the value of the product (for example, gold) recovered less the cost of mining, shipping, handling, milling, and marketing. Determination of the net value of a particular ore will aid the developer in establishing the feasibility of a particular mining venture."

Primary concerns in metallurgical accounting are the weights, moisture content, and assays of the treated ore, concentrates, and tailings produced. The intermediate products, such as middlings, cleaner tailings, etc., are assayed

for operating control but are not considered in the accounting procedure. They are constants on the circuit.

The following items are essential in the preparation of a metallurgical accounting report:

Weights - ore received and treated, and products.

Sampling - of the above for moisture and assay;
and ore feed rate.

Assaying - calculation of dry weights and metal
or mineral contents.

Inventory - taken the first of each month - of
ore concentrates on hand.

Metallurgical balance sheets.

Unaccountable

Cost Accounting

When metallurgical testing has been completed, the value of the ore can be calculated, This can be a very complex procedure. Mackenzie, et al. (1982) has attempted to give a general overview of this procedure:

"The value of "rocks" in the ground, termed the gross in-situ value of the deposit, is the product of geological reserves, geological grades, and metal prices.

First of all, provision has to be made for mining and milling losses. Part of the geological reserves inevitably has to be left behind in pillars and remnants. Also, the geological grades are diluted by the mining of barren or low-grade waste rock material adjacent to the deposit itself. Thus, the recoverable reserves delivered to the mill are usually significantly lower in grade and metal content than the geological deposit estimates. Then, the milling process results in the incomplete recovery of the metal contained in the mill feed in the concentrate product.

In determining the value of this concentrate product, smelting and refining charges have to be deducted.

Concentrate transportation costs have then to be deducted to work the valuation back to an estimate of revenue at the minesite. Concentrate transportation costs are a function of road, rail, and ocean modes of shipment, concentrate volume, transportation distance, and the number of transfer points.

Revenue at the minesite represents the top line of the cash flow calculation associated with the contemplated development of the mineral deposits. The costs associated with producing the concentrate then have to be deducted. These include the preproduction capital expenditures required to develop the necessary capacity, the capital cost of major modifications and the sustaining capital required during the productive life of the operation, and operating costs.

The preproduction capital expenditures include: mine development; mine plant and machinery; processing facilities; infrastructure requirements for power, housing, townsite, and road facilities; and working capital. Operating costs are usually subdivided into mining, milling, and overhead components.

Taxation payments next have to be deducted. In Canada, these include provision for federal corporate income tax, provincial corporate income tax, and provincial mining tax.

Finally, an allowance is required for the cost associated with the development funds which would be invested in the project, termed the cost of capital. This cost of capital is the weighted average cost associated with debt and equity sources of funds. It is usually expressed as an annual compound discount rate, and applied to the after-tax cash flow distribution, discounting the estimated future values back to a net present value at the start of development."

Economic Constraints

It is necessary to determine the type of mineral processing that will give greatest monetary returns from an ore. Such a determination involves estimates of production costs, metallurgy, capital costs and estimated return on sale of products.

Production costs involve estimates of labor, supplies, power and water, and taxes. Metallurgical costs are based on results of experimental testing of the ore, which should indicate the possible mineral recoveries. Capital costs refer to estimates of foundation and building costs, equipment and installation, water and power supplies, etc. Capital cost must be amortized over the anticipated life of the mine and used as a debit for each ton of ore milled. Estimating return from the sale of products requires a knowledge of smelter schedules, and freight and haulage rates.

When all the above cost data is available, the question which must be asked is, "Is it economic?" This question must be answered by a feasibility study. The answer will determine if the development work is to proceed.

In Kenora, the Tri-Municipal Economic Development Commission is presently involved in the development of a Heavy Industry Industrial Park in which the operating costs would be shared by the tenants. The industrial park would be an excellent way of reducing capital costs such as the provision of water and hydro. The greatest benefit would be for a mining operation which has ore located within a reasonable haulage distance

of Kenora.

Because of its centralized location, the park is recognized as a prime site for the development of a Custom Gold Mill. Being located between the new Kenora by-pass and the Trans-Canada Highway, it provides excellent access to a number of projected ore deposits within reasonable haulage distances.

The Tri-Municipal area is the major service and supply center in Northwestern Ontario, second only to Thunder Bay, and provides a skilled labour pool together with a stable economy and a commitment from the community to encourage growth and development.

For further information, contact James Doty, Economic Development Commissioner in Kenora.

Government Regulations

All industries including the mining industry are subject to a variety of regulations and legislation. An excellent reference source for these concerns is the Mineral Policy Background Paper No. 9 prepared for the Ministry of Natural Resources. This "Guide to Legislation Affecting Mining in Ontario" was produced in 1979. The reader should inquire to the appropriate agency listed in the publication as to current legislation and policy which may affect the planned operations.

Operators in Ontario require a Work Permit from the Ministry of Natural Resources before any activity takes place on a mining property. Certain restrictions under the Forest Fires Prevention Act (16 (1), (2), (17)) may be specified on the Work Permit. The Ministry may also place other restrictions on the proposed work based upon other government legislation, regulations, and policies.

Areas of most concern to the Ministry include qualities of shorelines and general environmental quality of lakes and water courses.

In addition to the Mining Act, the reader is referred to the following Act, regulations, and policies.

- 1) Crown Timber Act (Reg. 234, Sec. 26 (2c))
- 2) Endangered Species Act (Sec. 5)
- 3) Fisheries Act (Sec.33 (1))
- 4) Forest Fires Prevention Act (16 (1), (2), (17))
- 5) Lake and Rivers Improvement Act (Sec. 36)
- 6) Modified Management Area (Policy of MNR)
- 7) Public Lands Act (Sec. 23 & 25)

Additional information on requirements can be obtained at any District office of the Ontario Ministry of Natural Resources.

Environmental Requirements

Fitz, (1982) produced an overview of environmental requirements in Ontario. Selected excerpts are reproduced here:

- "Concerns which must be addressed include:
- 1) contamination of surface runoff;
 - 2) disposal of spoil material;
 - 3) treatment and disposal of waste oils, drilling fluids, and cooling water;
 - 4) potential noise and vibration impact on neighbors;
 - 5) need for dust control;
 - 6) disposal of domestic wastes including septage wastes and domestic garbage;
 - 7) disposal of drilling sludges;
 - 8) rehabilitation of the site;
 - 9) need for a Water Taking Permit;
 - 10) preoperational environmental monitoring.

The Ministry of the Environment must be contacted before there is any significant change to the surface environment of the property such as bulk sampling, shaft dewatering, surface drainage alteration, tailings or spoil pile movement, rock pile movement, etc.

The Ministry of the Environment must also consider the following:

- 1) treatment and discharge of shaft water;
- 2) treatment and discharge of pit water;
- 3) disruption of tailing area, waste rock dumps and spoil piles;
- 4) road and building construction;
- 5) disposal of solid wastes and materials.

To be sure there is no misunderstanding, the law clearly states that in the Province of Ontario a proponent must obtain formal approval prior to construction for:

- 1) withdrawing more than 50,000 litres per day of water from any lake, river, stream, pond, spring, or groundwater source.

- 2) discharging any liquid waste including cooling water, drilling fluid, wash water, dust suppressant water, oily water, domestic sewage water, mine water, pit water, or contaminated surface drainage;
- 3) discharging any air emission including drill dust, boiler plant stack emissions, silo dust, etc.;
- 4) disposing of any solid waste including tailings, sludges, overburden, and waste rock;
- 5) noise, vibration or odour sources. "

Water Supply

Most potential gold properties are located near water suitable for processing of ore. A few areas may be environmentally sensitive. The High Lake - Shoal Lake area on the Manitoba boundary is part of the water supply system for the City of Winnipeg; therefore, may require special environmental considerations. The northern end of the Lake of the Woods is heavily populated with many cottages. Any development there will also require special considerations.

Operators should be aware of the Lakes and Rivers Improvement Act which limits activities that can be performed close to a water course.

For further information on requirements the reader should contact the Ministry of Natural Resources and the Ministry of the Environment.

Hydro

In the Province of Ontario, electrical requirements are the responsibility of Ontario Hydro. Consultation with Ontario Hydro on each site-specific case is required as costs vary from site to site.

Adequate power supply may be a problem at some potential mining locations due to the electrical power distribution patterns. Costs may be high to bring power from a transmission net to a new mine site. The necessary transmission line could be long and would have to be stepped down at the mine through a transformer sub-station. In the case of Ontario Hydro, it is the Corporation's policy to charge these installations on a capital contribution basis and the figures would be high, particularly for short lived operations. It is not possible to give firm figures, because each site is unique.

The person to contact in the Kenora area is the Kenora Manager, Ontario Hydro; 106 Rabbit Lake Road. Phone: 807-548-4301.

There are sites in the area zoned for industrial use and having hydro power available. These may be identified by contacting James Doty, Economic Development Commissioner in Kenora.

Financing of Production

At this stage, the operator of a property has already called for expert advice from many sources. The only advice given here will be of a general nature regarding custom milling of ore.

A custom shipper should remember that an orebody or surface stockpile is inherently variable and that results obtained on a representative sample may not apply equally well to all parts of the deposit. Representative samples are useful in establishing the amenability to custom milling. Additional testing may, however, be desirable on samples from various areas or depths of the deposit.

The following are some considerations which any shipper of custom ore should be aware of. This checklist was modified after Lindsay, (1982):

Ownership

Right to ship gold-bearing material from the property.

Amount to be shipped

The approximate short dry tons of ore to be delivered over a specified contract duration.

Right of Refusal

The right to reject any material that is unsuitable in their opinion for treatment, whether for metallurgical, environmental or other reasons.

Weights

- (i) Government certified scales to be used to establish the wet tons of material received.
- (ii) The moisture determination of the material delivered shall be used to calculate the short dry tons of material received for processing.

Charges

Pay \$x/short dry ton processed, representing the operating costs associated with processing the ore and a marketing charge of \$y/troy ounce recovered representing mint (or refining) associated charges.

Right of Representation

Right to be present on the proposed processing date for their ore.

Settlement

Total gold credited will be determined by multiplying the determined head grade by the determined batch tonnage weights (short dry tons) for settlement. Of this total gold credited a specified percentage (based on laboratory testing) represents the overall recovered grade and the remaining percentage represents combined tailing losses (flotation and cyanidation).

Recovered Metals Handling

Selling gold in bullion produced from the material shipped and the price per troy ounce of the gold sold shall be determined as the average monthly second price fix on the London Metal Exchange (L.M.E.) adjusted to Canadian dollars by using the average monthly Bank of Canada published noon exchange rate. These rates shall represent the month following the bullion or concentrate shipment month. The proceeds from the sales of the gold bullion less all charges payable to milling agent as set out in this agreement shall be paid to the custom shipper on the 45th day, (if a simple sulphide ore is processed) or on the 135th day (if a complex gold-copper ore is processed, producing copper concentrate) after the month end in which the custom material is processed.

Termination

The agreement can be made by either party by giving the other party thirty (30) days written notice of this intent.

Disputes

Shall be settled by arbitration to be conducted in accordance with the Arbitration Act (Ontario).

Force Majeure

Clause incorporated.

Introduction

Due to a large increase in the number of prospectors who are new to the mineral industry, an attempt has been made to present information which is considered good operating procedure. The topics covered are:

- 1) Option agreement checklist
- 2) A selected reading list which provides a background understanding on metallogeny of gold deposits in the Kenora area. Included also are background papers on legislation and environmental policies
- 3) Exploration techniques for gold occurrences

Option Agreements

After a mining claim has been staked and a mining company has made an offer to option it from the staker, an option agreement must be drawn up. The option agreement is a legal contract which sets out the terms of the option for both parties. It is difficult to specify all the items which should be included in such an agreement, but it may be made easier by the use of the following checklist prepared by W. Clarke Campbell and Gerald F. Day of Day, Wilson, Campbell of Toronto, Ontario. It has been provided with the author's permission, only as a guide of what may be included in an option agreement.

THE PARTIES

- (a) Who are they?
- (b) What is basic relationship of parties - are they acting as principals or agents?
- (c) Are the "vibes" right?

THE PROPERTY

- (a) Proper identifiable description
- (b) Status
 - Unencumbered - or if encumbered, is encumbrance to be removed by Vendor or assumed by Purchaser?
 - Good Standing - until when?
 - Right to possession and conduct of operations, e.g., environmental considerations, surface rights, local permits

THE VENDOR

- (a) Owns or has the right to dispose of the Property.
- (b) The authority of the Vendor to deal, e.g., shareholder approval.

THE PURCHASER

- (a) If a corporation - has it the right to conduct operations in the particular jurisdiction, e.g., FIRA status, extra-provincial licences?
- (b) Minimum work requirements
- (c) Covenant to carry out operations in a miner-like manner
- (d) Covenant to record work
- (e) Covenant to report to Vendor. Are there restrictions on Vendor making reports public?

- (f) Indemnity to the Vendor
- (g) Covenant to pay bills promptly to prevent liens
- (h) To pay all rents, royalties, assessments and taxes
- (i) Period of good standing after abandonment

THE DEAL

- (a) Type
 - Purchase
 - Lease
 - Option - payment to sustain and exercise, work, expenditures or both
 - Joint venture
 - Limited Partnership
 - Syndicate
- (b) When - the closing - where?
- (c) The conditions for closing and/or payment
 - Proof of title
 - Necessity of approval of regulatory bodies or shareholders

THE PRICE - How much?

- (a) Cash:
 - Single payment
 - If periodic, are unpaid instalments secured? If so, on what?
 - Provision upon default
- (b) Stock
 - What regulatory authorities have jurisdiction?
 - Free or free trading (note VSE distinction)
 - Formal concepts: 71(1)(m) of Ontario Securities Act, Policy 3-02

(c) If Royalty involved

- Advance royalties pending production or minimums in any event?
- Gross - point of payment can involve deductions
 - ton of ore mined, or milled, or mined and milled
- Net Smelter return - specify deductions
- Net profit
 - (1) when - after what revenues?
 - (2) definition of deductions or charges
 - overhead?
 - exploration - on the property? In area of interest?
 - (3) working capital reserve
- Escalation indices
 - (1) inflation
 - (2) metal prices
 - (3) increased concentration
- Who takes tax deductions, e.g., flowthrough shares

(d) Joint Venture

- Joint Venture agreement - what is irreducible minimum interest if a party does not contribute - define this interest - a net profits royalty?
- Dilution
- Management

CONTINUING INFORMATION

- (a) Right of access and inspection
- (b) Periodic reports on operations and expenditures, includes results and expert and consultants assessments.

ASSIGNMENT OF RIGHTS

- (a) In whole or in part?
- (b) Is consent of other party required?
- (c) Does other party have a right of first refusal?
 - Problems of term of right of first refusal
 - Is right of first refusal continuous or one time?

DISAGREEMENT

- (a) Court
- (b) Arbitration
 - designation of arbitrator
 - decision final or appeal?

EVENTS OF TERMINATION

- (a) Bankruptcy or insolvency
- (b) Effluxion of time
- (c) Out clause by reversion
- (d) Non-performance (opportunity to remedy)
- (e) Force majeure

TERMINATION OR ABANDONMENT

- (a) Is there a cut-off date?
- (b) Notice of default
- (c) Environmental obligations
- (d) Removal of equipment
- (e) Mining Act obligations, e.g., shaft closure
- (f) Removal of all liens
- (g) Status of property
- (h) Turn over reports and relevant material

COMMUNICATION

Address for notice - where can I call you?

- Personal delivery
- Post office
- Other

PITFALLS

- (a) If Quebec deal - language of agreement -
- (b) Beware the form agreement
- (c) Beware mixing precedents
- (d) Definitions - are they consistent and easily identifiable?
- (e) Do schedules have effect of modifying or amending the main agreement?
- (f) tax considerations

Selected Reading List

To help new prospectors get a "feel" for the Kenora area, the following selected reading list is provided. This selected reading list is limited to 10 of the most relevant publications on the area. The list has been compiled from the government publication bibliography in Appendix D.

Beard, R.C., Garratt, G.L.

1976: Gold Deposits of the Kenora-Fort Frances Area, Districts of Kenora and Rainy River; Ontario Division of Mines, MDC 16, 46p., Accompanied by Chart A, Scale 1:253,440 or 1 inch to 4 miles.

Breaks, F.W., Bond, W.D., and Denver Stone

1978: Preliminary Geological Synthesis of the English River Subprovince, Northwestern Ontario and its bearing upon Mineral Exploration, Ontario Geological Survey, M.P. 72, 55p., Accompanied by map p.1971, Scale 1:253,440.

Clark, G.C.

1982: Kenora Area Mineral Potential Tri-Municipal Economic Development Commission. 40p. Accompanied by map Kenora Area Mineral Compilation Map, Scale 1 inch to 2 miles.

Coste, E.

1895: Report of the Gold Mines of the Lake of the Woods, Geological and Natural History Survey and Museum of Canada. (GSC), Report of Progress 1892-93-94, pt. K, P. 11-13.

Goodwin, A.M.

1965: Preliminary Report of Volcanism and Mineralization in the Lake of the Woods - Manitou Lake-Wabigoon Region of Northwestern Ontario, Ontario Department of Mines Preliminary Report 1965-2, Toronto 1965.

Hildebrand, P.B., Frosch, L.J.

1979: Guide to Legislation Affecting Mining in Ontario, Mineral Policy Background Paper No. 9, The Environmental Applications Group Limited, prepared for Mineral Resources Branch and Ministry of Natural Resources, May 1979.

Neilson, J.N., Bray, R.C.E.

1981: Feasibility of Small Scale Gold Mining in Northwestern Ontario (parts of the districts of Kenora-Rainy River and Southwestern Thunder Bay), Ontario Geological Survey, O.F.R. 5332, Vol. 1 - Text, 132 p., 28 tables, Vol. 2 - Appendices, 112 p.

Riley, R.A., King, H.L., and Kustra, C.R.

1971: Mineral exploration targets in Northwestern Ontario, Ontario Department of Mines and Northern Affairs, MP 47, 72p.

Ontario Government Publication

1981: Guidelines for Environmental Control in the Ontario Mineral Industry, Ministry of the Environment, October 1981

Ontario Government Publication

1982: Kenora District Land Use Plan, Proposed policy and optional plans, Ministry of Natural Resources, June 1982.

Additional information on geological and mining publications relating to the area is available from the Resident Geologists Office, Ministry of Natural Resources.

Exploration Techniques for Gold Occurrences

The recent surge in gold exploration throughout the Province over the past several years has, in some cases, seriously stressed the technical capabilities of mining groups to carry out effective gold exploration and evaluation programs. Until recently, few geologists or prospectors had gold exploration experience. Methods and techniques used to assess base-metal prospects are often not adequate to assess gold prospects. Care must be taken or gold exploration programs will be unduly costly and ineffective. The following suggestions are offered:

1. As early as possible in the assessment of a property, determine the nature and distribution of gold values within the mineralized zones. This will have a strong influence on the remainder of the program, especially the sampling methods and techniques to be used.

2. Obtain the maximum amount of geological and assay information in two dimensions (surface) before attempting to assess the deposit in the third dimension. Utilize bulldozers, backhoes, or hand stripping, to expose as much of the deposit at surface as possible. Later drilling and blasting may be used to open up the deposit for fresh sampling.

3. When the deposit is defined in two dimensions and nature and distribution of the gold mineralization is known, then an attempt should be made to assess the deposit in the

third dimension. Diamond drilling should be carried out as a later stage of exploration. The size of the samples obtained and relatively random nature of gold mineralization makes drilling a costly sampling technique. It should be used largely to determine structural information. Many of the deposits in the Kenora Division were opened up in the past with pits, shallow shafts, and some lateral development. Whenever possible, these underground workings should be dewatered and rehabilitated to provide a better three-dimensional picture. While costs to go underground will probably be somewhat more than a drilling program, the amount and quality of information obtained usually offsets additional costs.

4. Take large samples (bulk if possible) for assay whenever possible. The erratic distribution of precious metal values in many ore zones makes this essential for a proper assessment of most deposits. Bulk samples removed from old underground workings are preferable. If bulk sampling cannot be done, numerous channel samples should be taken. If diamond drilling is used, BX core or larger (NX preferably) should be taken whenever possible.

5. Take as many samples as possible. The more samples assayed, the more a representative picture will be obtained. Care must be taken not to contaminate samples and all substances which come into contact with sample should be assayed for their potential gold and trace element contribution to sample, ie., felt tip markers, grease pencils, saw blades etc. Samples must be clearly identified and duplicates taken.

6. Portable diamond saws, about the size of chain saws, are now available which can be used in the field for cutting channel samples. When using this type of sampling technique be careful not to inadvertently contaminate the samples from the equipment. A carborundum blade rather than a diamond blade in cutting channels is recommended.

Many of the above suggestions may seem rather obvious, but they must be kept in mind by prospectors working their gold deposits. The deposits of the Kenora Mining Division are especially suited to the kind of approach described since many have been opened up and worked extensively in the past, providing many rock trenches, shafts, underground drifts, rock piles, and tailings for sampling.

There are several types of samples which can be taken from a gold prospect, each sample has its function and provides certain information. Sampling technique and analytical methods used will determine the usefulness of the results obtained. It must be stressed that in vein-type deposits, gold is typically very erratically distributed, especially free gold. A good reference on analytical methods may be found in Geology of Gold in Ontario by C. Riddle (1983). Three considerations must be taken into account before choosing a sampling technique:

- 1) - type of mineralization (stock-work, sulphide zone, single vein type)
- 2) - Geological, structural and mineralogical control
- 3) - extent of mineralization

When one is confident one has a good idea as to how the gold occurs and the analytical methods to be used, then appropriate sampling technique can be chosen from the following techniques.

Grab Samples

A rock or sediment sample taken indiscriminately at any place. Useful when poor exposure makes sampling difficult.

Selected Samples

Best mineralized rock indicates if the zone bears any gold (if the best pieces are barren, forget the leaner parts of the zone). It is good for mineralogical studies. Drawback - it is not a representative sample.

Channel Samples

Continuous sampling across the vein. Best results obtained with a rock saw (even sample width, depth). Results can be used for reserve calculations as the values are averaged along the length of the sample. Drawback - method is time consuming.

Chip Samples

Fast sampling technique which gives indication of mineralization across zone. Drawbacks may be biased samples and tendency to sample rock which is easier to break.

Panel Samples

Good for large areas of sampling for stockwork type of ore and for low grade ore. Applied to occurrences with more than one set of veining.

Muck Samples

At fixed intervals of time, take samples from car or conveyer belt. This is a fast and easy method and can be used for statistical studies. Method occasionally used for grade control. Drawbacks are - biased sampler, tendency to choose contrasting rock types, and coarse fraction (fine material from brittle rock is not sampled.)

Bulk Samples

Large sample which is especially useful for mill tests. Large samples can be obtained from stopes, trenches, diamond drill core or from cars and conveyor belts. Drawback - They are costly and time consuming.

Core Samples

They represent near-perfect channel samples and provide samples from unaccessible zones (deep overburden, swamps, lakes). Cheaper than to test underground. Unfortunately, they provide very small amounts of material to work with.

Sludge Samples

Essential when diamond drilling for gold. Sludge samples represent nearly half of the diamond drill hole. They provide a quick check of results and 10 to 20 foot sections can be used. Drawback - the loss of sludge due to fracture in rocks, uneven cutting in different rock types, additional extraneous material added by drill mud, and by way of drilling equipment.

Selected References

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- 1981: Feasibility of Small Scale Gold Mining in Northwestern Ontario (Parts of the districts of Kenora-Rainy River and Southwestern Thunder Bay), Ontario Geological Survey, O.F.R. 5332, Vol. 1-Text, 132p. 28 tables, Vol. 2-Appendices, 112p.

Riddle, C.

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Riley, R.A., King, H.L.,Kustra, C.R.

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APPENDIX A - NEWSPAPER BIBLIOGRAPHY OF KENORA AREA
GOLD PROPERTIES

Appendix A is a bibliography of local newspaper and national journal articles reporting on gold occurrences in the Kenora area. The newspapers and journals reviewed are listed in table A-1. The newspapers' full name, publishing local, dates of coverage and where copies available for inspection are listed. These references are additional to the many references in the technical publications of the Ontario Geological Survey (Ontario Bureau of Mines, Division of Mines, etc.), and the Geological Survey of Canada, listed in Appendix D. The material contained in the appendix was compiled over many months and by many assistants, therefore gaps may appear in the coverage. Consistency was attempted, but not always attained.

The occurrences are listed in alphabetical order with the newspapers and journals listed alphabetically under each occurrence. Newspaper references refer only to the issue where information is located. An asterisk (*) indicates dates of articles in which gold production is reported.

Many articles contain exaggerated claims and promotional material. However, useful information can be gathered from these sources with a little experience and discrimination. Since a general background knowledge of local events at this time in history is helpful it has been provided in the Gold Production section of this handbook.

Table A-2 is an example of the usefulness of the newspaper bibliography. It outlines production from the Mikado Mine on Shoal Lake. Newspaper research indicates a production

TABLE A-1
NEWSPAPER BIBLIOGRAPHY COMPOSED
OF FOLLOWING PUBLICATIONS

Canadian Mining Journal

Published in Don Mills, Ontario
Copies available at Kenora Residents Geologists Office,
Ministry of Natural Resources.

December 1909
May 1911
January 1920
September 1921
October 1921
September 1922
January 1923
February 1926
January 1929
March 1929
November 1929
March 1936
May to July 1936
September to December 1936
February to June 1938
September 1938
November 1938
February to March 1942
June 1942
November to December 1942
May 1943

Canadian Mining Review

Published in Montreal, Quebec.
Copies available at Kenora Resident Geologists Office,
Ministry of Natural Resources.

1882-1883
1884 not searched
1885-1887
1888 not searched
1889
1890-1893 not searched
1894
1895-1897 not searched
1898-1903
1904 not searched
1905-1906

The Colonist

Published in Winnipeg, Manitoba.
Copies available at Manitoba Legislative Library and Kenora
Resident Geologists Office, Ministry of Natural Resources.

1891-1898

The Commercial

Published in Winnipeg, Manitoba.

Copies available at Manitoba Legislative Library.

1883-1889

1889-1893 not searched

1893-1897

Gold

Published as a National Magazine.

Copies available at Kenora Resident Geologists Office,
Ministry of Natural Resources.

June 1936

July to August 1936

January 1937

June 1937

October 1939

December 1939

April 1940

Manitoba Daily Free Press (Free Press)

Published in Winnipeg, Manitoba.

Copies available at Manitoba Legislative Library.

January 1891-August 11, 1891

January 1893-September 1893

Miner and News (Kenora)

Published in Kenora, Ontario.

Copies available at Newspaper Office or Kenora Public Library.

"also known as"

Rat Portage Miner - 1894-1905

Rat Portage News - 1881-1904

Weekly Record - 1891-1897

Rat Portage Miner and News - 1904-1905

Kenora Miner and News - 1905-1952

1894-1895

1896 Missing

September 1897-1937

1938 Missing

1939-1942

1943-1944 Missing

1945

1946 Missing

1947

1948 Missing

1949

Port Arthur Daily Sentinel and North Shore Miner (The Daily Sentinel)
Published in Thunder Bay, Ontario.

Copies available at Kenora Resident Geologists Office,
Ministry of Natural Resources.

1887

1890

1891

1892

The Weekly Herald and Algoma Miner (The Weekly Herald)
Published in Thunder Bay, Ontario

Copies available at Kenora Resident Geologists Office,
Ministry of Natural Resources.

1888-1893

TABLE A-2

EXAMPLE OF INFORMATION WHICH CAN BE OBTAINED

Mikado Production Record

		SOURCE: Newspaper Articles in Appendix A						
	1896	1897	1898	1899	1900	1901	1902	1926
				free cyanide milling circuit	free cyanide milling circuit			
Jan	2000	655	547	350	..
Feb	400	550	621	320	360	969
Mar	730	700	697	395 ³	300	..
Apr	334	607	287	..	..
May	313	280	..	..	..
June	288	611	..	..	..
July	372	267	..	..	..
Aug	1,451	451	700	..	..	..
Sept	..	500	265	557	750	..	..	..
Oct	..	333	..	657	353	..	405	..
Nov	..	900	..	658	270	..	400	..
Dec	691	465	600	..	..
TOTALS	968 ¹	1,733	2,846	11,230	6,179	805	1,010	969

¹ Bulk sample of 297 tons processed at Rat Portage Reduction Works. Ref: C.M.J., Feb 12, 1926
² Total for 1898 - \$69,435 @20.67 = 3,359.2oz. Ref: Canadian Mining Review P. 156, 1899
³ Total to date as of March 1900 - 14,334oz. Ref: Canadian Mining Review P. 112, 1900

Grand total from Newspapers - 27,704
 Reported total production from Ontario Division of Mines, Mineral Resources Circular #13. 28,335
 Difference 631

Note: Production figures for many months are missing and yet the production obtained by newspaper research is very close to previously reported total production.

figure of 27,704 oz. Au. Production figures taken from Ontario Division of Mines, Mineral Resources Circular No. 13 indicate a production of 28,335 oz. It becomes evident when the monthly production gaps which appear in Table A-2 are filled that the Mikado Mine produced more gold than previously reported. The usefulness of this cannot be over emphasized, as it is known that government records of this period are often spotty or non-existent.

During the compilation many prospects were noted to have experienced production which was not previously reported. Therefore, the number of documented producing gold occurrences in the Kenora area has been increased since the publication of Mineral Deposit Circular #16. (Beard and Garratt, 1976)

GOLD MINES IN THE KENORA AREAABE LINCOLN

Colonist
Mar. 1897

ADALINE

Miner and News
Oct. 6, 1899

ARGYLE

Canadian Mining Review
May 1883 Feb. 1885

The Daily Sentinel
Oct 17, 1890

Gold
June 1937

The Engineering & Mining Journal
Vol. 35, June 9, 1883 p.337

Vol. 35, June 30, 1883 p.384

Vol. 35, Jan 27, 1883 p. 47

Vol. 36, Aug 18, 1883 p. 102

Weekly Record
Jan. 9, 1892

ARONEK GOLD SYNDICATE

Gold
June 1936 June 1937

Also see Muton Long Lac

ATIKWA LAKE

Miner and News
July 9, 1932

ATWATER

Canadian Mining Review
1899, p.236

BAD MINE

Canadian Mining Review
1894, p.56 1898, p.172
1899, p.301 1900, p.41

1898, p.298
1900, p.98

1899, p.87
1900, p.120

Colonist
May 1896

Jan. 1897

Apr. 1897

Jan. 1898

BAD MINE (cont)The Commercial

Dec. 4, 1893 Oct. 12, 1896

Manitoba Free PressAug. 29, 1896 Oct. 12, 1896 Jan. 16, 1897 Mar. 25, 1897
Nov. 30, 1897Rat Portage News

Jan. 12, 1894

Weekly Record

May. 14, 1892

Also see Champion and Franklin

BATH ISLAND OCCURRENCEColonist

Jan. 1897 Jan. 1898 March, 1898

Manitoba Free PressAug. 3, 1897 Sept. 20, 1897 Sept. 26, 1897 Oct. 4, 1897
Oct. 16, 1897 Nov. 5, 1897BECKCanadian Mining Review

1899,p.87 1899,p.216

BEN HARRISONThe Daily Sentinel

Nov. 24, 1890

BIRBECK MINEMiner and News

Oct. 21, 1898

Also see Nonsuch Prospect and Oliver Dounais.

BLACK EAGLECanadian Mining Review

1901,p.159 1901,p.186 1905,p.40

Also see Goldwood, Horseshoe, Kenland and Regina.

BLACKBURN PATTISONGold

June 1936 June 1937

BLACK FOX OCCURRENCE

<u>Colonist</u>		<u>The Weekly Herald</u>
Jan 1898		Jan 25, 1890
<u>The Daily Sentinel</u>		Mar 7, 1891
Apr 7, 1891		Oct 6, 1893
<u>Miner and News</u>		
Dec 23, 1897		

BLACK HAWK

<u>Miner and News</u>		
Aug 3, 1899	Aug 24, 1900	Oct 5, 1900

Also see Black Eagle

BLACK JACK PROSPECT

<u>The Commercial</u>		
Nov 13, 1893	Dec 4, 1893	June 1, 1896
<u>Gold</u>		
June 1936		
<u>Manitoba Free Press</u>		
Apr 29, 1893	May 2, 1893	May 27, 1896
<u>Miner and News</u>		
Nov 16, 1894	Nov 2, 1910	
<u>Rat Portage News</u>		
Feb 24, 1893	Dec 15, 1893	Jan 12, 1894
<u>Semi-Weekly Record</u>		
July 24, 1895	Oct 19, 1895	
<u>The Weekly Herald</u>		
Apr 28, 1893		
<u>Weekly Record</u>		
Feb 3, 1893	Feb 17, 1893	Oct 6, 1893
Oct 27, 1893	Nov 3, 1893	

Also see Bull Dog Prospect and Gold Hill

BLACK STURGEON PROSPECT

<u>Canadian Mining Review</u>		
1898, p. 172		
<u>Colonist</u>		
Jan 1897	Apr 1897	Jan 1898

BLACK STURGEON PROSPECT (cont)Manitoba Free Press

Jan.16,1897	Jan.25,1897	Mar.2,1897	Mar.25,1897
Apr.19,1897	Apr.22,1897	Apr.23,1897	June 24,1897
July 10,1897	Oct.23,1897	Jan.8,1898	Jan.15,1898

Miner and News

Jan.20,1898	Dec.23,1898	Jan.20,1899
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BLUE STARCanadian Mining Journal

Nov.1936

Gold

June 1936

Also see Stella Prospect

BOULDER ISLAND OCCURRENCECanadian Mining Review

May 1883	1899,p.88	(Mar.18)
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Miner and News

Apr.2,1901

BOULDER PROSPECTCanadian Mining Review

1898,p.298	1899,p.129	1899,p.236	1901,p.74
1901,p.186			

Miner and News

July 29,1898	Dec.23,1898	May 25,1899	May 24,1901
June 14,1901	Aug.2,1901		

BRAE BREEST OCCURRENCECanadian Mining Journal

Nov.1936

Gold

June 1937

Miner and News

Sept.1,1936	Jan.29,1937
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BREAKNECK

Rat Portage News
Dec 14, 1894

BRIGGS

Canadian Mining Review
1899, p. 301 1899, p. 324

BRITANNIA ISLAND

Rat Portage News
Jan 12, 1894

BRITISH AMERICAN

Engineering & Mining Journal
Vol. 35, Apr 7, 1883, p.197

BUCCANEER MINE

Miner and News
Dec 23, 1898

BUFFALO

Gold
June 1936

Also see Velma

BULL DOG

Canadian Mining Review
* 1894, p. 56

The Commercial
Dec 4, 1893

The Daily Sentinel
June 14, 1890

Engineering and Mining Journal
Vol. 35, Jan 27, 1883, p.47
Vol. 49, June 21, 1890, p.716

Rat Portage News
June 27, 1890 Dec 2, 1892 Jan 27, 1893
*Mar 3, 1893 Mar 10, 1893

Semi-Weekly Record
Feb 9, 1892

The Weekly Herald
Feb 3, 1893

Weekly Record
Jan 9, 1892 Jan 13, 1893 Feb 3, 1893 Feb 17, 1893

Also see Black Jack Prospect, Dominion Gold Mining & Reduction Company of Ontario, Gold Hill and Northern Gold Company.

BULLION OCCURRENCE

<u>Canadian Mining Review</u>			
1899, p.1	1899, p.87	1900, p.41	1900, p.119
1901, p.95	1905, p.85		
<u>Colonist</u>			
Oct 1896	Jan 1897	Apr 1897	
<u>The Commercial</u>			
July 20, 1896	Aug 10, 1896	Sept 21, 1896	
<u>Manitoba Free Press</u>			
Aug 4, 1896	Sept 19, 1896	Oct 12, 1896	Jan 4, 1897
Jan 16, 1897	Mar 9, 1897	June 24, 1897	June 29, 1897
Sept 28, 1897	Oct 12, 1897	Oct 26, 1897	
<u>Miner and News</u>			
May 4, 1900	Mar 31, 1905		
<u>Rat Portage News</u>			
Jan 27, 1893	Feb 3, 1893	Feb 17, 1893	
<u>The Weekly Herald</u>			
Feb 3, 1893			
<u>Weekly Record</u>			
Feb 17, 1893			

BULLION #2 OCCURRENCE

<u>Miner and News</u>	
Jan 12, 1900	Mar 23, 1900

BULLY BOY OCCURRENCE

<u>Canadian Mining Review</u>			
1898, p.172	1899, p.129	1899, p.301	1900, p.41
1905, p.40			
<u>Colonist</u>			
Jan 1898	Mar 1898		
<u>Manitoba Free Press</u>			
Nov 30, 1897	Dec 10, 1897	Jan 18, 1898	
<u>Miner and News</u>			
Nov 11, 1897	Jan 6, 1898	Nov 17, 1899	June 10, 1904
Feb 7, 1905	Nov 30, 1906	July 27, 1907	Aug 31, 1910

BUNKER HILL EXTENSION

<u>Gold</u>
June 1937

BURLEY OCCURRENCE

<u>Canadian Mining Review</u>			
1898,p. 172	1898,p.197	1898,p.235	1898,p.258
1898,p. 277	1898,p.298	1898,p.328	1899,p.64
1899,p. 215			
<u>Colonist</u>			
Dec.1896	Mar.1897	Nov.1897	Jan.1898
<u>Manitoba Free Press</u>			
Oct.31,1896	Sept.18,1897	Sept.21,1897	Sept.23,1897
Oct.5,1897	Oct.21,1897	Oct.28,1897	
<u>Miner and News</u>			
May 27,1898	Aug.19,1898	Oct.28,1898	Dec.23,1898
Mar.30,1900			

CALDWELL

Gold
June,1936

CAMERON ISLAND MINE

<u>Canadian Mining Journal</u>			
Feb.12,1926	Jan.18,1929	Mar.1,1929	Nov.8,1929
<u>Canadian Mining Review</u>			
1898,p.172	1898,p.196	1898,p.235	1898,p.258
1898,p.277	1898,p.298	1898,p.328	1899,p.236
1900,p.119			
<u>Gold</u>			
June 1936			
<u>Manitoba Free Press</u>			
July 30,1897	Aug.17,1897	Sept.14,1897	Sept.28,1897
Nov.30,1897	Dec.2,1897	Jan.4,1898	Jan.8,1898
Jan.18,1898			
<u>Miner and News</u>			
Jan.6,1898	June 24,1898	July 20,1899	June 17,1902
Apr.6,1912	Aug.24,1912	Oct.15,1913	Jan.12,1929
Jan.30,1929	June 10,1933	July 14,1934	June 4,1935
Aug.2,1935	Aug.27,1935	*Dec.13,1935	

Also see Duport Mining Company.

CAMP BAY LOCATION

Canadian Mining Review
1898,p.196 1899,p.215

Manitoba Free Press
Sept.2,1896 June 24,1897 July 5,1897 July 31,1897
*Aug.3,1897 *Aug.17,1897 Sept.21,1897 Nov.5,1897
Dec.10,1897

Miner and News
Sept.11,1897 *Dec.26,1905

CANADA GOLD MINING CO.

Canadian Mining Review
May 1883

Thunder Bay Sentinel
May 26,1883

Weekly Record
Jan.9,1892

Also see Winnipeg Consolidated Mining Company.

CANADIAN COMSTOCK

Canadian Mining Review
May 1883

Weekly Record
Feb.27,1892

CARIBOU OCCURRENCE

Manitoba Free Press
Apr.8,1891 Apr.13,1891

The Weekly Herald
Aug 2, 1890

Rat Portage News
Jan.12,1894

CHAMPION

Canadian Mining Journal
Feb.19, 1926 May 1936 Nov.1936

Canadian Mining Review
1901, p.74 1901,p.97

CHAMPION (Cont.)Gold

June 1936

Miner and News

Dec.23,1898	Dec.29,1899	Feb.2,1900	Mar.23,1900
May 18,1900	June 8,1900	June 22,1900	Aug.10,1900
May 3,1901	June 10,1904	June 3,1911	Nov.21,1923
Mar.1,1924	July 2,1924	Mar.7,1925	Apr.4,1925
Oct.28,1925	Mar.3,1926	Mar.31,1928	Apr.14,1928
June 6,1931	Oct.28,1931	Dec.17,1932	July 8,1933
Mar.15,1935	Apr.2,1935		

Also see Bad Mine and Franklin

CHEMICALCanadian Mining Review

1899,p.156 1899,p.216 1899,p.236

Also see James and Gordon

CLIMAX OCCURRENCEMiner and News

July 8, 1898

Weekly Record

Jan.9,1892

COLELEUGHManitoba Free Press

Oct.24,1896

COMBINED PROSPECTCanadian Mining Review

1898,p.172 1899, p.156 1899,p.276

Colonist

Feb. 1898

Miner and News

May 11,1899	July 6,1899	Jan.26,1900	Nov.5,1901
May 27,1902	Sept.8,1903	May 30,1905	Sept.15,1905
*Oct.6,1905	Mar.6,1906		

CONSOLIDATED SMELTERS

Miner and News
June 29, 1929

CONTACT

Manitoba Free Press
July 31, 1897 Aug. 3, 1897 Nov. 9, 1897

CORNUCOPIA

Canadian Mining Journal
Feb. 12, 1926 Nov. 8, 1929

Canadian Mining Reporter
Nov. 25, 1935

Canadian Mining Review
1898, p. 258 1899, p. 144

Colonist
Dec. 1896 Jan. 1897 Feb. 1897 Apr. 1897

Gold
*June 1936

Manitoba Free Press
Jan. 11, 1897 June 8, 1897 Dec. 10, 1897

Miner and News
Aug. 13, 1932 July 5, 1935 July 12, 1935 Aug. 27, 1935
Sept. 6, 1935 *Oct. 18, 1935 *Nov. 8, 1935 *Dec. 13, 1935
*Dec. 31, 1935

CROWN POINT MINE

Canadian Mining Review
1899, p. 1 1899, p. 301 1900, p. 120

Miner and News
Oct. 6, 1899 Nov. 17, 1899 Jan. 12, 1900 Jan. 26, 1900
July 6, 1900 July 27, 1900 Mar. 5, 1901

CROWN REEF

Canadian Mining Journal
Feb. 19, 1926

C.S. MORRIS ESTATE

Rat Portage News
Dec.14,1894

CZAR

Canadian Mining Review
1899, p.156

D-411

Canadian Mining Review
1899, p.144

DICKY MAC

Gold
June 1937

DOMINION GOLD MINING LTD.

Manitoba Free Press
Mar.6,1893 May 27,1896 Oct.24,1896

Also See Golden Gate and Haycock Mine.

DUPORT MINING CO.

Canadian Mining Journal
July 1936

Colonist
Jan.1898

Gold
*June 1936 June 1937

Miner and News
Feb.5,1937 Feb.23,1937 Sept.9,1949 Sept.30,1949

Also see Cameron Island Mine

ECHO BAY OCCURRENCE

Manitoba Free Press
Mar.2,1897

ECHOLA OCCURRENCE

Canadian Mining Review
1899, p.88

Miner and News

Jan.20,1899

Feb.3,1899

Feb.24,1899

EL DIVER OCCURRENCE

The Commercial
June 5,1893

Manitoba Free Press

Jan.25,1897

Aug.14,1897

Oct.23,1897

Rat Portage News

Dec.2,1892

Feb.17,1893

Weekly Record

May 14,1892

Oct.22,1892

Feb.17,1893

ELECTRO GOLD

Canadian Mining Review
1899, p.324

Colonist

Nov.1896

ELPHINSTONE MINE

Miner and News

Sept.7,1899

ENGLEDUE

Canadian Mining Review

1898,p.173

1898,p.258

1898,p.298

1899,p.88

1899,p.144

Manitoba Free Press

Mar.11,1897

July 31,1897

ERRINGTON PROSPECT

Gold

June 1937

Miner and News

Mar.15,1938

Apr.5,1938

ESCHEWEILER OCCURRENCE

Canadian Mining Review
1901, p.186

Colonist
May 1896

The Commercial
June 1, 1896

The Weekly Herald
July 25, 1891

Gold
June 1936

Manitoba Free Press
May 27, 1896

EUREKA

Rat Portage News
Feb.13, 1891 July 10, 1891

Weekly Record
Jan.9, 1892

FLINT LAKE OCCURRENCE

Gold
June 1937

<u>Miner and News</u>			
Aug.13, 1901	Nov.12, 1901	Feb.11, 1902	Mar.25, 1902
July 25, 1902	Oct.7, 1902	Nov.7, 1902	Feb.25, 1938
Apr.5, 1938			

Also see Fox Lake and Jane Gold Mine.

FOX ISLAND OCCURRENCE

Canadian Mining Review
1898, p.197

FOX LAKE OCCURRENCE

Miner and News

Also see Flint Lake and Jane Gold Mine.

FRANKLIN

Gold
June 1936

Also see Bad Mine and Champion

FRANK MOORE MINE

Miner and News
Dec.2,1914

FROBISHER

Miner and News
March 30,1945

GEORGE HEENAN

Canadian Mining Review
May 1883 Feb.1885

The Weekly Herald
Nov 29, 1884

Weekly Record
Dec.19,1891 Jan.9,1892

The Engineering & Mining Journal
Vol. 35, Feb 10, 1883 p.76
Vol. 35, June 9, 1883 p.337

Also see Hay Island Prospect and Keewatin Mine.

GOLD BULLION

Canadian Mining Review
1901,p.159

GOLD COIN OCCURRENCE

Canadian Mining Journal
Nov.8,1929

Colonist
Dec.1896 Jan.1897 Apr.1897

Manitoba Free Press
Jan.16,1897 Jan.25,1897 Feb.24,1897 Apr.20,1897
May 20,1897 June 8,1897 July 12,1897 July 30,1897

Also see Machin Mines

GOLD CREEK OCCURRENCE

Canadian Mining Journal
July 1936 Nov 1936

Canadian Mining Reporter
Nov 25, 1935

The Daily Booster (Jellico, Ontario)
Apr 15, 1936

Gold
June 1936

Miner and News
May 26, 1936

Rat Portage News
Nov 6, 1891 Mar 11, 1892

Weekly Record
Sept 12, 1891 Oct 31, 1891 Jan 9, 1892

GOLD CROSS

Canadian Mining Review
1898, p.172

GOLD ESTATES CO.

Canadian Mining Review
1900, p.58

GOLD HILL MINE

Canadian Mining Review
1886, p.9 March 1887 *1894, p.56 1898, p.235
1899, p.216

Colonist
Sept 1893 Apr 1896 June 1896 *Oct 1896
*Dec 1896 Jan 1897 Apr 1897 Jan 1898

The Commercial
Nov 13, 1893 *Feb 12, 1894 *Oct 3, 1895 *Nov 11, 1895
*Dec 9, 1895 June 1, 1896

Manitoba Free Press
May 4, 1896 May 27, 1896 Jan 7, 1897 Jan 26, 1897
Mar 2, 1897 Mar 25, 1897 July 15, 1897 Oct 14, 1897
Nov 18, 1897

Miner and News
Jan 25, 1895 Oct 11, 1895 Nov 29, 1895 Nov 11, 1897

Rat Portage News
Dec 9, 1887 July 13, 1888 Nov 6, 1891 Dec 2, 1892
Feb 24, 1893 Dec 15, 1893 Jan 12, 1894 Sept 6, 1895
Oct 11, 1895

GOLD HILL MINE (cont)Semi-Weekly Record

Nov 3, 1893	Feb 22, 1895	*Nov 2, 1895	*Nov 13, 1895
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Weekly Record

Oct 10, 1891	Oct 24, 1891	Oct 31, 1891	Jan 9, 1892
Oct 22, 1892	Sept 29, 1893	Oct 29, 1893	

Also see Black Jack Prospect and Bull Dog.

GOLD LEAFRat Portage News

Mar 17, 1893

Also see Nora.

GOLD MOUNTAINRat Portage News

Oct 18, 1895

GOLD PANNER PROSPECTCanadian Mining Journal

Nov 1936

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1899, p.301	1900, p.41	1900, p.58	1900, p.120
1901, p.97			

Miner and News

Nov 24, 1899	Dec 1, 1899	Dec 8, 1899	Dec 22, 1899
Jan 19, 1900	Feb 2, 1900	Mar 16, 1900	May 11, 1900
June -2, 1900	June 29, 1900	July 27, 1900	

GOLD SUN OCCURRENCEMiner and News

May 4, 1899

GOLDEN EAGLECanadian Mining Review

1901, p.159	1901, p.186
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GOLDEN GATECanadian Mining Journal

Nov 1936

Canadian Mining Review

1898, p.235

Colonist

May 1896	June 1896	Oct 1896	Jan 1897
Mar 1897			

GOLDEN GATE (cont)The Commercial

*June 1, 1896 *Feb 22, 1897

Manitoba Free PressMay 27, 1896 June 13, 1896 Aug 4, 1896 Jan 7, 1897
May 8, 1897 June 29, 1897 Aug 3, 1897Miner and News

Mar 12, 1937

Also see Dominion Gold

GOLDEN HORN MINECanadian Mining Journal

Feb 12, 1926

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1901, p.97 1901, p.159 1901, p.186

Colonist

Jan 1898

Miner and NewsOct 9, 1897 Nov 11, 1897 May 27, 1898 Mar 1, 1901
June 14, 1901 July 9, 1901 Aug 6, 1901 Aug 23, 1901
Oct 4, 1901 Dec 3, 1901 Feb 14, 1902 Mar 11, 1902
Mar 18, 1902 Mar 25, 1902 Apr 1, 1902 Apr 4, 1902
Apr 15, 1902 May 13, 1902 June 3, 1902 June 17, 1902
Sept 9, 1902 Dec 16, 1902 Mar 6, 1903 Mar 13, 1903
Oct 5, 1906 July 11, 1928 May 4, 1935 May 21, 1935
Aug 27, 1935Manitoba Free Press

Aug 7, 1897 Nov 1, 1897

GOLDWOOD MINEMiner and News

Jan 24, 1941 *June 3, 1941

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GORDON

Canadian Mining Review
1901,p.186

GRAY EAGLE

Canadian Mining Review
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Miner and News
Dec.14,1894 Mar.22,1895 Apr.23,1899

Rat Portage News
Dec.14,1894

GREAT GRANITE OCCURRENCE

Dec.30,1898

GREAT NORTHERN BULLION

Colonist
Nov.1896

GREAT NORTH WEST OCCURRENCE

Miner and News
Apr.10,1903

Also see Olympia Mine.

HAYCOCK MINE

Colonist
May,1896

HAY ISLAND PROSPECT

Canadian Mining Review
May 1883 1898,p.258 1899,p.88 1899,p.216

Colonist
Feb.1897 Jan.1898

Engineering & Mining Journal
Vol. 35, May 19, 1883 p.287

HAY ISLAND PROSPECT (Cont.)Manitoba Free Press

Apr 12, 1897	Apr 20, 1897	Aug 3, 1897	Sept 28, 1897
Nov 5, 1897			

Miner and News

Mar 10, 1899	Sept 15, 1899
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Also see George Heenan and Keewatin Mine.

HELEN MAYManitoba Free Press

Mar 2, 1897

HENNESSEYEngineering & Mining Journal

Vol. 49, June 21, 1890 p.716

The Weekly Herald

Apr 11, 1891

HILLY LAKE OCCURRENCEMiner and News

Aug 6, 1901

HOMESTAKE OCCURRENCECanadian Mining Review

1901, p.74	1901, p.159	1901, p.186
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Miner and News

Nov 17, 1899	Apr 9, 1901	Apr 19, 1901	May 10, 1901
June 4, 1901	June 21, 1901	Oct 17, 1902	Oct 23, 1936

Rat Portage News

Mar 11, 1892	Mar 18, 1892	Dec 2, 1892	Dec 23, 1892
Feb 24, 1893	Mar 31, 1893		

The Weekly Herald

Apr 28, 1893

Weekly Record

Mar 12, 1892	Feb 3, 1893
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HORSESHOE MINEGold

June 1936	June 1937
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Miner and News

July 21, 1936

Also see Black Eagle, Goldwood, Kenland and Regina.

IMPERIAL PROSPECT

Canadian Mining Review
1900,p.23

Manitoba Free Press
Jan.4,1898

Miner and News
Oct.9,1897

INDIAN JOE MINE

Miner and News
Sept.23,1902 Aug.25,1903

INTERNATIONAL GOLD MINING COMPANY

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May 1883

Also see Wild Rose

JAMES AND GORDON

Canadian Mining Review
1898,p.235 1898,p.258 1898,p.277 1899,p.216
1899,p.236

Also see Chemical

JANE GOLD MINE

Gold
June 1937

Miner and News
May 31,1938

Also see Flint Lake Occurrence and Fox Lake

JENNY LEIGH OCCURRENCE

Manitoba Free Press
Sept.19,1896 Oct.12,1896 Jan.4,1897

JUMBO

The Weekly Herald
Jan 25, 1890 Mar 7, 1891

The Daily Sentinel
Apr 7, 1891

KEEWATIN MINECanadian Mining Review

May 1883

*Feb.1885

Mar.1887

Colonist

Mar.1897

Engineering & Mining Journal

Vol. 35, Feb 10, 1883 p.76

Vol. 35, Apr 7, 1883 p.197

Vol. 35, May 19, 1883 p.287

Manitoba Free Press

Mar.2,1897

Rat Portage News

Dec.9,1887

Weekly Record

Jan.9,1892

Also see George Heenan and Hay Island Prospect.

KEEWATIN REDUCTION WORKSColonist

Apr.1897

Oct.1897

Nov.1897

Jan.1898

Feb.1898

Rat Portage News

Dec.9,1887

KENBRAEGold

June 1937

KEN ECHOGold

June 1937

KENLAND GOLD MINESCanadian Mining Journal

*Nov.1936

*Dec.1936

Miner and News

*Nov.3,1936

*Jan.29,1937

Feb.5,1937

Apr.6,1937

May 11,1937

Also see Black Eagle, Goldwood, Horseshoe and Regina.

KENRICIA MINECanadian Mining Journal

Sept. 1936	Nov. 1936	Mar. 1938	Nov. 1938
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Gold

Aug. 11, 1936	Aug. 25, 1936	Sept. 4, 1936	Sept. 15, 1936
Sept. 25, 1936	Dec. 11, 1936	Jan. 12, 1937	Jan. 29, 1937
Mar. 5, 1937	Mar. 30, 1937	Apr. 20, 1937	May 14, 1937
Dec. 17, 1937	Jan. 18, 1938	Mar. 15, 1938	Oct. 25, 1938
Nov. 18, 1938	Jan. 31, 1939	May 2, 1939	*July 18, 1939
Dec. 29, 1939			

Also see Three Ladies

KINDREDRat Portage News

Sept. 6, 1895

THE KING LODEMiner and News

Dec. 14, 1894	Jan. 25, 1895
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Semi-Weekly Record

Jan. 9, 1895

Rat Portage News

Dec. 14, 1894

LAKE HILL MINEGold

June 1936	June 1937
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Miner and News

Mar. 19, 1937

LAKE OF THE WOODS CO.Canadian Mining Review

May 1883

LAKESIDE GOLD MINEColonist

Jan. 1897	Feb. 1897	Apr. 1897	Oct. 1897
Jan. 1898			

La MASCOTTE COLCLEUGH GOLD MINING COMPANYColonist

Jan.1897

Apr.1897

Jan.1898

Manitoba Free Press

Oct.28,1897

Nov.1,1897

Nov.5.1897

Nov.18,1897

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1897, p.56

The Daily Sentinel

June 3, 1892

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Nov.7,1891

Nov.28,1891

Jan.9,1892

Jan.23,1892

LITTLE BOBS MINECanadian Mining Review

1901, p.97

Miner and News

Apr.13,1900

Apr.20,1900

Apr.27,1900

May 4,1900

May 11,1900

May 18,1900

June 29,1900

Aug.17,1900

Aug.24,1900

Aug.31,1900

Sept.14,1900

Sept.28,1900

Oct.12,1900

LIZZIECanadian Mining Review

1899, p.87

1899,p.324

1900,p.58

1900,p.119

Also see Virginia Prospect

LUCKY COONManitoba Free Press

Jan 7, 1897

MAIDENEngineering and Mining Journal

Vol 36, Aug 18, 1883 p.102

MAMMOTH GOLD CLAIMCanadian Mining Review

1901,p.74

Miner and News

Mar.1,1901

MANDARINColonist

May 1898

Manitoba Free Press

Mar 9, 1897

July 10, 1897

July 26, 1897

MAPLE LEAF CO.The Daily Sentinel

Apr 1, 1890

Rat Portage News

Mar 21, 1890

The Weekly Herald

June 1, 1889

MARION MINEMiner and News

May 11, 1899

MASCOTT OCCURRENCEManitoba Free Press

Jan 4, 1897

Feb 24, 1897

Mar 2, 1897

Apr 12, 1897

Apr 19, 1897

June 8, 1897

MASTER JACK OCCURRENCECanadian Mining Review

1898, p.235

Colonist

Dec 1896

Jan 1897

Feb 1897

Mar 1897

Manitoba Free Press

Sept 19, 1896

Oct 12, 1896

Oct 24, 1896

Jan 4, 1897

Jan 28, 1897

Feb 24, 1897

Mar 2, 1897

Mar 25, 1897

Apr 22, 1897

June 8, 1897

MASTODONRat Portage News

Mar 17, 1893

MATHER (& BEVERIDGE)The Weekly Herald

Nov 15, 1890

MIKADOCanadian Mining Journal

Dec 1, 1909

May 15, 1911

Jan 16, 1920

Sept 22, 1922

*Jan 26, 1923

*Feb 12, 1926

MIKADO (Cont.)Canadian Mining Review

1898,p.197	1898,p.235	1898,p.258	1898,p.276
*1898,p.298	1898,p.328	1899,p.1	1899,p.87
*1899,p.129	*1899,p.144	*1899,p.156	1899,p.216
*1899,p.288	1899,p.301	*1899,p.324	*1900,p.57
*1900,p.98	*1900,p.112	*1900,p.120	1900,p.215
1900,p.279	*1901,p.98	*1901,p.159	*1901,p.186
1901,p.279	*1902,p.282		

Colonist

Oct.1896	Dec.1896	Jan.1897	Feb.1897
Mar.1897	Apr.1897	July 1897	Aug.1897
Sept.1897	Nov.1897	*Jan.1898	Feb.1898
May 1898			

The Commercial

Aug.3,1896	*Sept.21,1896	Feb.22,1897	
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Gold

June 1936

Manitoba Free Press

July 31,1896	Aug.4,1896	Sept.2,1896	Sept.19,1896
Oct.12,1896	Jan.7,1897	Jan.11,1897	Feb.24,1897
Mar.11,1897	Apr.15,1897	May 20,1897	June 8,1897
July 30,1897	Aug.13,1897	Aug.24,1897	*Aug.26,1897
*Sept.4,1897	*Sept.6,1897	*Sept.13,1897	Sept.14,1897
*Sept.21,1897	*Sept.23,1897	*Oct.12,1897	*Oct.18,1897
Oct.30,1897	*Nov.12,1897	Dec.2,1897	Dec.9,1897
Jan.10,1898			

Miner and News

*Sept.25,1897	*Oct.16,1897	Dec.16,1897	*Dec.30,1897
*Feb.25,1898	*Apr.1,1898	*Apr.15,1898	*Sept.16,1898
*Sept.30,1898	*Jan.13,1899	*Feb.10,1899	Mar.10,1899
Apr.7,1899	Apr.12,1899	Sept.15,1899	Oct.6,1899
Oct.20,1899	Nov.3,1899	Dec.29,1899	Jan.5,1900
Jan.26,1900	*May 4,1900	May 11,1900	May 18,1900
June 22,1900	July 6,1900	July 20,1900	*Aug.10,1900
*Sept.14,1900	*Dec.14,1900	Mar.1,1900	June 7,1901
June 25,1901	June 28,1901	Sept.6,1901	Sept.7,1901
*Oct.8,1901	Oct.22,1901	Nov.5,1901	*Nov.8,1901
Dec.13,1901	*Jan.7,1902	*Feb.11,1902	*Mar.11,1902
Mar.28,1902	May 23,1902	*June 10,1902	*July 11,1902
July 22,1902	Aug.22,1902	Oct.2,1902	Nov.4,1902
Nov.14,1902	Jan.9,1903	Jan.13,1903	Mar.6,1903
Mar.17,1903	Apr.24,1903	Apr.3,1907	Jan.12,1910
Jan.29,1910	Feb.5,1910	Feb.9,1910	Mar.23,1910
Apr.9,1910	June 4,1910	June 8,1910	July 2,1910
July 13,1910	Aug.10,1910	Sept.3,1910	Sept.17,1910
Sept.21,1910	Sept.24,1910	Oct.27,1910	Nov.9,1910
Nov.19,1910	*Dec.21,1910	*Dec.24,1910	*Mar.18,1911

MIKADO (Cont.)

Apr.1,1911	May 13,1911	Sept.3,1911	Dec.14,1921
Aug.12,1922	Sept.16,1922	Oct.11,1922	Jan.10,1923
Mar.28,1923	Mar.31,1923	Apr.11,1923	May 31,1924
May 18,1927	Dec.17,1932	Feb.10,1934	Mar.17,1934
June 30,1934	Aug.27,1935	Apr.29,1938	

MINA GRANDE

Miner and News
Sept 2, 1904 Sept 9, 1904

MINERVA OCCURRENCE

Miner and News
Apr 5, 1901 Oct 23, 1903

Rat Portage News
Nov 6, 1891

MINNESARIC

Engineering & Mining Journal
Vol. 36, Aug 18, 1883 p.102

MONARCH OCCURRENCE

Colonist
Dec.1896 Jan.1897 Apr.1897

Manitoba Free Press
Jan.4,1897 Jan.16,1897 July 15,1897

Miner and News
Oct.2,1897

MONAX

Canadian Mining Review
1900,p.23

MONTE CRISTO PROSPECT

Manitoba Free Press
June 17,1897 July 12,1897 Nov.5,1897

Miner and News
Nov.11,1897

MURIEL MINE

Colonist
Oct.1896

McA 130 & 134

Canadian Mining Review
1898,p.298

McCALLUM F. OCCURRENCE

Canadian Mining Journal
Nov.1936

NEDA GOLD MINE

Gold
June 1936

Miner and News
May 26,1936

NINA OCCURRENCE

Canadian Mining Review
1900,p.57 1901,p.97

Miner and News
June 1,1900

NISH-SHIS-IN

Canadian Mining Review
1901,p.186

NONSUCH PROSPECT

The Commercial
June 1,1896

Manitoba Free Press
June 8,1897 June 13,1897

Miner and News
June 3,1911

Also see Birbeck and Oliver Dounais

NORA OCCURRENCE

Canadian Mining Review
 1898,p.172 1899,p.88 1899,p.236 1900,p.24

Miner and News
 Jan.20,1898 July 6,1899 Sept.22,1899 Dec.29,1899

Also see Gold Leaf.

NOR-PENN OCCURRENCE

Miner and News
 June 3,1949 July 5,1949 July 12,1949 July 15,1949
 July 26,1949 Sept.9,1949 Sept.30,1949

NORTHERN GOLD CO.

The Commercial
 Dec.4,1893 *Aug.14,1893

Rat Portage News
 March 11,1892 Sept.29,1893

Weekly Record
 Aug.4,1893 Nov.24,1893

Also see Gold Hill

NORTH-WEST ONT. MINING & DEVELOPMENT CO.

Canadian Mining Review
 1899,p.50

NORWAY OCCURRENCE

Colonist
 Jan.1897 Apr.1897 Jan.1898

Manitoba Free Press
 Jan.16,1897 Mar.9,1897 Mar.25,1897

Miner and News
 Dec.30,1897

OLIVER DOUNAIS

Canadian Mining Review
 Mar.1887 Jan.1889

The Daily Sentinel
 Dec 9, 1887 Oct 17, 1890 Nov 8, 1890 Nov 24, 1890

OLIVER DOUNAIS (Cont.)The Weekly Herald

Nov 9, 1889	Feb 15, 1890	Mar 28, 1891	Apr 11, 1891
July 25, 1891	Aug 22, 1891		

Miner and News

Feb 1890	Apr 1890	June 1890
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Rat Portage News

Dec 9, 1887	Oct 4, 1889	Mar 20, 1891	Apr 10, 1891
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Also see Birbeck Mine and Nonsuch Mine.

OLIVER SEVERN OCCURRENCECanadian Mining Journal

Nov 1936

Gold

June 1937

Miner and News

Oct 6, 1936	May 11, 1937	Nov 1937
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Also see Split Lake

OLIVER SEVERN OCCURRENCE (SOUTH NARROWS)Miner and News

May 11, 1937

OLYMPIA MINECanadian Mining Journal

Feb 12, 1926	Nov 1936
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Canadian Mining Review

1901, p.186

Gold

June 1936

Miner and News

Mar 31, 1899	Mar 22, 1901	Nov 5, 1901	Dec 13, 1901
Feb 10, 1903	Feb 17, 1903	Mar 17, 1903	Aug 25, 1903
Oct 6, 1903	Dec 18, 1903	Jan 15, 1904	Oct 17, 1908
Ont 21, 1911	*Dec 20, 1911	*Feb 3, 1912	*Aug 14, 1915
June 3, 1916	Sept 3, 1919	Also see Great Northwest Occurrence.	

ONTARIO (GOLD) MINING CO.Engineering & Mining Journal

Vol. 49, June 21, 1890 p.716

The Weekly Herald

July 7, 1888	Mar 2, 1889	June 15, 1889	July 20, 1889
Oct 5, 1889	Mar 22, 1890		

ONTARIO OCCURRENCECanadian Mining Review

1899, p, 144

ONTARIO OCCURRENCE (Cont.)

Manitoba Free Press
 Sept.23,1897 *Sept.25,1897

Miner and News
 Sept.25,1897 Oct.16,1897

Rat Portage News
 Apr.5,1889 Oct.4,1889

OPHIR MINE

Canadian Mining Review
 1899,p.305 1903,p.37

Colonist
 Nov.1894 Oct.1896 Jan.1898 Feb.1898

The Commercial
 May 25,1896

Gold
 June 1936

Manitoba Free Press
 Mar.11,1897

Miner and News
 Mar.1,1895 Oct.21,1898 Dec.23,1898 Dec.8,1899
 May 28,1901 Aug.2,1901 Aug.1,1902 Aug.20,1910
 Apr.22,1911 June 24,1911 Sept.27,1911 Mar.9,1912
 Nov.23,1912 Jan.17,1912

Rat Portage News
 Jan.12,1894

The Weekly Herald
 July 20, 1889
 June 21, 1890
 Mar 17, 1893
 July 21, 1893

Semi-Weekly Record
 Nov.16,1894

Weekly Record
 Jan.9,1892

ORION

Canadian Mining Review
 1899,p.301

OTTAWA

Manitoba Free Press
 Sept.7,1897 Sept.23,1897 *Oct.21,1897

PINE PORTAGE PROSPECT

<u>Canadian Mining Review</u>			
*May 1883	Feb.1885	1886,p.9	Mar.1887
1894,p.56	1901,p.97		
<u>Colonist</u>		<u>The Daily Sentinel</u>	
Mar.1897	Apr.1897	June 14, 1890	
<u>Manitoba Free Press</u>			
Feb.24,1897	Mar.25,1897	Apr.12,1897	June 28,1897
<u>Miner and News</u>			
Jan.20,1898			
<u>Rat Portage News</u>			
Dec.9,1887	July 13,1888	June 19,1891	Feb.24,1893
Sept.15,1893	Jan.12,1894		
<u>Semi-Weekly Record</u>		<u>The Weekly Herald</u>	
Jan.16,1895		Nov 29, 1884	
		July 20, 1889	
		Feb 15, 1890	
<u>Weekly Record</u>			
Dec.5,1891	Jan.9,1892	Feb.3,1893	

PIPESTONE GOLD MINING CO. LTD.

<u>Canadian Mining Review</u>	
1898,p.172	1898,p.298

The Commercial
Sept.7,1896

PRINCESS OCCURRENCE

<u>Manitoba Free Press</u>			
Jan.25,1897	Apr.23,1897	Aug.5,1897	Sept.21,1897
Oct.2,1897	Oct.4,1897		
<u>Miner and News</u>			
Oct.16,1897	Nov.11,1897	Feb.3,1899	

PROPERTY A.L.7W (Shoal Lake)

The Commercial
Aug.3,1896

QUARRY ISLAND OCCURRENCE

Canadian Mining Review
1899,p.301

QUARRY ISLAND OCCURRENCE (CONT.)

Miner and News
Oct 6, 1899

QUEEN BEE OCCURRENCE

Miner and News
Dec 23, 1898

Semi-Weekly Record
Nov 2, 1895

RAJAH

The Daily Sentinel
Dec 2, 1890

Rat Portage News
Dec 2, 1892 Dec 23, 1892 Mar 10, 1893 *Mar 31, 1893

Semi-Weekly Record
Sept 25, 1894

The Weekly Herald
Nov 15, 1890 Apr 11, 1891 Apr 28, 1893 July 21, 1893

Weekly Record
Sept 17, 1892 Dec 9, 1892 Feb 17, 1893

RAT PORTAGE REDUCTION WORKS

Colonist
Feb 1890 May 1890 June 1890 Aug 1890
Sept 1892 July 1896 May 1896 Feb 1897
May 1898

The Commercial
Dec 4, 1893 July 29, 1895 *Nov 25, 1895 *Dec 9, 1895
Feb 10, 1896 June 1, 1896

The Daily Sentinel
Mar 31, 1890 June 14, 1890 Aug 11, 1890 Nov 25, 1890
Sept 11, 1891 Dec 18, 1891 Dec 22, 1891 Sept 9, 1892
Sept 20, 1892

Engineering & Mining Journal
Vol. 49, June 21, 1890 p.716

Manitoba Free Press
Mar 31, 1891 Apr 8, 1891 Jan 14, 1893 Jan 4, 1898

Rat Portage News
Apr 5, 1889 July 5, 1889 Oct 4, 1889 Mar 21, 1890
Mar 28, 1890 Apr 25, 1890 May 9, 1890 June 20, 1890
Mar 20, 1891 Mar 27, 1891 Apr 10, 1891 June 19, 1891
July 10, 1891 July 14, 1891 Sept 4, 1891 Oct 16, 1891
Oct 23, 1891 Nov 6, 1891 Nov 20, 1891 Apr 1, 1892
May 27, 1892 July 22, 1892 Aug 5, 1892 Sept 15, 1893
July 26, 1895 Aug 2, 1895 Sept 6, 1895 Oct 11, 1895
Dec 6, 1895

RAT PORTAGE REDUCTION WORKS (CONT.)Semi-Weekly Record

*Nov 23, 1895 Sept 4, 1895 Oct 19, 1895

The Weekly Herald

Oct 5, 1889 Oct 16, 1889 Mar 15, 1890 Mar 22, 1890
 Sept 13, 1890 Mar 28, 1891 Aug 8, 1891 Aug 22, 1891
 Sept 12, 1891 Feb 20, 1892 Mar 26, 1892 Apr 2, 1892

Weekly Record

Aug 1, 1891 Oct 24, 1891 Nov 7, 1891 Nov 14, 1891
 Nov 21, 1891 Nov 28, 1891 Dec 12, 1891

RAT PORTAGE MINING EXCHANGEColonist

Nov 1896 Dec 1896 Jan 1897

Manitoba Free Press

Mar 23, 1893

RED STAREngineering & Mining Journal

Vol. 36, Aug 18, 1883 p.102

REGINA MINECanadian Mining Journal

*May 15, 1911 Feb 12, 1926

Canadian Mining Review

*1898, p.172 *1898, p.235 1898, p.258 1898, p.276
 *1898, p.298 *1898, p.328 *1899, p.87 *1899, p.129
 *1899, p.156 1899, p.215 1899, p.236 1899, p.276
 1900, p.120 1901, p.74

Colonist

July 1895 Mar 1896 *Apr 1896 *May 1896
 *June 1896 *Oct 1896 Nov 1896 Jan 1897
 Feb 1897 Mar 1897 Apr 1897 Jan 1898
 Mar 1898

The Commercial

Nov 20, 1893 Nov 12, 1894 *Nov 11, 1895 *Dec 9, 1895
 *Mar 10, 1896 Feb 22, 1897

Manitoba Free Press

May 4, 1896 June 13, 1896 Aug 4, 1896 Aug 7, 1896
 Aug 17, 1896 Jan 7, 1897 Feb 24, 1897 May 8, 1897
 May 20, 1897 June 15, 1897 Aug 17, 1897 Aug 24, 1897
 Sept 14, 1897 Sept 25, 1897 Sept 26, 1897 Oct 12, 1897
 Jan 15, 1898 Jan 18, 1898

Miner and News

*Aug 2, 1895 *Nov 22, 1895 *Dec 20, 1895 *Sept 11, 1897
 *Oct 9, 1897 *Jan 13, 1898 Apr 15, 1898 *Jan 30, 1899
 *Feb 10, 1899 *Mar 3, 1899 *Mar 10, 1899 *Apr 20, 1899
 Nov 3, 1899 Oct 19, 1900 May 17, 1901 Aug 13, 1901
 Oct 1, 1901 Oct 22, 1901 Jan 14, 1902 Feb 11, 1902
 *Feb 14, 1902 *Mar 8, 1902 Mar 14, 1902 *Apr 4, 1902
 May 23, 1902 June 10, 1902 June 17, 1902 July 13, 1902
 Aug 22, 1902 Sept 5, 1902 Oct 14, 1902 Jan 31, 1905

REGINA MINE (CONT.)

Oct 6, 1905	Nov 10, 1905	Oct 23, 1907	Apr 18, 1908
July 15, 1911	Jan 31, 1914	May 10, 1924	Apr 3, 1926
Aug 1, 1931	Apr 30, 1932		

Rat Portage News

Dec 15, 1893	Jan 12, 1894	Sept 6, 1895	Sept 13, 1895
Nov 8, 1895	Dec 13, 1895	Nov 22, 1895	June 12, 1895
Nov 2, 1894	Apr 24, 1895	May 1, 1895	*Nov 2, 1895
July 24, 1895	*Sept 11, 1895	*Oct 2, 1895	*Nov 13, 1895

Also see Black Eagle, Bully Boy, Goldwood, Horseshoe and Kenland.

ROBERTSON E.M. OCCURRENCEMiner and News

Mar 30, 1945

ROSSLANDMiner and News

Dec 14, 1894

ROYAL OCCURRENCEManitoba Free Press

Jan 16, 1897 Jan 25, 1897

SABASKONG MINING COMPANYColonist

Mar 1897

The Weekly Herald

June 15, 1889

Rat Portage News

June 27, 1890 Dec 12, 1890

SCRAMBLE PROSPECTCanadian Mining Review

1899, p.87 1899, p.156 1899, p.324 1901, p.186

Colonist

May 1896

Mar 1897

Oct 1896

Apr 1897

Jan 1897

Nov 1897

Feb 1897

Jan 1898

The Commercial

Feb 22, 1897

Manitoba Free Press

Aug 4, 1896

Mar 9, 1897

June 8, 1897

Oct 14, 1897

Nov 30, 1897

Jan 7, 1897

Apr 12, 1897

Aug 7, 1897

Oct 18, 1897

Jan 25, 1897

Apr 23, 1897

Sept 11, 1897

Oct 23, 1897

Feb 24, 1897

May 6, 1897

Sept 20, 1897

Nov 1, 1897

Miner and News

Mar 17, 1899

Sept 6, 1900

June 4, 1901

May 18, 1899

Apr 5, 1901

June 21, 1901

Jan 26, 1900

Apr 9, 1901

Nov 22, 1901

June 15, 1900

May 10, 1901

May 27, 1911

SCRAMBLE PROSPECT (Cont.)Miner and News

Oct.21,1911	May 1,1912	Nov.30,1912	Dec.11,1912
Jan.11,1913	Mar.14,1914	May 24,1914	Nov.20,1914

SENTINEL OCCURRENCECanadian Mining Review

1898,p.173	1898,p.196	1898,p.235	*1898,p.258
1898,p.277	1898,p.298	1898,p.328	1899,p.88
1899,p.156			

Miner and News

*Sept.16,1898	Jan.13,1899	Mar.24,1899	
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SIRDAR PROSPECTCanadian Mining Review

1898,p.328	1899,p.1	1899,p.88	1899,p.144
1899,p.156	1899,p.216	1900,p.119	

Miner and News

Nov.18,1898	Nov.25,1898	Feb.24,1899	Mar.10,1899
Mar.24,1899	July 13,1899	Aug.31,1899	Dec.15,1899
Jan.26,1900	Mar.30,1900		

Also see Toronto and Western Occurrence.

SPLIT LAKE GOLD MINESMiner and News

Mar.19,1937	Mar.15,1938	Mar.18,1938	Apr.5,1938
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STANDARD OCCURRENCEGold

June 1936

STELLA PROSPECTCanadian Mining Review

1898,p.172	1898,p.235	*1898,p.258	1898,p.277
1898,p.298	1898,p.328	1899,p.87	1899,p.129
1899,p.156	1901,p.74		

Colonist

Jan.1898	*Feb.1898		
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Manitoba Free Press

July 31,1897	Aug.3,1897	Oct.12,1897	Nov.9,1897
Jan.4,1898	Jan.18,1898		

STELLA PROSPECT (Cont.)Miner and News

Nov. 11, 1897	Mar. 4, 1898	*May 27, 1898	*Oct. 28, 1898
Mar. 1, 1901	June 3, 1911		

Also see Blue Star

STEWARTRat Portage News

Mar. 28, 1890	Apr. 25, 1890
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Engineering & Mining Journal

Vol. 49, June 21, 1890 p. 716

The Weekly Record

Apr 12, 1890	Aug 30, 1890
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SULTANManitoba Free Press

July 12, 1897

SULTANA MINECanadian Mining Journal

*May 15, 1911	Feb. 19, 1926
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Canadian Mining Review

May 1883	Feb. 1885	Jan. 1889	*1894, p. 55
*1894, p. 190	1898, p. 276	1898, p. 328	*1899, p. 1
*1899, p. 64	*1899, p. 87	*1899, p. 129	*1899, p. 156
1900, p. 27	1900, p. 146	*1900, p. 279	1901, p. 97
1901, p. 159	1901, p. 186	1901, p. 279	1903, p. 37
*1905, p. 59	*1905, p. 182		

Colonist

Dec. 1888	Aug. 1889	June 1890	*Sept. 1893
*June 1894	*Nov. 1894	*July 1895	*Dec. 1895
*Mar. 1896	*Apr. 1896	*May 1896	*June 1896
Oct. 1896	Nov. 1896	Mar. 1897	June 1897
Nov. 1897	Jan. 1898		

The Commercial

*Aug. 14, 1893	*Sept. 11, 1893	*Feb. 12, 1894	Mar. 5, 1894
Apr. 2, 1894	*July 23, 1894	July 8, 1895	*Nov. 11, 1895
*Dec. 9, 1895	June 22, 1896	*Feb. 22, 1897	

Gold

June 1936

The Engineering & Mining Journal

Vol. 48, July 27, 1889 p. 79

Vol 49, Jan 11, 1890 p. 69

Manitoba Free Press

Mar. 16, 1893	Apr. 29, 1893	Sept. 19, 1893	June 13, 1896
Oct. 12, 1896	*Jan. 7, 1897	Jan. 11, 1897	Feb. 24, 1897
Mar. 25, 1897	*May 6, 1897	*June 18, 1897	Aug. 19, 1897
*Aug. 24, 1897	Sept. 14, 1897	*Sept. 23, 1897	Oct. 12, 1897
Oct. 28, 1897	*Nov. 12, 1897		

The Weekly Herald

Aug 18, 1888	Oct 13, 1888	Dec 1, 1888	Mar 30, 1889
Dec 28, 1889	Feb 15, 1890	Mar 8, 1890	July 5, 1890
Apr 11, 1891	Sept 12, 1891	Dec 19, 1891	Nov 5, 1892
Jan 6, 1893	Jan 27, 1893	Feb 10, 1893	Feb 17, 1893
Apr 28, 1893	June 16, 1893	July 21, 1893	

SULTANA MINE (Cont.)Miner and News

Feb.24,1894	*Mar.30,1894	*Aug.3,1894	*Dec.14,1894
*Feb.8,1895	*Feb.22,1895	*Mar.1,1895	*Mar.15,1895
*Mar.22,1895	*June 28,1895	*Nov.22,1895	*Nov.11,1897
*Jan.13,1898	Dec.23,1898	*Feb.10,1899	*Mar.10,1899
*May 18,1899	Aug.10,1899	Aug.17,1899	Aug.24,1899
Dec.15,1899	Jan.26,1900	Mar.23,1900	Dec.14,1900
Feb.22,1901	Mar.8,1901	Mar.22,1901	May 7,1901
July 16,1901	July 19,1901	July 23,1901	Aug.2,1901
Aug.23,1901	Oct.15,1901	Nov.5,1901	Feb.11,1902
Mar.11,1902	Jan.16,1903	Oct.20,1903	Nov.6,1903
Nov.20,1903	Mar.22,1904	Aug.2,1904	Oct.11,1904
*Apr.7,1905	*June 20,1905	Mar.9,1912	Oct.11,1913
Jan.2,1932	Sept.19,1934	Sept.29,1934	Nov.9,1934
Apr.12,1935			

Rat Portage News

Feb.24,1888	June 29,1888	Mar.29,1889	Nov.22,1889
June 6,1890	June 20,1890	June 27,1890	Apr.12,1891
Nov.6,1891	Oct.22,1892	Dec.2,1892	*Dec.30,1892
Jan.27,1893	Feb.3,1893	Feb.24,1893	*Mar.3,1893
Mar.10,1893	*Sept.8,1893	Sept.15,1893	*Sept.29,1893
*Dec.15,1893	*Jan.19,1893	*Feb.23,1893	*Jan.12,1894
Aug.3,1894	*Dec.14,1894	Sept.6,1895	*Nov.22,1895
Dec.13,1895			

Weekly Record

July 25,1891	Oct.31,1891	Nov.7,1891	*Nov.14,1891
Nov.28,1891	Dec.5,1891	Dec.12,1891	Jan.9,1892
Oct.22,1892	Feb.3,1893	*Feb.17,1893	Apr.28,1893
July 28,1893	*Aug.4,1893	Aug.11,1893	Sept.15,1893
*Sept.29,1893	*Nov.3,1893	Feb.9,1894	Sept.25,1894
*Oct.9,1894	*Oct.26,1894	Nov.16,1894	*Nov.20,1894
*Nov.23,1894	*Jan.16,1895	Feb.22,1895	*Apr.3,1895
May 1,1895	*June 12,1895	*Nov.2,1895	

SULTANA JR.Colonist

Jan.1898

Kenora Miner and News

Nov.11,1897

SWEDENColonist

Oct.1896

Mar.1897

Apr.1897

Jan.1898

Manitoba Free Press

Jan.11,1897

Jan.16,1897

Jan.25,1897

Feb.24,1897

Mar.9,1897

Mar.25,1897

SWEDEN (Cont.)

<u>Miner and News</u> May 10, 1886	June 2, 1886	July 5, 1886	Dec. 30, 1897
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SYLVANITE (NORTH DOGPAW LAKE) OCCURRENCE

<u>Miner and News</u> Feb. 16, 1945	Mar. 30, 1945
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TACHE

<u>Rat Portage News</u> Mar. 17, 1893	<u>The Daily Sentinel</u> Jan 24, 1890	Sept 3, 1890
<u>Weekly Record</u> Mar. 17, 1893	<u>The Weekly Herald</u> Mar 30, 1889	July 27, 1889

THOR

<u>Miner and News</u> Mar. 4, 1938	Mar. 15, 1938	Apr. 5, 1938
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THREE LADIES

Gold
June 1936

Also see Kenricia

TORONTO & WESTERN OCCURRENCE

<u>Canadian Mining Review</u> 1898, p. 197	*1898, p. 235	1898, p. 276	1898, p. 298
1899, p. 87	1899, p. 144		
Also see Sirdar Prospect.			

TREASURE

<u>Canadian Mining Review</u> 1894, p. 56	1898, p. 172	1899, p. 276	1900, p. 41
<u>The Commercial</u> Feb. 26, 1894		<u>The Weekly Herald</u> Aug 26, 1892	Apr 28, 1893
<u>Manitoba Free Press</u> Aug. 14, 1897	Oct. 23, 1897	Nov. 1, 1897	
<u>Miner and News</u> Mar. 16, 1894	Oct. 23, 1897	Oct. 20, 1899	
<u>Rat Portage News</u> Feb. 17, 1893	Mar. 10, 1893	Jan. 12, 1894	
<u>Weekly Record</u> Aug. 6, 1892	Feb. 17, 1893		

TRIGGSCanadian Mining Review

1898,p.172	1898,p.277	1899,p.87	1899,p.129
1899,p.156	1899,p.216	1899,p.276	1900,p.23
1900,p.58	1900,p.146	1901,p.98	1905,p.40

Colonist

Jan.1898

Manitoba Free Press

June 15,1897	Oct.16,1897	Nov.1,1897
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Miner and News

Oct.16,1897	Dec.2,1897	Apr.7,1899	Apr.20,1899
*Apr.27,1899	*June 1,1899	June 8,1899	July 6,1899
Feb.16,1900	Mar.23,1900	Mar.30,1900	May 18,1900
May 25,1900	June 22,1900		

TRIUMPH OCCURRENCECanadian Mining Review

1898,p.172	1898,p.197	1898,p.327
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Colonist

Jan.1898	Mar.1898
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The Commercial

*Feb.22,1897

Manitoba Free Press

Jan.7,1897	Oct.4,1897	Oct.7,1897	Oct.29,1897
Nov.1,1897	Nov.18,1897	Dec.9,1897	

Miner and News

Oct.2,1897	*Nov.11, 1897	*Mar.11,1898
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Rat Portage News

Aug.23,1895

Weekly Record

May 15,1895

TROJAN OCCURRENCECanadian Mining Review

1899,p.215	1900,p.41
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Colonist

Dec.1896	Jan.1898
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Manitoba Free Press

Jan.11,1897	Mar.2,1897	Apr.12,1897	Apr.20,1897
June 8,1897	June 24,1897	July 10,1897	July 31,1897
Nov.12,1897			

TROJAN OCCURRENCE (Cont.)

<u>Miner and News</u> July 13, 1899	Aug. 17, 1899	Sept. 22, 1899	June 1, 1900
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TWO SISTERS

Weekly Record
Oct. 3, 1891

Rat Portage News
Nov. 6, 1891

TYCOON OCCURRENCE

<u>Canadian Mining Review</u> 1898, p. 298	1898, p. 328	1899, p. 1	1899, p. 144-145
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<u>Miner and News</u> June 3, 1898	Dec. 16, 1898	Sept. 29, 1899	Feb. 10, 1934
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UNION

Canadian Mining Review
1899, p. 276

VELMA

Gold
June 1936

Also see Buffalo

VICTORIA ISLAND OCCURRENCE

Manitoba Free Press
Jan. 25, 1897

VICTOR MINING CO.

<u>Miner and News</u> Sept. 14, 1900	Sept. 21, 1900	Oct. 12, 1900
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VIOLET MINE (EMPIRE MINE)

Miner and News
Mar. 7, 1908

VIRGINIA PROSPECT

Canadian Mining Review
 1898, p.277 1898, p.298 1900, p.23

Miner and News
 Nov 4, 1898 Mar 17, 1899 July 24, 1903

Also see Lizzie Mine

WAMPUM LAKE PROSPECT

Colonist
 Mar 1897

Gold
 Dec 1939 Apr 1940

Miner and News
 Jan 24, 1941 Mar 21, 1941

The Precambrian
 Jan 1940 June 1940 Sept 1940 Feb 1941
 Apr 1941 Aug 1941 Sept 1941 Nov 1941
 Jan 1942 May 1942

WAWBECK

The Weekly Herald
 Aug 26, 1892 Apr 28, 1893

WENDIGO MINE

Canadian Mining Journal
 *Sept 1936 Nov 1936 *May 1938 *June 1938
 *Nov 1938 *Mar 1942 Mar 1943 *Feb 1943
 Dec 1943

Canadian Mining Review
 1900, p.57 1900, p.119 1900, p.146 1901, p.74
 1901, p.98

Gold
 *June 1936 *June 1937

Miner and News
 May 11, 1900 June 1, 1900 June 15, 1900 Aug 24, 1900
 Aug 31, 1900 June 17, 1902 May 29, 1902 Mar 10, 1903
 Aug 19, 1931 Dec 17, 1932 June 23, 1934 July 21, 1934
 Aug 18, 1934 Oct 13, 1934 Oct 26, 1934 Nov 9, 1934
 Nov 23, 1934 Jan 1, 1935 Jan 22, 1935 May 28, 1935
 July 9, 1935 July 19, 1935 Aug 27, 1935 Sept 6, 1935
 Dec 10, 1935 Jan 7, 1936 Jan 21, 1936 *Feb 11, 1936
 Feb 18, 1936 *Mar 6, 1936 *July 17, 1936 *Aug 7, 1936
 Aug 14, 1936 *Sept 1, 1936 *Jan 29, 1937 *Feb 23, 1937
 *May 4, 1937 *June 18, 1937 *June 25, 1937 *July 13, 1937

WENDIGO MINE (Cont.)

Miner and News (cont.)

*July 27, 1937	*Aug. 13, 1937	*Sept. 17, 1937	*Sept. 24, 1937
*Oct. 5, 1937	*Dec. 7, 1937	*Jan. 7, 1938	*Jan. 14, 1938
*Jan. 18, 1938	*Mar. 15, 1938	*Mar. 18, 1938	*Apr. 1, 1938
May 13, 1938	*June 10, 1938	*June 24, 1938	*July 8, 1938
Aug. 19, 1938	*Oct. 21, 1938	*Nov. 4, 1938	*Nov. 8, 1938
Dec. 9, 1938	*Jan. 6, 1939	Jan. 13, 1939	*Feb. 7, 1939
Feb. 14, 1939	*Mar. 7, 1939	*Apr. 7, 1939	*June 9, 1939
*July 7, 1939	July 11, 1939	July 21, 1939	*Aug. 8, 1939
*Sept. 8, 1939	*Oct. 6, 1939	*Nov. 10, 1939	*Nov. 17, 1939
*Dec. 8, 1939	*Jan. 9, 1940	*Feb. 6, 1940	*Mar. 8, 1940
May 7, 1940	*June 7, 1940	*Aug. 2, 1940	Aug. 9, 1940
*Sept. 6, 1940	Sept. 20, 1940	*Feb. 4, 1941	*Mar. 4, 1941
May 23, 1941	Sept. 5, 1941	*Nov. 7, 1941	*Jan. 27, 1942
Apr. 17, 1942	*Oct. 6, 1942	Sept. 3, 1943	

WENSLEY E. PROSPECT

Miner and News
Mar. 30, 1945

WESTRICIA GOLD MINES

Gold
June 1937

Miner and News
Mar. 16, 1937 May 7, 1937 Mar. 15, 1938

WILD ROSE 247 P

Canadian Mining Review
1894, p. 56

Miner and News
Mar. 16, 1894 Mar. 22, 1895

Rat Portage News
Jan. 12, 1894 Mar. 16, 1894

Also see International Gold Mining Company.

WILKENSON CLAIMS

Canadian Mining Review
1898, p. 235 1898, p. 258 1898, p. 298 1898, p. 328

WINNIPEG CONS. OCCURRENCE

Canadian Mining Review
 May 1883 Feb 1885 1894, p. 56

Colonist
 May 1896 June 1896 Jan 1898

The Engineering & Mining Journal
 Vol. 35, Jan 27, 1883 p.47 Vol. 35, Feb 10, 1883 p.76
 Vol. 35, Apr 7, 1883 p.197 Vol. 35, May 19, 1883 p.287
 Vol. 35, June 9, 1883 p.337 Vol. 35, June 30, 1883 p.384
 Vol. 36, Aug 18, 1883 p. 102

Manitoba Free Press
 June 15, 1897

Rat Portage News
 July 13, 1888 July 5, 1889 June 27, 1890

The Weekly Herald
 Nov 29, 1884 June 1, 1889 Feb 15, 1890

Weekly Record
 Jan 9, 1892

Also see Canada Mining Co.

WIMOR

Canadian Mining Review
 1899, p.324

WITCH BAY OCCURRENCE

Miner and News
 Aug 18, 1934

WOODCHUCK MINE

The Weekly Herald
 Nov 29, 1884

YELLOW GIRL (location 57V)

The Daily Sentinel
 June 3, 1892

The Weekly Herald
 Nov 29, 1884 June 15, 1889

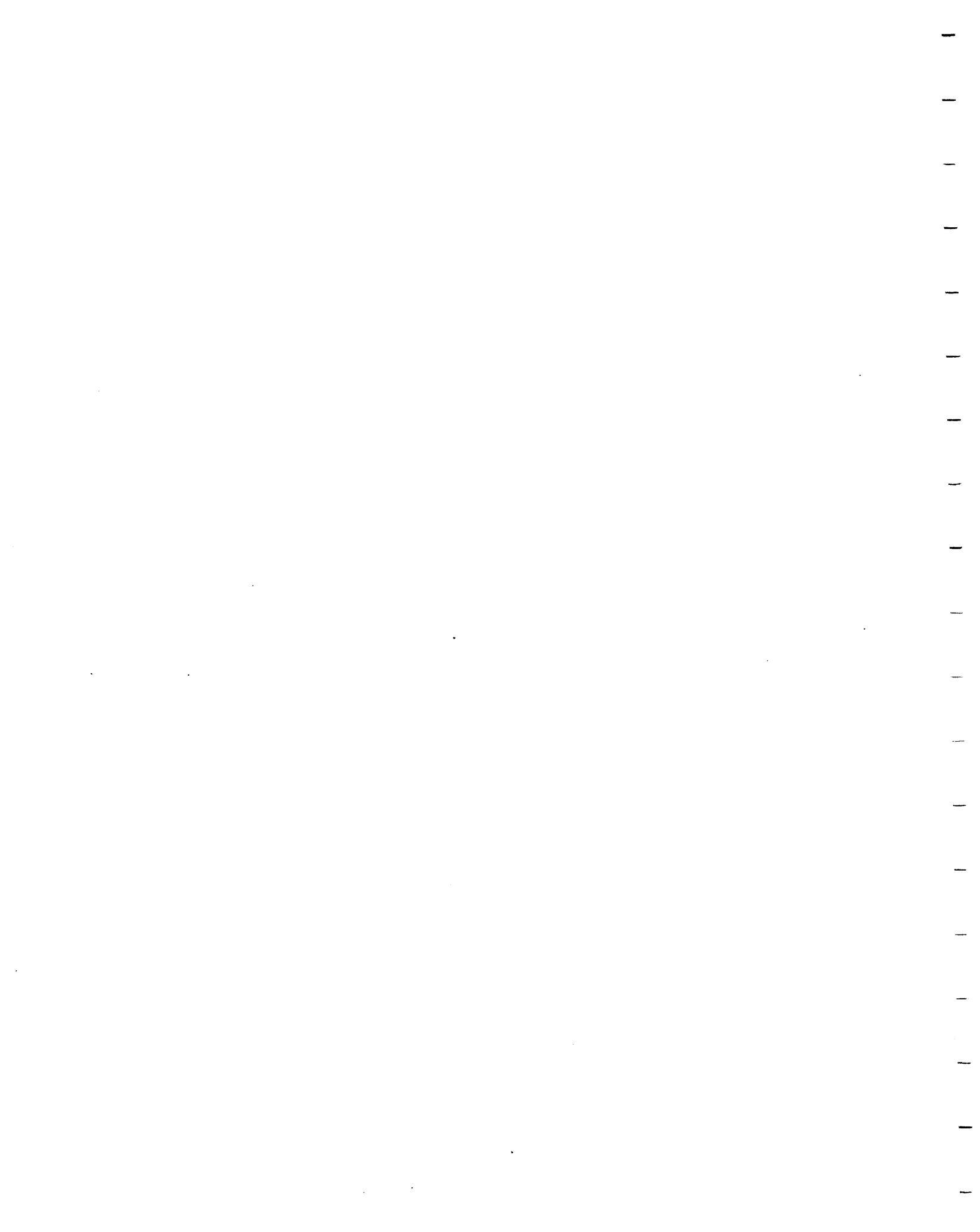
YUM YUM OCCURRENCE

Canadian Mining Review
 1898, p.172 1899, p.144

Colonist
 Nov 1896 Dec 1896 Jan 1897 Feb 1897
 Mar 1897 July 1897 Jan 1898 Feb 1898

Manitoba Free Press
 Mar 25, 1897 June 8, 1897 June 28, 1897 July 30, 1897
 Sept 20, 1897 *Oct 4, 1897

Miner and News
 Feb 4, 1898 Dec 23, 1898



Appendix B is a cross index of alternate names for gold occurrences in the Kenora area. While compiling Appendix A it quickly became evident that one property may have been held by different parties at different periods during the last 100 years. Consequently, this cross index has been prepared to assist the researcher. Problems encountered during compilation were:

- 1) If the occurrences are close together they may have been combined and given one name during one or more periods.
- 2) Greatest confusion exists in areas of greatest activity.
- 3) It becomes difficult to be positive which name applies to which occurrence is similar names are associated with them.

A further complication arises with occurrences that are located close to Rossland or Taché' stations on the Canadian Pacific Railway. Not only do these stations occur on the C.P.R. close to Rat Portage (Kenora), but there is a Rossland in British Columbia and a Tache' in Ontario where gold was found contemporaneously.

ALTERNATE NAMES FOR GOLD PROPERTIES

Abraham Occurrence	Neda
Ambrose	Lakehill, Gull Island
Anglo Canadian Gold Estates Ltd.	Bully Boy, Sullivan, Reliance
Aronek Gold Syndicate	Muton Long Lac
Atikwa	Maybrun
Bad Mine	Champion, Franklin 1890 Rat Portage Mining and Reduction Company 1899 Bullion Mining Company 1925-27 Champion Gold Mine 1927-34 Ontario Champion Mine limited - Vickers Porcupine Mines 1934-36 Franklin Gold Mining Company
Bag Bay	1896 J. Emmons, H. Langford and M. Kyle 1898 Tycoon Mining and Devel- oping Company of Ontario Tycoon Occurrence
Bag Lake Occurrence	Jenson - Johnston
Beggs Lake	Nuinsco Zahavy
Bigstone Bay Gold Mine	Gold Creek Occurrence
Birbeck	Nonesuch Prospect
Black Cat	Crown Point Mine
Black Hawk Occurrence	Thrasher P216, Black Eagle
Black Jack Prospect	Bull Dog, Britannia, Gold Hill Northern Gold, Dominion Gold and Reduction
Black Sturgeon	1896 A. Benson, 1898 Black Sturgeon Gold Mining Company 1899 F.W. Gilchrist, P. Culligan

Blindfold Mining Group	Golden Gate 1895 Dominion Gold 1897 Haycock, W.A.
Blue Star	Stella Ontario Prospect and Devel- oping Company Limited Stella Lac la Belle
Boulder Prospect	Ontario Boulder Mining Company
Britannia	Black Jack Prospect, Bull Dog, Gold Hill
Buffalo	Velma
Bull Dog	Black Jack Prospect, Britannia, Gold Hill, Northern Gold, Dominion Gold and Reduction
Bully Boy Occurrence	Sullivan Mine, Reliance
Cameron Island Mine	1896 R. McInkster, W.J. Cameron 1897 T.J. Foster, Cameron Island Mining and Development Company Limited 1903 Damascus Gold Mining Company 1910 Cameron Island Syndicate Limited 1928 Ventures 1933 Duport 1950 Matchewan Consolidated Mines Limited 1973 Consolidated Professor Mines Limited
Camp Bay	Combination
Canada Mining Company	Worked on same vein as Winnipeg Consolidated Mining Company 1881-83 Alex Matheson
Caribou Occurrence	1891 J.W. Webster
Cedar Island	Cornucopia Mine 1896 Anglican Mining and Finance Company Limited 1897 Cedar Island Gold Mining Company, Dominion Gold Mining and Reduction Company 1928 Kenora Prospectors and Miners

Champion Mine	Bad Mine 1890 Rat Portage Mining and Reduction Company 1899 Bullion Mining Company 1925-27 Champion Gold Mine 1927-34 Ontario Champion Mine Limited - Vickers Porcupine Mines 1934-36 Franklin Gold Mining Company
Chemical Gold Mining Company	James and Gordon
Clearwater Bay Syndicate (1936)	1890-91 Oliver Dounais, Three Friends Occurrence
Climax Occurrence P225	1891 A. Egan 1898 Climax Gold Mining Company Ontario Limited Early 30's Thrasher - Earngey 1935 Roeanor Gold Mines Limited Thrasher - Bigstone Property
Combined Prospect	Camp Bay
Consolidated Golden Arrow	Dogpaw Lake Prospect
Cornucopia Mine	Cedar Island 1896 Anglican Mining And Finance Company Limited 1897 Cedar Island Gold Mining Company, Dominion Gold Mining and Reduction Company 1928 Kenora Prospectors and Miners
Cronlund Occurrence	Little Crow Rock Island
Crown Point Mine	1904 Black Cat
Dogpaw Lake Prospect	Consolidated Golden Arrow
Dominion Gold	Blindfold Mining Group, Golden Gate, 1897 Haycock, W.A.
Earngey - Lindburg P225	Earngey - Thrasher, J. Thrasher, Thrasher - Bigstone, Climax P225

Earngey - Thrasher	Earngey - Lindburg, Thrasher - Bigstone, Climax P.225
Electro Gold	Rainy Lake Gold Mining Com- pany
Emmons	Bad Mine 1890 Rat Portage Mining and Reduction Company 1899 Bullion Mining Company 1925-27 Champion Gold Mine 1927-34 Ontario Champion Mine Limited - Vickers Porcupine Mines 1934-36 Franklin Gold Mining Company
Escheweiler Occurrence	1901 Hunter Escheweiler Group Goodhue and Company (1896)
Flint Lake Occurrence	Jane, G.M.
Florence Gold Mine	Hatmaker Lake Occurrence
Franklin (Bad Mine)	Champion, Bad Mine 1890 Rat Portage Mining and Reduction Company 1899 Bullion Mining Company 1925-27 Champion Gold Mine 1927-34 Ontario Champion Mine Limited - Vickers Porgupine Mines 1934-36 Franklin Gold Mining Company
Gauthier Occurrence	Thor, Pipestone Peninsula
George Heenan	Hay Island Mine
Gold Coin	1800's Gold Coin 1898 Ontario Limited Company 1928 Kenora Prospectors and Miners
Gold Creek Occurrence	1890-92 E.H. Kendall, S. Whiting, J. Thompson 1897 Gold Creek Mines and Exploration Company of Ontario Limited 1931-34 Bigstone Bay Gold Mine
Gold Cross	Near Triumph

Gold Hill Mine	1884 G. Dulmage 1885-91 J. K. Wright and D.D. Burdette 1891-95 Northern Gold 1893-94 Bull Dog 1895-99 Dominion Gold Mine and Reduction Company of Ontario 1934 Johnson and A. Nelson Britannia, Black Jack Prospect
Gold Leaf Mining Company	Norah, Nora
Gold Panner Prospect	Logie
Gold Sun Occurrence	Jessie Lake, Sylvanite
Golden Gate	Blindfold Mining Group - 1895 Dominion Gold 1897 Haycock, W.A.
Golden Horn Mine	1901 Rush Bay Golden Horn (or) 1934 Holding 1936 Kenorician Gold Mine
Golden Reef Prospect	Mikado Reef, Deacon J.A.
Goldwood	Silver Belle, Horseshoe, Regina Black Eagle, Kenland, Long Bay
Great North West Occurrence	1903 Olympia Gold Mines Limited
Gull Island	Ambrose Island, Lakehill
Hatmaker Lake Occurrence	1909 Florence Gold Mine
Hay Island Prospect	Keewatin Mine, Keywadin, 1892 Good and Jones of Winnipeg, 1897 Hay Island Gold Mining Company
Hilly Lake Occurrence	White Claim
Horseshoe	Regina, Silver Belle, Black Eagle, Kenland, Goldwood, Long Bay
Imperial Prospect	1899 H.C. Symmes
International Mining	Wild Rose
James and Gordon	Chemical Gold Mining Company
Jane Gold Mines	Flint Lake Occurrence
Jenson - Johnston	Bag Lake

Keewatin Mine	Hay Island Prospect, Keywadin, 1892 Good and Jones of Winnipeg 1897 Hay Island Gold Mining Company
Kendall Inlet	Oliver Severn Occurrence, Split Lake Gold Mines
Kenland Gold Mines	Silver Belle, Horseshoe, Regina Black Eagle, Goldwood, Long Bay
Kenricia Mine	1889 Three Ladies, Mr. Oliver Dounais, 1935 J. Errington and Greenland 1936 Kenricia Gold Mines
Kenoricia Gold Mine 1836	Golden Horn Mine , Rush Bay Golden Horn 1901 (or) Holding 1934
Lake of Two Mountains	Page Occurrence, Sylvanite 1944
Lakehill	Ambrose Island, Gull Island
Lakeport Gold Mine	Monte Cristo Prospect
Lakehill Mine	Gull Island, Ambrose
Little Crow Rock Island	Cronlund Occurrence
Lizzie	Virginia
Lobstick Bay	Thrasher Occurrence
Logie Occurrence	Gold Panner Prospect
Long Point Island	Oliver Severn Occurrence
Macassa Occurrence	Rexora, Triggs, McA 50 and 129
Machin Zone	Gold Coin Occurrence, 1800's Gold Coin 1896 I. Gagne 1897 Ontario Limited Gold Mines Company 1923 Kenora Prospectors and Mine Hopkins - Heintzman
Magnet Point Syndicate	Popham - Byberg Occurrence Popham - Olsen Occurrence
Maiden (Island)	1893 Mr. Young
Mascotte Occurrence	Mascott

Maybrun Mine	Atikwa
Mikado Mine	1894 Mr. Bunn and Dr. Scovil 1895 Mikado Gold Mines Company Limited 1910 H. A. Machin, Kenora Mines Limited 1922 Mikado Consolidated Mines Limited 1924 Mikado Bullian Mines 1928 Kenora Prospectors and Miners 1932 Ventures Limited
Mikado Reef (P484-89)	1903 Golden Reef Mining Company Golden Reef Mine
Minerva Occurrence	1903 J. McNaughton 1949 Aero Prospecting Syndicate
Monarch Occurrence	Bullion Mining Company 1898
Monte Cristo Prospect	Lakeport Gold Mines
Muton Long Lac Occurrence	Aronek Gold Syndicate
Neda	Abraham Occurrence
Nina Occurrence	Scovil - Moore
Nonsuch Prospect	Birbeck
Norah Occurrence	Gold Leaf Mining Company, Nora
Northern Gold Company	Gold Hill
Norway Occurrence	1892 McKellar, Horne
Nuinsco	Beggs Lake, Zahavy
Oliver Dounais	Three Friends Occurrence, 1936 Clearwater Bay Syndicate
Oliver Severn Occurrence	Longpoint Island
Olympia Mine	Olympia Mining Company Kenora Prospectors and Mines 1944 Sylvanite Gold Mines Limited
Ontario Boulder Mining Company	Boulder Prospect

Ontario Occurrence	Old Ontario
Ontario Prospectors and Developing Company Limited	Blue Star, Stella Prospect, Stella Lac la Belle
Ophir Mine	Ontario Mining Company, Ophir Jack
O'Sullivan J.J. Prospect	Split Lake
Page Occurrence	Lake of Two Mountains 1944 Sylvanite
Pine Portage Prospect	1882-85 T.W. Dobie 1932 J. Cameron and P. Williams 1937 North field Mining Company Limited 1979 President Gold Mines
Parth Lake	Western Peninsula Occurrence
Popham - Byberg Occurrence	Magnet Point Syndicate
Rajah Occurrence	1892 McGee, Brereton Henesy
Regina Mine	Horseshoe, Silver Belle, Black Eagle, Kenland, Goldwood, Long Bay, Regina Réef
Reliance	Bully Boy, Sullivan, Anglo Canadian Gold Estates Limited
Rexora	Macassa, McA 50 and 129, Triggs
Roseman Occurrence	1945 Hawmandale Gold Mining Syndicate
Rush Bay	1901 Golden Horn 1934 Golden Horn Holding 1936 Kenoricia Gold Mine
Scotty Island Occurrence	1899 Gardner and Derry 1900 Ottawa Gold Mine and Milling Company
Scramble Prospect	1844 A. Benson and A. Norman 1911 Canadian Homestake Gold Milling Company Limited, Halstead and Partridge 1896 1902 Kenora Mining and Milling Company
Silver Belle	Horseshoe, Regina, Black Eagle, Kenland, Goldwood, Long Bay

Silverman	La Re Exploration Company Hawmendale Gold Mining Syndicate
Sirdar	1893-99 Toronto and Western Mines Developing Company 1899-00 Sirdar Gold Mine 1969 Kenora Prospectors and Miners
Sirdar Point Occurrence	Hopkin - Heintzman
Sirdar Prospect	1897 Toronto and Western Mines Development Company Limited 1899 Sirdar Gold Mining Company Limited 1929 Kenora Prospectors and Miners
Split Lake	O'Sullivan
Stella Prospect	Blue Star, Ontario Prospectors and Developers Company Limited Stella Lac la Belle
Sullivan Prospect	Reliance, Bully Boy
Sylvanite (Jessie Lake) Occurrence	Gold Sun Occurrence
Tarcanis	Horn Bay, Head Bay, Tundra
Thor Gold Mine	Gauthier Occurrence, Pipestone Peninsula Occurrence
Thrasher J. Occurrence P225	Thrasher - Bigsone, Earngey - Thrasher, Earngey - Lindburg, Climax P225
Thrasher P216 Occurrence	Black Hawk, Black Eagle
Three Friends Occurrence	1890-91 Oliver Dounais 1936 Clearwater Bay Syndicate
Three Ladies	Kenricia
Toronto and Western Company Occurrence	Sirdar, 1899, 1900, 1969 Kenora Prospector and Developers
Treasure Prospect	1892 Webster and Angell 1949 H.D. Ball 1955 Cougar Mine Development Corporation
Triggs	Rexora, Macassa, McA 50 and 129
Tycoon Occurrence	1896 J. Emmons, H. Langford and M. Kyle

Tycoon Occurrence	1896 J. Emmons, H. Langford and M. Kyle 1898 Tycoon Mining and Developing Company of Ontario Bag Bay
Virginia Prospect	Lizzie Mine
Waite J.H.C. Occurrence	Westricia
Western Penn Occurrence	Parth Lake
Westricia	Waite Occurrence
White Claim	Hilly Lake Occurrence
Wild Rose	International Gold Mining Company
Winnipeg Cons. Occurrence	1881-83 Alex Matheson 1893 Winnipeg Consolidated Canada Gold Mining Company
Wright, M.P. Occurrence	Young Bay



APPENDIX C - THE STAMP MILLING PROCESS AND OPERATIONS
AT THE LOCAL REDUCTION WORKS

It has been noted that most modern explorationists have not seen or do not understand many of the problems inherent in the stamp milling process. Therefore, articles which have been reprinted in Appendix C will hopefully further inform the reader on this subject.

The first article is a general description of the operation of a stamp mill. It outlines differences between the Californian and Colorado type mills. The last two articles provide insight into the operations at two stamp mills located in Kenora and Keewatin. It was here that most of the bulk sampling of the areas gold occurrences was performed. It is clear from these articles that the ore "treated" at the two local reduction works had to be free milling and relatively high grade.

The description of the general operation and differences between Californian and Colorado stamp mills is taken from Rose, T.K., 1902, The Metallurgy of Gold, p. 100-102.

"The ordinary method of reduction and amalgamation of gold quartz in a stamp battery now consists of the following operations:

- 1) The ore is broken down to a moderate size, varying from that of a man's fist to a nut, by passing through the jaws of a stone-breaker, or by hand hammers.
- 2) The ore is then fed into the mortar-box of a stamp mill, where it is pulverised to any required degree of fineness. In wet crushing, a stream of water is introduced also, and the blows of the stamps splash the water and pulp against screens set in the side of the mortar, the finely-divided ore being ejected in this way. In some cases the mortar box is partly lined with amalgamated copper plates, by which some of the gold is caught and retained, mercury being in this case usually fed into the mortar-box with the ore and water.

3) On issuing from the battery, the pulp is allowed to run slowly over a series of inclined, amalgamated, copper plates by which a further percentage of the gold is amalgamated and retained.

4) The tailings are sometimes further treated by, running over rough hides or blankets, by which some particles of gold and pyrites are retained, or the pyrites are separated from the valueless sands by concentration on some form of vanner or jig. These concentrates are subjected to further treatment, usually either by smelting or by chlorination.

5) At intervals the gold amalgam is wiped off the copper plates, the excess of mercury separated by squeezing through filter bags of chamois leather, buckskin, or canvas, and the solid amalgam thus obtained is retorted so as to distil off the mercury, and the gold is then melted."

" The stamp battery must be regarded from two different points of view-viz., (a) as a crushing machine, (b) as an amalgamating machine, and it should be remembered that the modifications designed to make it a more efficient crusher often reduce its power as an amalgamator, and vice versa. Rickard has pointed out that two typical methods are the Californian practice, for the treatment of "free-milling" gold ores, and the Colorado practice, for the treatment of ores, sometimes called "refractory," which, however, yield most of their gold when carefully treated in the stamp battery. The word "refractory" is better reserved for those ores which cannot be satisfactorily treated by direct amalgamation, whatever be the method adopted."

" The Californian practice consists briefly in crushing the ore and effecting its discharge from the battery as rapidly as possible. With this object in view heavy stamps are used, running very fast, with a small drop; the screen area is large and placed as low down as possible, and the mortar is made narrow, with nearly vertical sides. These arrangements all increase the output of the battery. There are usually amalgamated copper plates inside the mortar on the discharge side only. The method is suitable for ores containing coarse, free gold which is easily amalgamated, and which is caught largely on the inside plates, in spite of the short time during which the ore remains in the mortar. A small amount (1 to 5 percent) and especially if the easily decomposable variety of sulphide of iron (marcasite), or some sulphides of lead or zinc, or if compounds of arsenic or antimony or other

base minerals are present, the amalgamation is greatly retarded or prevented, and the Colorado practice is resorted to. If the gold is fine, or if, for any other reason whatever, amalgamation is difficult, the Californian practice must be modified in the same direction.

The Colorado practice was used in Gilpin County, Colorado, where in 1860, the fast-drop and shallow-discharge batteries, like those used in California, were introduced, and gave good results in working on the oxidised surface-quartz, 60 per cent, to 75 per cent of the gold being extracted. As the mine workings got lower, however, the percentage of pyrites steadily increased, and the mills gave poorer and poorer results, until a return of only 30 per cent to 40 per cent was obtained. A return to efficient working was only made after a long series of costly experiments, which resulted in the present slow-working, long-drop stamps with a wide, roomy mortar and a very deep discharge, the lowest part of the screen being more than a foot above the dies, instead of only 6 inches as in California. Amalgamated plates were put inside the mortar on both feed and discharge sides. The object of these arrangements was to keep the ore in the mortar for a long time, so as to increase the chance of catching the gold on the inside plates. The duty of the stamps was of course greatly diminished, the output of a typical Colorado battery being only about 1 ton per stamp per day of twenty-four hours, while Californian practice it is from 2 to 5 tons. Nevertheless the ultimate object is equally well attained by both types of battery-viz., the extraction of from 75 per cent to 95 per cent of the gold present, including that saved in the concentrates."

The Keewatin Reduction works performed milling services for the gold operations on the Lake of the Woods for many years. The following is a description of policy of the Keewatin Reduction Works owned by the Ottawa Gold Milling and Mining Company Limited. Taken from the Ontario Bureau of Mines Report, Vol VII, Part I, p. 60-62.

"The company is formed solely for the purpose of doing custom work in the treatment of ore and does not intend to operate any mines of its own. It intends for one thing to furnish a means of enabling prospectors to have their ore milled as it is mined, thus allowing them to pay the cost of mining from the beginning and dispensing with the necessity of waiting for capital to develop their properties. This means the opening up of a great many properties which might otherwise remain idle for a long time. But the company also intends to aim at doing away with the necessity of miners erecting their own mills, by making arrangements to buy or treat all their ores. This latter will apply particularly to the Lake of the Woods country. One of the important features of the works is a first rate sampling apparatus by which all the ore brought there can be sampled with absolute fairness, and then assayed and the value given to the owner before any milling is done. The cost of treatment of the ore will be approximately proportional to the assay value, or the ore may be bought outright and the price paid for it the gold value minus the cost of treatment. Poor ores which run under \$3.00 or \$4.00 to the ton will be treated with no profit, or perhaps at a direct loss to the company, but indirectly there will be a gain, as it will encourage the development of mines and so increase the business, as in many cases the ore is poor at the surface but rich farther down."

"Mr. Snyder gave me the following table of charges, based on a three per cent concentrate basis, which had worked out.

	\$	\$	\$
Assay value of ore	10.00	20.00	30.00
Sampling	.85	1.10	1.34
Milling (including re-treatment of concentrate.....)	1.50	2.00	2.50

The following is a history of the Rat Portage Reduction Works owned by Dominion Gold Mining and Reduction Works Company. Taken from Ontario Bureau of Mines Sessional Papers No. 21, 1894, p. 31-34.

"The Lake of the Woods Gold and Silver Reduction Company was organized in December, 1889, under the laws of the State of Illinois, as the Canadian Milling and Reduction Company, with a capital of \$200,000.00. Work on the Mill was commenced in January, 1890, and in May of the same year the concern was reorganized under an Ontario charter as the Lake of the Woods Gold and Silver Reduction Company, with Robert Lann of Cleveland as president, and Henry J. Powers as manager. At first it was intended to erect the mill on a site near Ross, Brown and Hall's sawmill, in the southern part of the town, and the municipality was induced to promise a bonus of \$10,000.00 when the mill was completed with a capacity to treat 30 tons of gold and silver ores per day. By a subsequent arrangement however, the site was changed to the north side of Rat Portage Bay on the east side of the main outlet of the lake and convenient to the track of the Canadian Pacific Railway."

"The mill was completed in the fall of 1891, and the town paid over its bonus of \$10,000.00 upon the assurances of a report made by Mr. Walpole Roland of Port Arthur, who had been employed for the purpose by the Council of the municipality. According to this report the mill was declared to be capable of treating 191½ tons of ore per day of twenty-four hours. As a matter of fact the only ore treated at the works under Mr. Powers management was a lot of 75 tons from the Sultana Mine, and 5 tons of concentrates from the Pine Portage Mine. The average value of the concentrates was \$80.00 per ton, but after going through Powers' process of roasting and amalgamation they still assayed \$60.00 per ton. At the end of November a disagreement took place between the president and the manager of the company and the latter resigned. President Lann ran the works until Christmas, treating the Sultana ore, but he wasted about half the gold."

The mill closed in August 1892 and was sold under foreclosure of mortgage in January 1893. Fire destroyed the mill on April 26, 1906 after it sat idle for a long time.

Appendix D contains all technical publications and maps produced by the Federal and Provincial governments that directly relate to the Kenora area. All are available in the Kenora Resident Geologists office. They are found in the following order in this appendix.

Title	
Annual Reports.....	D-2
Report of Activities of Regional and Resident Geologists.....	D-5
Geological Reports.....	D-7
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Final Maps.....	D-11
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Studies.....	D-18
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Geological Survey of Canada Reports.....	D-19
Geological Survey of Canada Maps.....	D-19

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- AR VOL 0020-1 Goldfields of Lake of the Woods, Manitou and Dryden, Kenora District, Ontario, by A.L. Parsons, Ontario Bureau of Mines annual Report 1911, Volume 29, Part 1, p 158-198, Toronto 1911
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- AR VOL 0044-4 Geology of the Rowan-Straw Lakes Area, Kenora & Rainy River Districts, Ontario, By J.E. Thomson, Ontario Department of Mines Annual Report, 1935, Volume 44, Part 4, p 1-28, Toronto 1936, Colmap 44E
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52-4

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- MP 0016 1967 Report of the Kenora Resident Geologist; p 1-20
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- MP 0023 1968 Report of the Kenora Resident Geologist; p 17-30
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- MP 0033 1969 Report of the Kenora Resident Geologist; p 27-48
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- MP 0046 1970 Report of the Kenora Resident Geologist; p 1-28
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- MP 0057 1973 Report of the Kenora Resident Geologist; p 1-24
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- MP 0060 1974 Report of the Kenora Resident Geologist; p 1-24
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- MP 0064 1975 Report of the Kenora Resident Geologist; p 1-16
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- MP 0084 1978 Report of the Kenora Resident Geologist; p 1-10
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- MP 0095 1980 Report of the Kenora Resident Geologist; p 1-16
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- REPORT 0111 Geology of the Atikwa Lake Area, District of Kenora, Ontario, by J.C. Davies, Ontario Division of Mines Geological Report 111, Toronto 1973, with Colmap 2273
- Atikwa Lake, Kenora District, Ontario, by J.C. Davies, Ontario Division of Mines Color Map 2273, Toronto 1973, 2 in. - 1 mi., 22 x 19 in., Accomp GR 111, Related maps p 387 & 388
- REPORT 0130 Geology of the Bruin Lake - Edison Lake Area, NTS 52E/16, 52F/13 & 14, Kenora District, Ontario, by A.P. Pryslak, Ontario Division of Mines Geoscience Report 130, Toronto 1976, with Colmaps 2302 & 2303
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- OFR 5194 Geology of the Pipestone Lake (north) Area, NTS 52F/4E, Kenora District, Ontario, by G.R. Edwards, Ontario Division of Mines Open File Report 5194, Toronto 1976
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- OFR 5386 Industrial Minerals of Northern Ontario, Part 1 & 2, Ontario Geological Survey Open File Report 5386, Toronto 1983
- OFR 5446 Preliminary Report of the Building and Ornamental Stone Inventory, District of Kenora and Rainy River, by C.C. Storey, p 143, 20 tables and 37 figures

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- MP 0032 Western Peninsula, Lake of the Woods, District of Kenora, by J.C. Davies, in Summary of field work 1969, Ontario Department of Mines, Miscellaneous Paper 32, p 9-12
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- MP 0089 Preliminary Geological Synthesis of the Savant Lake-Crow Lake Metavolcanic-Metasedimentary Belt, Northwestern Ontario, and its bearing upon Mineral Exploration, by N.F. Trowell, C.E. Blackburn and G.R. Edwards, Ontario Geological Survey, Miscellaneous Paper 89, Toronto 1980

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- MAP 00039 E Shoal Lake Area, Lake of the Woods, Kenora District, Ontario, by L. Greer, Ontario Department of Mines Color Map 39E, Toronto 1930, 1 in. - 1 mi., Accomp AR 39-3, p 42-56
- MAP 00039 F Bigstone Bay Area, Lake of the Woods, Kenora District, Ontario, by G.G. Suffel, Ontario Department of Mines Color Map 39F, Toronto 1930, 1 in. - 1 mi., 22 x 15 in., Accomp AR 39-3, p 57-71
- MAP 00042 B Kakagi Lake Area, Kenora District, Ontario, by E.M. Burwash, Ontario Department of Mines Color Map 42B, Toronto 1933, 1 in. - 1 mi., 21 x 28 in., Accomp AR 42-4, p 41-92
- MAP 00044 E Rowan-Straw Lakes Area, Kenora and Rainy River Districts, Ontario, by J.E. Thomson, Ontario Department of Mines Color Map 44E, Toronto 1935, 1 in. - 1 mi., 17 x 26 in., Accomp AR44-4, p 1-28
- MAP 00045 B North Central part of the Lake of the Woods, Kenora District, Ontario, by J.E. Thomson, Ontario Department of Mines Color Map 45B, Toronto 1936, 1 in. - 1 mi., 16 x 24 in., Accomp AR 45-3
- MAP 00052 C Whitefish Bay Area, Lake of the Woods, Kenora District, Ontario, by N.H.C. Fraser, Ontario Department of Mines Color Map 52C, Toronto 1943, 1 in. - 1 mi., 23 x 25 in., Accomp AR 52-4
- MAP 02068 Gundy and Broderick Townships, Kenora District Ontario, by J.C. Davies, Ontario Department of Mines Color Map 2068, Toronto 1965, 2 in. - 1 mi., 24 x 12 in., Accomp GR 41, Related maps p 181 & 182
- MAP 02069 Ewart-Forgie Area, Kenora District, Ontario, By J.C. Davies, Ontario Department of Mines Color Map 2069, Toronto 1965, 2 in. - 1 mi., 24 x 16 in., Accomp GR 41, Related maps p 144 & 145
- MAP 02273 Atikwa Lake, Kenora District, Ontario, by J. C. Davies, Ontario Division of Mines Color Map 2273, Toronto 1973, 2 in. - 1 mi., 22 x 19 in., Accomp GR 111, Related maps p 387 & 388

- MAP 02302 MacNicol & Tustin Townships, NTS 52E/16 & 52F/14, Kenora District, Ontario, by A.P. Pryslak, Ontario Division of Mines Color Map 2302, Toronto 1975, 1/31680, 24 x 12 in., Related maps p 471 & 472, Accomp GR 130
- MAP 02303 Bridges and Docken Townships, Kenora District, Ontario, by A.P. Pryslak, Ontario Division of Mines Color Map 2303, Toronto 1974, 2 in. - 1 mi., 24 x 12 in., Related Maps p 505 & 544, Accomp GR 130
- MAP 02319 Cedartree Lake, NTS 52F/5, Kenora District, Ontario, by J.C. Davies and J.A. Morin, Ontario Division of Mines Color Map 2319, Toronto 1975, 1/316801, 23 x 17 in., Related map p 731, Accomp GR 134
- MAP 02422 Bag Bay, Shoal Lake, Kenora District, Ontario by J.C. Davies, Ontario Geological Survey Map 2422, Precambrian Geology Series, 1 in. - 1/2 mi., 1968-69
- MAP 02430 Bethune Lake, NTS 52F/4SE, Kenora and Rainy River Districts, Ontario, by G.R. Edwards, Ontario Geological Survey Color Map 2430, Toronto 1981, 1/31680, 57 x 44 cm, Related map p 1103
- MAP 02443 Kenora - Fort Frances, NTS 52 C, D, E, & F, Kenora and Rainy River Districts, Ontario, Geological Compilation Series by C,E, Blackburn, Ontario Geological Survey Color Map 2443, Toronto 1981, 1/253440, 90 x 76 cm, Revision of Map 2115
- MAP 02247 Kakagi Lake, NTS 52E/1NE, 52F/4NW, Kenora District, Ontario, by L. Kaye, Ontario Geological Survey Color Map 2447, Toronto 1981, 1/31680, 76 x 44 cm, Related maps p 920 & 921
- MAP 05055 Northern Ontario Engineering Geology Terrain Study Data Base Map, Rat Portage Bay, NTS 52E/N. District of Kenora, Ontario by D.R. Hallett, Ontario Geological Survey Map 5055, Toronto 1980, 1/100000, 83 x 56 cm, Accomp NOEGTS 20
- MAP 05056 Northern Ontario Engineering Geology Terrain Study Data Base Map, Northwest Angle, NTS 52E/S, Rainy River and Kenora Districts, by D.R. Hallett and M.A. Roed, Ontario Geological Survey Map 5056, Toronto 1980, 1/100000, 35 x 55 cm, Accomp NOEGTS 36

- MAP 05057 Northern Ontario Engineering Geology Terrain Study, Sand & Gravel Resources, Rat Portage Bay, NTS 52E/N, Kenora District, by D.R. Hallett, Ontario Geological Survey Map 5057, Toronto 1980, 1/100 000, 83 x 56 cm, accompanies NOEGTS 20
- MAP 05058 Northern Ontario Engineering Geology Terrain Study, Data Base Map, Blue Lake, NTS 52F/NW, Kenora District, by M.A. Roed, Ontario Geological Survey Map 5058, Toronto 1980, 1/100 000, 71 x 56 cm, accompanies NOEGTS 21
- MAP 05060 Northern Ontario Engineering Geology Terrain Study, Data Base Map, Rowan Lake, NTS 52F/SW, Kenora and Rainy River Districts, by M.A. Roed, Ontario Geological Survey Map 5060, Toronto 1980, 1/100 000, 72 x 56 cm, accompanies NOEGTS 37

PRELIMINARY MAPS

- P 00084 PRECAM Atikwa - Cavian Lakes Area, District of Kenora, Ontario, by G.Q. Johnston, Ontario Department of Mines, Map P 87, Toronto 1960, 2 in. - 1 mi., 24 x 28 in.
- P 00144 PRECAM Ewart Township, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 144, Toronto 1962, 4in. - 1mi., 23 x 21 in.
- P 00145 PRECAM Forgie Township, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 145, Toronto 1962, 4in. - 1mi., 24 x 24 in.
- P 00181 PRECAM Gundy Township, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 181, Toronto 1963, 4in. - 1mi., 24 x 24 in.
- P 00182 PRECAM Broderick Township, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 182, Toronto 1963, 4in. - 1mi., 24 x 24 in.
- P 00387 PRECAM Atikwa Lake Area, West Half, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 387, Toronto 1967, 4in. - 1mi., 23 x 40 in.
- P 00388 PRECAM Atikwa Lake Area, East Half, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 388, Toronto 1967, 4in. - 1mi., 23 x 40 in.
- P 00401 PRECAM French Narrows Area, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 401, Toronto 1967, 4in. - 1mi., 30 x 20 in.
- P 00471 PRECAM Tustin - Bridges Area, MacNicol Township, District of Kenora, Ontario, by A.P. Pryslak, Ontario Department of Mines, Map P 471, Toronto 1968, 4in. - 1mi., 24 x 24 in.
- P 00472 PRECAM Tustin - Bridges Area, Tustin Township, District of Kenora, Ontario, by A.P. Pryslak, Ontario Department of Mines, Map P 472, Toronto 1968, 4in. - 1mi., 24 x 24 in.

- P 00505 PRECAM Bridges Township, District of Kenora, Ontario, by A.P. Pryslak, Ontario Department of Mines, Map P 505, Toronto 1969, 4in. - lmi., 24 x 24 in.
- P 00527 PRECAM North Shoal Lake Area, West Sheet, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 527, Toronto 1969, 4in. - lmi., 27 x 37 in.
- P 00528 PRECAM North Shoal Lake Area, East Sheet, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 528, Toronto 1969, 4in. - lmi., 30 x 37 in.
- P 00544 PRECAM Docker Township, District of Kenora, Ontario, by A.P. Pryslak, Ontario Department of Mines, Map P 544, Toronto 1969, 4in. - lmi., 24 x 26 in.
- P 00594 PRECAM Western Peninsula Area, West Sheet, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 594, Toronto 1970, 4in. - lmi., 24 x 34 in.
- P 00604 PRECAM Western Peninsula Area, East Sheet, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines, Map P 604, Toronto 1970, 4 in. - 1 mi., 32 x 34 in.
- P 00731 PRECAM Cedartree Lake Area, District of Kenora, Ontario, by J.C. Davies, Ontario Department of Mines and Northern Affairs, Map P 731, Toronto 1972, 4in. - lmi., 45 x 34 in.
- P 00831 PRECAM Rowan Lake Area, Kenora District, Ontario, by L. Kaye, Ontario Division of Mines, Map P 831, Toronto 1973, 4in. - lmi., 45 x 34 in.
- P 00920 PRECAM Crow Lake Area, Western Part, Kenora District, Ontario, by L. Kaye, and Division of Mines, Map P 920, Toronto 1974, 4in. - lmi., 31 x 34 in.
- P 01000 PRECAM Pipestone Lake Area, Northern Half, NTS 52F/4E, Kenora District, Ontario, by G.R. Edwards, Ontario Division of Mines, Map P 1000, Toronto 1975, 1/15840, 45 x 35 in.
- P 01024 DATA Rowan Lake Area, NTS 52F/5E, Kenora District, Ontario, Kenora Data Series, by R.C. Beard and G.L. Garratt, Ontario Division of Mines, Map P 1024, Toronto 1975, 1/15840, 45 x 34 in.

- P 01025 DATA Pipestone Lake Area, NTS 52F/4E, Kenora District Ontario, Kenora Data Series, by R.C. Beard and G.L. Garratt, Ontario Division of Mines, Map P 1025, Toronto 1975, 1/15840 45 x 34 in.
- P 01103 PRECAM Pipestone Lake Area, Southern Half, NTS 52F/4E, Kenora and Rainy River Districts, Ontario, by G.R. Edwards and J. Lorsong, Ontario Division of Mines, Map P 1103, Toronto 1976, 1/15840, 45 x 34 in.
- P 01531 MINDEP Ontario Mineral Potential Kenora Sheet, NTS 52E, Kenora and Rainy River Districts, Ontario by J.S. Springer, Ontario Geological Survey, Map P 1531, Toronto 1978, 1/250000, 34 x 44 cm.
- P 02035 DATA Eastern Peninsula Lake of the Woods Area, NTS 52E/9SW, Kenora District, Ontario, Kenora Data Series, by S. Rivett and A.D. MacTavish, Ontario Geological Survey, Map P 2035, Toronto 1980, 1/15840, 114 x 88 cm.
- P 02036 DATA Bigstone Bay - Lake of the Woods Area, NTS 52E/9NW, Kenora District, Ontario Kenora Data Series, by S. Rivett and A.D. MacTavish, Ontario Geological Survey, Map P 2036, Toronto 1980, 1/15840, 114 x 88 cm.
- P 02041 DATA Snowshoe Bay - Shoal Lake Area, NTS 52E/11SE, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett. and A.D. Mactavish, Ontario Geological Survey, Map P 2041, Toronto 1980, 1/15840, 70 x 88 cm.
- P 02042 DATA Labyrinth Bay - Shoal Lake Area, NTS 52E/10SW, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2042, Toronto 1980, 1/15840, 140 x 87 cm.
- P 02043 DATA Wiley Bay - Lake of the Woods, NTS 52E/10SE, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2043, Toronto 1980, 1/15840, 140 x 87 cm.
- P 02044 DATA Gibi Lake Area NTS 52E/9SE, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2044, Toronto 1980, 1/15840, 140 x 87 cm.

- P 02059 DATA High Lake Area, NTS 52E/11NE, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2059, Toronto 1980, 1/15840, 70 x 86 cm.
- P 02060 DATA Dogtooth Lake Area, NTS 52E/9NE, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2060, Toronto 1980, 1/15840, 114 x 86 cm.
- P 02061 DATA Dogpaw Lake, NTS 52F/5SW, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2061, Toronto 1980, 1/15840, 115 x 87 cm.
- P 02097 DATA Atikwa Lake Area, NTS 52F/5NE, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2097, Toronto 1980, 1/15840, 112 x 87 cm.
- P 02098 DATA Clearwater Bay - Lake of the Woods Area, NTS 52E/10NE, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2098, Toronto 1980, 1/15840, 113 x 87 cm.
- P 02099 DATA Echo Bay - Boys Township Area, NTS 52E/10 NW, Kenora District, Ontario, Kenora Data Series, by A.S. Rivett and A.D. Mactavish, Ontario Geological Survey, Map P 2099, Toronto 1980, 1/15840, 114 x 87 cm.
- P 02594 Precambrian Geology of the Long Bay - Lobstick Bay Area, Western Part, Kenora District, Ontario, 52E/8E, Geology by G.W. Johns, J.G. Davidson and assistants, 1982, Scale 1/15840 or lin. - $\frac{1}{4}$ mi.
- P 02595 Precambrian Geology of the Long Bay - Lobstick Bay Area, Eastern Part, Kenora District, Ontario, 52F/5W,12W, Geology by G.W. Johns, J.G. Davidson and assistants, 1982, Scale 1/12840 or lin. - $\frac{1}{4}$ mi.
- P 02617 Precambrian Geology of the Kenora - Keewatin Area, Western Part, Kenora District, Ontario, 52E/15,16, Geology by H.L. King and assistants, 1968-69, Marginal notes and drafting by H.L. King and J.R. Foster, 1983, Scale 1/15840 or lin. - $\frac{1}{4}$ mi.
- P 02618 Precambrian Geology of the Kenora - Keewatin Area, Eastern Part, Kenora District, Ontario, 52E/15,16, Geology by H.L. King and assistants, 1968-69, Marginal notes and drafting by H.L. King and J.R. Foster, 1983, Scale 1/15840 or lin. - $\frac{1}{4}$ mi.

NORTHERN ONTARIO ENGINEERING

GEOLOGY TERRAIN STUDIES

- NOEGTS 020 Rat Portage Bay Area, NTS 52E/N, Kenora District, Ontario, by D.R. Hallett and M.A. Roed, Ontario Geological Survey Northern Ontario Engineering Geology Terrain Study 20, Toronto 1980, with Maps 5055 & 5057
- Northern Ontario Engineering Geology Terrain Study Data Base Map, Rat Portage Bay, NTS 52E/N, District of Kenora, Ontario, by D.R. Hallett, Ontario Geological Survey Map 5055, Toronto 1980, 1/100000, 83 x 56 cm, Accomp NOEGTS 20
- Northern Ontario Engineering Geology Terrain Study, Sand & Gravel Resources, Rat Portage Bay, NTS 52E/N, Kenora District, by D.R. Hallett, Ontario Geological Survey Map 5057, Toronto 1980, 1/100000, 83 x 56cm, Accomp NOEGTS 20
- NOEGTS 021 Blue Lake Area, NTS 52F/NW, Kenora District, Ontario, by M.A. Roed, Ontario Geological Survey, Northern Ontario Engineering Geology Terrain Study 21, Toronto 1980, with Map 5058
- Northern Ontario Engineering Geology Terrain Study, Data Base Map, Blue Lake, NTS 52F/NW, Kenora District, Ontario, by M.A. Roed, Ontario Geological Survey Map 5058, Toronto 1980, 1/100 000, 71 x 56 cm, accompanies NOEGTS 21
- NOEGTS 036 Northwest Angle Area, NTS 52E/S, Rainy River and Kenora Districts, Ontario, by D.R. Hallett and M.A. Roed, Ontario Geological Survey Northern Ontario Engineering Geology Terrain Study 36, Toronto 1980, with Map 5056
- Northern Ontario Engineering Geology Terrain Study Data Base Map, Northwest Angle, NTS 52E/S, Rainy River and Kenora Districts, by D.R. Hallett and M.A. Roed, Ontario Geological Survey Map 5056, Toronto 1980, 1/100000, 85 x 55 cm, Accomp NOEGTS 36
- NOEGTS 037 Rowan Lake, NTS 52F/SW, Kenora and Rainy River Districts, Ontario by M.A. Roed, Ontario Geological Survey Northern Ontario Engineering Geology Terrain Study 37, Toronto 1980, with Map 5060

Northern Ontario Engineering Geology Terrain Study
Data Base Map, Rowan Lake, NTS 52F/SW, Kenora and
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- Study 001 Radioactive Mineral Occurrences in the vicinity
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- PR 1950-1 Radioactive Occurrences in the Kenora Area, Kenora
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Department of Mines, Preliminary Report 1950-
1, Toronto 1950
- PR 1965-2 Preliminary Report of Volcanism and Mineralization
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igoon Region of Northwestern Ontario, by A.M.
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inary Report 1965-2, Toronto 1965

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- 1882: Report on the Gold Mines of the Lake of the Woods.
Geological Survey of Canada, Report of Progress.

Lawson, A.C.

- 1886: Geology of the Lake of the Woods Region, Geological
Survey of Canada Annual Report, New Series, Vol. 1,
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GEOLOGICAL SURVEY OF CANADA MAPS

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- 1881: Lake of the Woods, Geological Survey of Canada,
Map 161, 1 inch to 4 miles

Collins, W.H.

- 1909: Lake Minnitaki and Lake of the Woods Region, Geologi-
cal Survey of Canada, Map 1061, 1 inch to 4 miles

Lawson, A.C., Barlow, A.E., Wilson, W.J.

- 1897: Lake of the Woods, Geological Survey of Canada,
Map 227, 1 inch to 2 miles.



