Introduction

The following report covers a geological survey carried out on a portion of a group of 69 claims on Caviar Lake, Atikwa Lake area, Ont., optioned by Green Bay Mining & Exploration Company, which has its head office at B 100 Royal Trust Building, Edmonton, Alberta. Separate reports have been compiled for the diamond drilling and self-potential survey done on the property at the same time.

Two base lines were cut on the property approximately east-west, designated as the North and South base lines, and were connected by a tie-line known as the 2880 tie-line. Grid-lines were cut at varying intervals, depending on the nature of the work being done. Most of the grid-lines were cut at 200' intervals with chained pickets every 100 feet. A few lines were cut at 50' intervals, to accommodate a finer scaled self-potential survey. The 2400W picket line, south of the south base line was used as a third base line, and lines were cut East and West from it at 100' to 200' intervals.

The geological mapping was done over a period of 90 days, from July 15th to October 12th, 1956.

Some geological mapping was done on the islands and shoreline to the northwest, where no lines were cut.

Description of Property

The group of 69 claims straddles the Atikwa and Rowan Lake sheets in the Kenora District, Northwestern Ontario, its eastern and western extremities being included between Mile 32 and Mile 36 of the Government 4th Base Line. It is 45 air miles southeast of Kenora, and can also be reached by boat, 26 miles west from Sioux Narrows, via Regina Bay, Dogpaw and Caviar Lakes.

The Maybrun Mine is under development 4 miles to the northeast,

as is the Falconbridge property at Populus Lake, about 9 miles to the northeast. The latter is a potential nickel producer, while Maybrun has copper and gold values. Several other properties in the immediate vicinity have also been diamond drilled this summer for copper, gold and nickel.

The claims under option are as follows:

K.19140 to K.19148 inclusive
K.19020 to K.19027 "
K.19157 to K.19164 "
K.19394 to K.19402 "
K.19911 to K.19919 "
K.19976 to K.19983 "
K.24376 and K.24377
K.24385 to K.24391 "
K.25988 to K.25993 "
K.26143 to K.26145 "

The topography is typical of the area, being fairly low in relief, and the ridges are not too steep, but more inclined to be hilly. A series of ridges trend in a north to northeasterly direction, and only the highest of these are relatively free of overburden. About one-quarter of the area is swamp covered, and about 30% is rock outcropping. The overburden, in low ground, is usually quite deep, probably up to 20 feet in depth.

The area is heavily wooded with good stands of jackpine, spruce, cedar, poplar, birch and balsam.

General Geology

The table of formations as listed by E. M. Burwash in the geology of the Kakagi Lake area, paper 41 - 92 is listed as follows:

TABLE OF FORMATIONS

PRE-CAMBRIAN

KEWEENAWAN (?)	Late dioritic dikes Intrusive unconformity.
ALGOMAN (?)	Quarts and rhyolite porphyry. Younger granite. Hornblende-muscovite granite. Titaniferous hornblende - biotite granite. Intrusive unconformity.
HAILEYBURIAN (?)	Lamprophyre dikes Diorite, amphibolite, peridotite. Intrusive unconformity (?)
LAURENTIAN	Younger biotite gneiss Intrusive unconformity. Older hornblende biotite gneiss
KEEWATIN	Fragmental lavas, mainly andesitic. Banded ash and breccia Flows, mainly andesite, some rhyolite, pillowed, amygdalvidal porphyritic and massive.
COUTCHICHING (?)	Gneisses, sericite - chlorite schists interbedded with pyrodastics, some possible sediments,

so that the rocks in this mapping area probably range in age from Keewatin to Algoman.

LITHOLOGY

The oldest rocks are the andesite - basalt group. At least 95% of this group is andesite, which varies widely in texture and color. Most of the andesite is fine grained, but has a tendency towards hornblendite near the diorite contact. Much of the andesite is quite limy, especially on the islands to the northwest, where the main mass of andesite is limy, and calcite forms part of the coating around the pillows in the pillowed lava.

The andesites in the centre of the map area are darker in color and much coarser, due to partial recrystallisation of the amphiboles.

The pillowed andesites to the south are characterised by siliceous blobs in and around the pillows - they are up to 2 inches across, and often spotted with a soft, green material appearing to be chloritic. In some places, this siliceous material appears in brecciated form (not as common as the larger blobs), the fragments usually not longer than one-eighth of an inch.

The andesites have been intruded by a mass or masses of rock varying from diorite-gabbro to peridotite. In the Ross Creek area, they are fairly intimately mixed, and were mapped as a single unit. They are medium to coarse grained, grading to a hornblendite near the andesite contact. Magnetite is not uncommon in the gabbro and the peridotite, and green asbestos with poor fibres is found along some of the joint planes in the peridotite. Andesitic remnants can sometimes be found in this intrusive body.

In the southwest sector, an otherwise normal peridotite has in one small area, numerous quartz eyes, about one-sixteenth of an inch across.

A younger intrusion is a rock which includes a granodiorite, syenite, quartz syenite and granite in its various phases. The quartz feldspar porphyry and rhyolite dikes may be apophysies from the same intrusive mass. The intrusive contacts appear to strike mainly northeasterly and the North to Northeast gneissic trend of some of the granites appear to confirm this. Epidote stringers are quite common in the syenite and granite. These rocks often have dioritic inclusions, and are thought to be the youngest rocks in the area, with the possible exception of the quartz feldspar porphyry and rhyolite dikes, whose age relationship is not known.

Calcite stringers cut all the above mentioned formations.

STRUCTURAL GEOLOGY

Jointing is noticed over the whole map area - one prominent set

of joints strikes N 75° W (average) and dips steeply to the north. The other prominent set of joints strikes north and dips steeply to the east. Heavy mineralization is always accompanied by jointing, and joint planes often form the escarpment along the edges of a northerly trending ridge.

Because of the poor definition of the pillow outlines in the andesite flow it is difficult to determine the attitude of this member. The strike of the beds vary from N20° to N 60°E, and the tops are thought to be facing southeast.

Where the pillowed andesites were observed on the large island on claim K.24391, the strike appeared to be the same, but the beds appeared to be plunging 30° to the northeast.

A diamond drill hole drilled on claim K.19022 indicated a vertical thickness of 325' in the andesites, being underlain by diorite.

The western contact of the diorite gabbro plug which roughly follows Ross Creek appears to be the foot wall contact, in the vicinity of # 11 pit.

The granite and syenite masses found on claim K.19914, K.19983 and K.19395 enlarge with depth, and would appear to be the tops of large intrusive masses.

A strong fault trends in a northerly direction from the small lake in the southeast corner of the property into a large swamp. This may be the same fault that appears on the north side of the swamp on claim K.19918. Both have an undetermined but probably large displacement - both offset the diorite - andesite contact. Since the average strike of the contact in this locality makes an acute angle with the strike of the fault, an estimation of the offset is difficult to make. A 30' sheer wall marks the fault location in many places.

A shear along the southeast shore of the large island on claim

K.24391 is probably a manifestation of a strong fault along the channel, separating the large diorite and andesite bodies.

Several other lesser shears appear on the property.

ECONOMIC GEOLOGY

The mineralised zones can be broken down into two basic types - the mineralisation in the pillowed andesites with copper values, and the mineralisation in the basic intrusives with nickel and copper values. The most abundant sulphide in both cases is pyrrhotite, with minor amounts of pyrite and chalcopyrite.

Pits 1 and 11 show the best nickel values, the sulphides being disseminated through a gabbroic rock. The strike of the ore body is difficult to determine - it is rather a scattered dissemination. In the # 11 pit the sulphides are the heaviest between two westerly striking joints, about 2' wide, and is disseminated on both sides, gradually petering out. Diamond drilling located further narrow scattered lenses none of which were of a commercial ore grade.

Some of the pillowed andesites have replacement phrrhotite, chalcopyrite and pyrite around the pillow edges, and also through the pillows. The silicious spotted blobs are almost always found in this vicinity.

In pits # 8 and 9 very good chalcopyrite mineralisation was found around the pillows, but diamond drilling showed that the chalcopyrite was only local, pyrrhotite being the chief replacement product at depths. Pit # 16 was found to be underlain by a grey granite so that the vertical extension of the chalcopyrite mineralization is very small.

Contacts with the intrusives would appear to be favorable for mineralization in the andesites.

Pyrrhotite, chalcopyrite and pyrite mineralisation was found in scattered zones, between pits # 16 and # 21, and considerable sulphide mineralisation was found on claim K.19022, mostly pyrrhotite.

EXPLORATION AND DEVELOPMENT

Twenty-three diamond drill holes, totalling 7,139' were drilled by J. Edwards, contractor of Kenora, Ontario, over a period of three months.

Twenty-one pits and trenches were made during the course of the summer's work. A table appears below.

Pit No.	Location	Dimensions	Mineralisation
1	30W, 60S	30 x 6 x 6	Good chalcopyrite, pyrrhotite.
2	550W, 100S	6 x 4 x 4	Poor sulphides
3	560W, 100S	4 x 4 x 4	Poor sulphides
4	560W, 80S	6 x 4 x 4	Poor sulphides
5	600W, 50S	20 x 5 x 3	Some pyrrhotite, chalcopyrite, pyrite.
6	2100W, 600S	4 x 4 x 4	Poor chalcopyrite
7	2150W,550S	6 x 4 x 4	Some chalcopyrite pyrrhotite
8	2550W, 2600S	12 x 5 x 7	Good chalcopyrite
9	2550W, 2625S	6 x 4 x 5	Good chalcopyrite
10	2600W, 2700S	4 x 4 x 4	Poor pyrite.
11	900E, 120S	25 x 10 x 8	Very good chalcopyrite and pyrrhotite.
12	510S,550E	15 x 5 x 5	Poor sulphide mineralisation.
13	510S, 525E	20 x 5 x 5	Poor sulphide mineralisation.
14	560S, 340E	30 x 5 x 10	Poor sulphide mineralisation.
15	900S, 120E	30 x 6 x 6	Poor sulphide mineralisation.
16	50S, 2750W	35 x 6 x 6	Good chalcopyrite spots
17	100S, 2480W	6 x 5 x 4	Pyrite, some chalcopyrite.

Pit No.	Location	Dimensions	Mineralisation
18	2880W, 360N	4 x 4 x 4	Poor pyrite mineralisation.
19	2900W, 385N	4 x 4 x 4	Poor pyrite mineralisation
20	2720W, 00N	5 x 5 x 4	Minor chalcopyrite.
21	1280W, 2670N	8 x 4 x 4	Some massive pyrite.

The more important pits are reviewed under the heading - Economic Geology.

A self potential survey was made over some of these claims and the work is being recorded for assessment for this year.

Respectfully submitted,

J. Arnason

J. Arnason, Resident Geologist,
GREEN BAY MINING & EXPLORATION CO.

Since only about 30% of the total of the area of the 69 claims under option is free of overburden and swamp, it was thought that the use of self-potential equipment might give an indication of the location of the more rusty zones that do not outcrop on surface, and that it might show the extensions of known sulphide showings where the possible extensions are covered with overburden. The area had been previously prospected, so that the surveying was done in the most promising areas, rather than over the 69 claims. No readings were taken in swampy ground.

The work was done by a Green Bay Mining & Exploration prospector, for Green Bay. Two copper sulphate solution-filled porous pots were used as potentials, and the potential differences were read with the use of a Sharpe vacuum-tube voltmeter (model 3P5). The potentials were connected by a 2000' length of plastic coated # 16 gauge single strand copper wire, and readings were made with the potentials from 100' to 2000' apart to obtain the potential differences. Two readings were taken daily to obtain the pot potential, which had to be subtracted from the observed potential difference, in order to get a true difference of potential. The usual procedure was to establish the potential values along the base line, from a starting point which was arbitrarily called 50 millivolts. Then potential differences were measured at 100' intervals, along picket lines cut at right angles to the base line.

Three separate surveys were made, with base stations at positions 920E on the north base line, and at position

1200W on the south base line, and at position 1500W, 2000S from the south base line.

An average of 2 man-shifts a day was required intermittently over a period of 3 months for 60 days, making a total of 120 man days to cut, chain and picket approximately 40 miles of line. The chief line-cutter was Alex Turcotte, of Kenora, Ontario.

The self-potential readings were taken over a period of 90 days, from July 15th to October 14th, 1956, and this is the only time charged against assessment work for this particular work.

1983 stations were established during the course of the survey and several anomalies were outlined over the area. The largest difference of potential was found in a small area along the eastern shore of Ross creek. The differences were about 300 millivolts from the base station. All the anomalous areas were examined, all by visual examination, several trenches were made on the basis of these readings, and over 1600 feet of diamond drilling was done where promising ground had anomalous readings.

Most of the diamond drill holes went through sulphides, one in particular had 9 inches of solid sulphides. All the holes showed ground that had been rusted along joint planes.

Scattered rusting sulphides were found through the anomalous areas. Most of the mineralisation was pyrrhotite.

Since the whole area of the 69 claims was not covered by this survey, only the claims on which the work was done are eligible to be covered by this assessment work. The 24 eligible claims are listed below:

K.19021 to 19026	K.19395
K.19911 to K.19915	K.19400
K.19918	K.24376 to K.24377
K.19978 -	K.25988
K.19981 to K.19982	K.25990 to K.25991
K.19146 to K.19147 -	

Since 180 man-days were required to complete this work, at 4 days work per man day worked, then 720 days work are to be charged to the survey over 24 claims. Hence the assessment for this work is 30 days each for the above listed 24 claims, or a total of 720 days work.

A breakdown of work-days accompanies this report.

Respectfully submitted,

J. ARNASON,
Resident Geologist.

[redacted]

63.763

Stock Rocketed 50c To $12.50 Then Took Dive

By DAVID STEINBERG

NEW YORK—(Special)—Charges of "an international fraud" that may have cost U.S. investors "as much as $6,000,000" have been made by New York State Attorney General Louis J. Lefkowitz.

As part of an investigation of a Canadian securities firm and its principals, the attorney general obtained a State Supreme Court order to examine Charles Robert Stahl, of New York, and Marcel Adam Miles, of Edmonton, who formed the Edmonton brokerage house of Stahl, Miles & Co. Ltd. Until recently Miles was vice-president of the Edmonton Stock Exchange.

(Miles first went to Edmonton in 1952 to set up the Stahl-Miles operation there. The firm is now an inactive member of the exchange and has no license for 1956 trading. Miles gave "financial strain" as the reason for his resignation as vice - president, exchange officials reported.)

The New York State order demands that Mr. Stahl and Mr. Miles appear before the court March 21 and places a temporary injunction on the business operations and the company in New York.

The Attorney General's probe centres around the promotion of the stock of Green Bay Mining & Exploration, Ltd., of Edmonton, which "in a short period of time rose from the over-the-counter market price of 50 cents a share to $12.50 a share" and then according to the attorney general's office "evaporated overnight" to a point where "investors were fortunate" to recover a little more than the offering price.

QUESTIONS FIGURE

(In Edmonton today, Mr. Miles said: "It isn't possible that the loss could reach such proportions because there are only 1,000,000 shares in hands of the public and the New York figure would mean loss of $10 on at least 600,000 shares."

(Meanwhile an Alberta Securities Commission official said that it had summoned Miles for an explanation but that it was "now satisfied that all Alberta accounts in connection with Green Bay had been settled and that all stock and money had been delivered." The commission planned no further action, he added.)

LISTED AS DEVELOPER

(The 1956 Financial Post Survey of Mines indicates the company has no producing mines, but is developing or prospecting lithium-copper and uranium properties in Manitoba, Saskatchewan and British Columbia.)

The charges against Mr. Stahl, Mr. Miles and Stahl, Miles & Co. are contained in a affidavit signed by Samuel A. Hirshowitz, an assistant attorney general and acting head of the Bureau of Securities.

In his statement, Mr. Hirshowitz asserts that Mr. Stahl used his position as chairman of De Pontet & Co., Inc., a New York Stock Exchange member firm, to begin "his American operations which have led to the present debacle and his flight to Europe and Rio de Janeiro which was calculated to avoid investigation" by the attorney general's office. Mr. Stahl resigned from De Pontet by mail last December. This firm is not connected with the present proceedings.

CHARGES "BOILER" TACTICS

The attorney general's office attributes to Mr. Stahl "boiler room" selling and promotion of the Green Bay stock through "the issuance and publication of false, misleading, deceptive and fraudulent" literature and news releases.

"Considering the 600,000 shares distributed in the market at one time or another," the complaint states ".... the total market price of all shares in the hands of the public . . . rose to a fantastic value of more than $12,000,000. This amazing rise in price was not accompanied by the production of any commercial ore to account for this tremendous upsurge."

The complaint says the ore concerned was lithium, a mineral whose commercial value "at the present time is not clear."

New York Herald Tribune News Service

MONDAY FEB. 18, 1957

Few In Ontario Hold This Stock

Stock of Green Bay Mining and Exploration Ltd. of Edmonton—now under investigation in New York—is being traded on the Toronto unlisted market, but there are few Ontario stockholders, unlisted brokers believe.

The case has not been drawn to the attention of the Ontario Securities Commission officially and no complaints have come to his department, O. E. Lennox, chairman, reports.

Present over-the-counter price here is 70 cents bid, 80 cents asked, with a trickle of orders going through. At the height of the stock's rise trading in it in Toronto was fairly active, mostly for foreign account. Toronto served as a relay point between the west and New York, many of the U.S. orders, in turn, being relayed from Europe.

The stock is listed on Edmonton Stock Exchange, but trading is at a standstill there and exchange officials are awaiting a report from company directors.

Local orders are believed chiefly for U.S. holders who bought near the top and are trying to even up.

K-24387 K-24386 K-19979 K-19978 K-19977 K-19976 K-25989 K-25993 K-25992 K-26143 K-26144 K-26145

K-24388 K-24385 K-19980 K-19981 K-19982 K-19983 K-25988

K-24389 K-19915 K-19914 K-19913 K-19911 K-24376 K-25990

K-24390 K-19916 K-19917 K-19918 K-19912 K-24377 K-25991

K-24391 K-19919 K-19160 K-19159 K-19158

K-19161 K-19162 K-19163 K-19164 K-19157

K-19142 K-19141 K-19140 K-19396 K-19395 K-19394

K-19143 K-19144 K-19145 K-19399 K-19398 K-19397

K-19148 K-19147 K-19146 K-19400 K-19401 K-19402

K-19023 K-19022 K-19021 K-19020

K-19024 K-19025 K-19026 K-19027

Govt 4th B.L.

South Base Line

2880 W Tie-Line

North B.L.

Ross Creek

Denmark Lake

True North

Camp Site

RHYOLITE

LEDGEND

Quartz Feldspar Porphyry	QFP	A
Rhyolite Dike	RHY.	B
Quartz Syenite, Granite, Syenite, Granodiorite		C
Diorite, Gabbro, Hornblendite		D
Peridotite		E
Andesite, Basalt		F

Fault, Dip Indicated 50
Fault - Vertical VERT.
Shear SH.
Fault - Inferred
Tops Of Beds
Plunge
Pillowed Andesite Pil.
Quartz Vein Q
Geological Contact
Glacial Striae
Outcrop Outline
Swamp
Escarpment
Picket Line 1600W
Claim Line
Outside Boundary
Trench Location & Number TR①

GREEN BAY MINING & EXPLORATION
EDMONTON, ALBERTA.

PROPERTY Caviar Lake (60 claims)
LOCATION Kenora, Ontario
PLAN OF Geology

SCALE 1"= 400' DATE Oct 16 58
DRAWN BY J. Rawson APPROVED BY

52F05NE8181 63.763 ATIKWA LAKE (GRAPNEL

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K-24387 K-24386 K-19979 K-19978 K-19977 K-19976 K-25989 K-25993 K-25992 K-26143 K-26144 K-26145

K-19981 K-19980 K-19982 K-19983 K-25988

K-24388 K-24385 K-19915 K-19913 K-24389

K-19914 K-19911 K-24376 K-25990 K-25991

K-24390 K-19916 K-19917 K-19918 K-19912

K-24391 K-19919 K-19160 K-19159 K-19158 K-24377

K-19161 K-19162 K-19163 K-19164 K-19157

K-19142 K-19141 K-19140 K-19396 K-19395 K-19394

K-19143 K-19144 K-19145 K-19399 K-19398 K-19397

K-19148 K-19147 K-19146 K-19400 K-19401 K-19402

K-19023 K-19022 K-19021 K-19020

K-19024 K-19025 K-19026 K-19027

ROSS CREEK

2880 TIE LINE

NORTH B.L.

SOUTH B.L.

GOVT 4TH B.L.

DENMARK LAKE

CAMP SITE

TRUE NORTH

ANOMALOUS AREAS

GREEN BAY MINING & EXPLORATION
EDMONTON, ALBERTA.

PROPERTY CAVIAR LAKE (69 CLAIMS)
LOCATION KENORA, ONT.
PLAN OF SELF POTENTIAL SURVEY
BASE POTENTIAL ±50 MILLIVOLTS

SCALE 1"= 400' DATE OCT/56
DRAWN BY J. ARNASON APPROVED BY R.J.R.S.
SURVEY A. TEW