



WELSH-SAUVE COPPER GOLD MINES LIMITED

GEOLOGICAL SURVEY

WORK:

The base-line of the adjoining Ryan Lake Mines was cut and picketed westward across the property to Mistinikon Lake a distance of 7900 ft. and where possible cross lines were turned off at right angles at 400 ft. inter vals. Approximately 41,000 ft. of line was cut in a very rugged country with heavy undergrowth.

All lines were chained and marked at 100 ft. intervals and outcrops tied into these lines by pass and compass survey.

Detailed mapping of the whole area covered by the traverse lines was not accomplished owing to the coming out of the deep foliage and leafing out of the heavy underbrush, which obscured the outcrops. At the time of the report the leaves were still on so the accompanying map shows only that portion of the property that was mapped in detail

LINE CUTTING: 1948

Baseline:-

To Mistinokon Lake 7900 ft.

Crosslines:-

	<u>N</u>	<u>Chge</u>	<u>S</u>
	8-00	3-63 W	6-00
	7-00	8-00 W	8-00
	6-00	12-00	6-00
	6-00	18-00	29-00
(N Bdry)	15-24	22-00	41-94 (S Bdry)
	6-00	29-50	10-00
	8-00	33-50	8-00
	7-00	37-50	23-00
	5-00	41-50	8-00
	7-00	45-50	8-00
	5-00	49-50	5-00
	5-00	53-50	3-00
	5-75	57-50	4-00
	6-00	61-50	6-00
	6-00	65-50	6-00
	6-00	69-50	6-00
	<u>7-00</u>	<u>73-50</u>	<u>24-70</u>
	11-599		20-264

Base line 7-900
 Lines North 11-599
 S 20-264

Other cross
 lines & claim
 lines recut &
 picketed &
 chained 1200

40,964 linear ft.

WELSH-SAUVE COPPER GOLD MINES LIMITED

WORK REPORT:

Names and addresses of men who worked on survey -

Geo. Welsh - Elk Lake, Ontario
 H. Bruder - Matachewan, Ontario
 A. Pepin - Matachewan, Ontario
 G. E. Moody - Matachewan, Ontario and Noranda, Quebec

<u>Line Cutting</u>	<u>Total Days</u>
Geo. Welsh - March 3, 4, 5, 7, 9 & 10 April 1 & 2	8
H. Bruder - March 7, 9, 10 & 12 April 1 - 7 incl., 10, 11, 12 24 - 27 incl. May 1, 3, 4, 5, 10 - 16 incl. 18, 19, 20, 22, 24 & 25 June 2, 3, 4, 6 - 9 incl.	42
A. Pepin - April 3, 4, 5, 9, 10, 25 & 26 May 1, 3, 4, 5, 10, 12 - 18 incl. 20, 22, 24 & 25 June 1, 2, 3, 6, 7, 8	29
G. E. Moody - March 25 - 26	2

Chaining Lines

H. Bruder - April 21 & 28 May 6 & 7 June 1, 10 & 11	7
A. Pepin - May 6 & 7 June 10 & 11	4
G. E. Moody - April 21 & 28 June 1	3

Geological Mapping

G. E. Moody - April 22 & 29 May 29 & 30 June 29 & 30 July 1 & 2	8
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Preparation of Report

G. E. Moody - September 13, 14, 15, 16	4
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Draughting & Printing

G. E. Moody - September 17 & 18	2
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109 days

*144
144
288*

*6 | 436
4
7*



A visit was made to this property on May 27th, 1952. The writer was accompanied by Dennis Duffy, well known Kirkland Lake prospector, who is in charge of the exploration work.

PROPERTY

The property consists of a group of 24 claims which lies between Ryan Lake Mines Ltd. to the east and Mistinikon Lake to the west. The claim numbers are as follows:

M.R. 16251 - 56	-	6
M.R. 16422 - 28	-	7
M.R. 16433 - 41	-	9
M.R. 16446 - 47	-	2
		<hr/>
TOTAL		24

ACCESS

A road which extends into the Welsh-Sauve ground from the Ryan Lake Mine becomes a trail which trends westward across the property. It is possible to drive to the Ryan Lake Mine over the Ashley road from Matachewan, a distance of approximately five miles.

GENERAL GEOLOGY

Powell township is part of the area described by W. S. Dyer in his report on the "Matachewan Gold Area" Vol. XLIV Part 2, Ontario Department of Mines Annual Report 1935. (Map 44a). The following quotations are taken from Dyer's report:

"The oldest and most extensive formation in the Matachewan area is the Keewatin, which consists almost wholly of volcanic flows and volcanic fragmentals. Prominently developed in Powell and Cairo townships are the conglomerates, quartzites, cherts, and other sediments of Timiskaming age, which are in the form of two

parallel eastward-trending synclines closely folded within the Keewatin. The formations have been so closely folded that the dips approach the vertical. The strike of the beds is east to northeast, conforming to that of the Kirkland Lake area.".....

"Intruding the Keewatin and Timiskaming formations are a large number of stocks and dikes of igneous rock, ranging in composition from basic diorite to granite and including syenites and syenite porphyries of widely varying types which are all regarded as Algomian. A series of diabase dikes, which trend nearly north and south, occur with great regularity over most of the area. They may be considered as the last manifestation of Algomian activity but are usually classed by themselves in the Matachewan formation.".....

"Lying with very marked angular unconformity upon the earlier pre-Cambrian formations is the Cobalt conglomerate. It is a much fresher-looking formation than any of those upon which it lies, and its attitude is much flatter. It is distributed along the southern edge of the Matachewan area but at intervals sends long tongues northward to lie upon the Keewatin and Timiskaming. Its only economic importance is negative, in that it covers rocks which otherwise might have been good prospecting ground.

The Keweenawan is represented by at least one dike of diabase, which cuts through the Cobalt conglomerate in Powell township."

Regarding the structure in the area Dyer states:

"The structure in the Matachewan-Kenogami area, simply expressed, is that of a broad northeastward-trending syncline or synclitorium of Keewatin rocks bounded by Algomian batholiths

The axes of some of the synclines are marked by Timiskaming sediments. The Keewatin and Timiskaming formations have been so closely folded that the dips approach the vertical. Shearing is general throughout the area; it usually, though not always, parallels the bedding, and the strike of the beds and the schistosity, although variable and somewhat erratic, shows a strong tendency to an east-northeast to northeast direction.

The best example of folding was obtained in Powell and Cairo townships where, as outlined previously, there are two well-developed synclines marked by Timiskaming sediments extending from west to east across the townships, each of the synclines being about one mile in width from north to south and separated by an anticline of Keewatin greenstone $1\frac{1}{2}$ miles wide.".....

"Two major faults were found in the area; they trend north and south and are later than the folding and shearing. One of them follows the valley of the Montreal River and Matachewan Lake, and the other the valley of Mistinikon Lake.".....

To sum up, it is believed that during Algomian times compressive stresses were active from the south, which caused folding, shearing, and minor faulting in an easterly direction, and that late in this period normal tension faults (at right angles to the shearing) developed. Any movement prior to the Algomian is masked by the intensity of movement in this period. After Algomian time, movement must have been slight, judging by the gentle dips in the Cobalt series."

LOCAL GEOLOGY

The Welsh-Sauve and Ryan Lake properties are located in the block of ground lying between the two major north-south faults mentioned above. The north contact of the south syncline of

Timiskaming sediments with the Keewatin lavas, as shown on Map 44a, takes a swing to the northwest across the south half of the Ryan Lake ground and continues to the west across the centre of the Welsh-Sauve group of claims. Peridotite of Haileyburian or early Algoman age is shown on the east shore of Mistinikon Lake in the southwest corner of the property.

A geological report on the Welsh-Sauve property by Geo. Moody consulting engineer, was submitted for assessment work credit to the Mining Recorder at Elk Lake in September 1948. The report was accompanied by a map of the central part of the east claims on a scale of 1" - 200'.

Moody's map shows a peridotite sill, approximately 400' wide, intruded along the Keewatin-Timiskaming contact. From the 1st lake, in claim 16422 near the Ryan Lake boundary, this peridotite sill has been traced to the west for at least three quarters of a mile. The peridotite for the most part is serpentized and adjacent to the south contact with the Timiskaming sediments on claim 16422 it is strongly schisted and carbonatized.

Small syenite porphyry dikes of Algoman age cut the older formations. The youngest rocks on the property are the numerous diabase dikes which trend north-south. On both the Ryan Lake and Welsh-Sauve properties these dikes have been displaced by later faults with an E-W or N-W - S-E trend, the apparent movement of the north side being to the east. A fault with a N-S trend, which has apparently displaced the formations approximately 600 feet to the south on the west side, is shown on Moody's map in the 1st lake.

PROSPECTING AND DEVELOPMENT WORK

In addition to making the geological report and map

already mentioned Geo. Moody supervised the diamond drilling of three holes in the northeast part of claim 16422 in 1948. Traces of chalcopyrite were recorded but there was no mineralization approaching economic grade.

Diamond drill holes Nos. 4, 5 and 6 were drilled west of the 1st lake on claim 16422 in 1950, with negative results. A short report was written by G. R. McLaren, Mining engineer. In 1951 diamond drill holes 7, 8 and 9 were drilled on claim 16427 NW of the small lake in the southeast corner, where a narrow quartz vein mineralized with galena was exposed. The core from these holes was logged by A. F. Matheson, consulting geologist. Hole No. 9, drilled to the southeast at 45° cut 19 inches of quartz vein well mineralized with sphalerite, galena, and pyrite at the beginning of the hole, which assayed as follows:

<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Zn</u>
0.05 ozs.	1.08 ozs.	3.86%	9.60%

Copies of the above mentioned reports and core logs, with maps and location sketches, are in our Open Files.

Two new showings were examined by the writer. The east or No. 1 showing is located south of the trail about 1600 feet west of the bridge across the 1st lake on claim 16422. It is 20 feet east of Line No. 4, and 750 feet south of the Baseline. The showing is a pit at the west end of a trench in a narrow draw on the east side of a knoll of Timiskaming conglomerate which contains small scattered cherty pebbles. Peridotite outcrops in the swamp about 200' to the north. (See map by Geo. Moody, Sept. 1951)

The pit at the foot of the knoll exposes a shear zone striking N 22° W and dipping 65° to the west which has been replaced by buff and green carbonates. Blocky jointing can be seen in the

hanging wall with sphalerite occurring as thin platings on the joint planes and in fine stringers associated with quartz. Some traces of galena also can be observed. There are several rusty streaks parallel to the schistosity in the buff coloured carbonate for about 5 feet from the hanging wall. In the north wall of the pit the buff carbonate grades to the east into green carbonate which is brecciated by small quartz stringers containing some sphalerite.

Two short x-ray holes were drilled to the east from the top of the knoll to pass to the north and south of the pit. The core was examined by the writer, and it was soon evident that it had been misplaced by the drillers. However, it could be seen that there was less mineralization and carbonate replacement in the core than was exposed in the pit.

The south or No. 2 showing is located in the SE $\frac{1}{4}$ of claim 16441, 2200 feet south from the Baseline on Line 11. A pit about 20 feet long striking N 10° E has been opened up at the foot of the rusty west face of a drift covered knoll. Where exposed the rock is massive blocky jointed fine grained quartzitic greywacke, being part of the south syncline of Timiskaming sediments.

Specimens of massive pyrrhotite cut by stringers of chalcopyrite were seen on the dump. Unfortunately, recent heavy rains had filled the pit with muddy water and it was not possible to see the mineralization in place. In the face of the knoll on the east side of the pit there is a rusty slip striking 10° S of E and dipping 60° to the north which contains a streak of massive pyrite about 3 inches wide. In the bottom of the pit the massive pyrrhotite is said to occur on the hanging wall side of this slip.

At the north end of the pit a long trench, which at first has a bearing of N 60° E, swings around the north side of the knoll. The trench exposes blocky jointed greywacke with a rusty capping. Pyrite occurs as platings on the joint planes and as fine irregular stringers which in places give the rock a brecciated appearance.

More work will be done to open up the pyrrhotite-chalcopyrite vein and some shallow x-ray drilling from north to south below the pit, to obtain fresh samples, is being considered.



W. S. Savage,
Resident Geologist.

August 7th, 1952.



This property was visited again on November 24th, 1953. The writer was accompanied by Stan. Welsh and Dennis Duffy.

At Showing No. 1 (see report of visit on May 27th, 1952) a diamond drill was set-up on the knoll of Timiskaming sediments to the west of the pit and a hole with a dip of 40° was being drilled from west to east to pass below the pit, in which stringers of sphalerite and traces of galena were exposed.

The writer pointed out to Welsh and Duffy that the Westward extension of the Ryan Lake peridotite band was apparently displaced to the south on the west side of the fault in Lake No. 1, which is adjacent to the Ryan Lake boundary. (See Moody's map). It was suggested that the south contact of this east-west trending peridotite band with the sediments would be a good horizon to prospect. At Lake No. 1 Moody's map shows the peridotite to be highly carbonatized and schisted at this contact.

About 1400 feet west of Lake No. 1 the above-mentioned peridotite-sediment contact lies in the low ground to the north of Showing No. 1. A diamond drill hole was spotted on line 18 + 00 W, which will be drilled from north to south to intersect the contact.

The core from a hole drilled below the pit at the No. 2 showing (see report of visit on May 27th, 1952) was briefly examined. It was too dark to log the core but it was seen to contain considerable massive pyrrhotite, which to date had not been sampled and assayed for possible nickel content.

On December 3rd, 1953, following a visit to the DeMarco claims in Cairo township, the writer returned to the Welsh-Sauve property to look over the core from the hole drilled on line 18+00 W (see above) to intersect the peridotite-sediment contact. The strong shearing indicated on the contact at lake No. 1, did not continue west along the contact to line 18+00 W. In the contact zone the diamond drill hole went from brecciated peridotite into brecciated sediments without any evidence of introduced sulphide mineralization.

Close to the west shore of lake No. 1 and about 100 feet north of the 400' wide peridotite band, a pit was sunk on the baseline east of line 8+00 W, in dacitic lava. Some thin platings of chalcopyrite on joints and a weak dissemination could be seen in the walls of the pit, which was eight feet deep. A short diamond drill hole from the north for sampling purposes was recommended.

Stan Welsh expects to have all the recent diamond drill holes located, and the cores logged and sampled by Wm. Gerrie of Swastika, in order that the diamond drilling may be submitted for assessment work credit.



W. S. Savage,
Resident Geologist.

WSS:JD
April 29th, 1954.



41P15NE8290 63A.57 POWELL

040

Summary Report on the Property of:

WELSH - SAUVE COPPER GOLD MINES LIMITED

Powell Township Matachewan Area, Ontario

CONCLUSIONS AND RECOMMENDATIONS

(1) A promising gossan area occurs on this property, it shows pods of massive pyrrhotite and pyrite in places with a little chalcopyrite present, also occasional sphalerite and galena. The gossan area and vicinity is recommended for a magnetometer survey followed by an electro-magnetic check up of magnetic anomalies where the cause of the anomaly is unknown. About 2,000 feet of diamond drilling should be allowed for to check anomalies and possibly outcropping mineralization or geological contacts.

(2) The gossan area appears to be a good size and strong. It appears to be at least 1,500 feet long East - West and possibly 800 feet wide in one section. Lack of outcrop makes it impossible to know the actual size and shape of the sulphide impregnated area.

(3) A promising geological feature is that the gossan is located near or at the contact zone between basic lavas and the sediments of the Otisse Lake group (see attached map of the Matachewan Area).

(4) The sediments of the Otisse Lake group are believed to overlie the basic volcanics which outcrop to the North and West. The sediments may have possibly formed a cap rock which has resisted replacement or remained relatively impervious to sulphide bearing solutions, as the best mineralization appears to be in the volcanics. If this is the case barren, or virtually barren, sediments may overlie mineralized volcanics.

(5) The sediments are probably not deep in the section between the gossan outcrop area and Round Lake and all of this section should be covered by the magnetic work.

(6) Near the Northwest corner of Round Lake there is a quartz-carbonate vein containing a little fine grained pale brown sphalerite and some galena. The vein is 4 inches to 12 inches wide. The surface here is probably 500 feet to 800 feet above the sediment-volcanic contact. A deep hole to cut the vein at 600 ft. depth would be worthwhile here if the geophysical work and mapping fails to indicate other promising locations for diamond drilling. If there is no improvement in the strength of the vein and mineralization at 600-foot depth, further drilling would not be warranted.

(7) There is an interesting gossan area in pillow lavas near the West side of the property, near Mistinikon Lake. No work is recommended here at this time. The rock should be concentrated in the gossan area at the sediment - volcanic contact and over the sediments before other parts of the property are investigated.

LOCATION OF THE PROPERTY

The property is located about 5 miles Northwest of the village of Matachewan. A wagon road runs into the property from the New Ryan Lake Copper Mines Limited plant site.

The property consists of a compact block of 23 claims located on the West side of the New Ryan Lake Copper Mines Limited property.

W. C. Martin (Signature)

W. C. Martin
October 8th, 1954.



Report on Geology

Welsh-Sauve Copper Gold Mines Ltd.

Powell Township, Ontario

Sept. 30th, 1948

Foreword

The property of the Welsh-Sauve Copper Gold Mines Ltd. comprises a block of 24 unpatented mining claims situated in the Township of Powell in the Matachewan area of Ontario.

The claim numbers are MR 16251, -2, -3, -4, -5, -6; MR 16422, -3, -4, -5, -6, -7 and -8; MR 16433, -4, -5, -6, -7, -8, -9; MR 16440 and -41; MR 16446 and -47.

The property adjoins immediately to the west of Ryan Lake Mines (a copper prospect) now under option to Teck-Hughes Gold Mines Limited, while two miles to the south are the Young-Davidson and Matachewan Consolidated Mines.

The Ashley highway passes through the Ryan Lake property and a tractor road crosses from the highway onto the claims of the Welsh-Sauve Copper Gold Mines Limited.

GEOLOGY

General:

The oldest and most extensive rocks of the area are Keewatin volcanics and related fragmentals.

Infolded in the Keewatin, and mainly exposed in Powell and Cairo townships, are sediments of Temiskaming age.

Intruding the Keewatin and Temiskaming formations are a large number of stocks and dykes of Algonian age, varying from granite to basic diorites. The intrusives are mainly syenitic.

Believed to be the end phase of the Algonian period, though given an age classification of its own, are the large number of north trending diabase dykes which are assigned to the Matachewan period.

In the southern part of the area the Cobalt conglomerates lie unconformably on the foregoing formations.

The youngest rocks of the area are Keweenawian diabbases seen to be cutting the Cobalt conglomerate in at least one place in Powell township.

Economic:

It is to the syenite porphyries of the Algonian period that the gold deposits of the area are related. The deposits being found either in or close to the porphyries. The two known mines of the area being located along a line of weakness marking a contact of the Keewatin volcanics and Temiskaming sediments.

The copper mineralization is believed to be related to the magma that produced the numerous diabase dykes.

Structural:

Broadly speaking the structure is that of a series of tightly folded synclines lying in a larger synclinal trough.

The Temiskaming sediments being tightly infolded in the Keewatin volcanics and mark the axis of some of the synclines. The folds being so close that the dips are nearly vertical.

The synclinal trough is bounded by Algonian batholite and it is believed that the folding was due to compressive stresses acting during this period.

The shearing in general follows the regional strike favouring the schistosity, bedding and contacts between formations.

Two major faults occur in the area following the valleys of the Montreal River and Mistinikon Lake. The faults trend north and south and are later than the folding, shearing and the syenitic intrusions but before the intrusion of the numerous diabase dykes.

The Montreal River fault is very complicated but appears to have been a thrust fault with a large vertical component.

The Mistinikon Lake fault, while appearing to have caused just a simple lateral displacement, may have been more complex and to have had some vertical component.

The block of ground caught between these two faults would be subject in a lesser degree to the forces that caused the main faults. The lateral movements would tend to open up the old regional east-west shears and cause new ones in that direction. While thrust faulting would cause vertical movements along the.

The parallelism of the diabase dykes to the two major faults and especially the great number of such dykes occurring between them would tend to the belief that they are filling tension faults set up after the period of compression and folding, caused by the Algonian batholiths had ended and while the cooling of the batholiths was going on. The resulting strain

from the cooling would be tensional and at right angles to the regional strike. The faults apparently extending to a depth deep enough to tap the still molten portion of the now basaltic magma.

LOCAL GEOLOGY

The property of the Welsh-Sauve Copper Gold Mines Limited lies in the block of ground caught between the major faults of the area (the Mistinikon Lake and Montreal River faults).

The south band of Temiskaming sediments underlie the southern portion of the claims while Keewatin lavas underlie the northern portion.

The formations above are intruded by an old diorite or peridotite and intruding them in turn are numerous dykes mainly acid in composition.

The youngest rocks appear to be the numerous north-south trending diabase dykes.

As the Welsh-Sauve property adjoins the Ryan Lake Mines what has been found there will have a large bearing on it.

Work to May 20th, 1948, when Ryan Lake was optioned to Teck-Hughes Gold Mines Limited, had disclosed by geological mapping, surface trenching and over 12,000 feet of diamond drilling two copper zones occurring in or near a "Major Break" at the Temiskaming-Keewatin Contact.

The "Break" is roughly 400 to 500 feet wide with a zone of highly carbonated and brecciated rocks on the south with a width of over 100 feet. The rest of the "Break" is occupied by a peridotite, often highly serpentized, and in places altered to a talc schist.

Lamprophyre and porphyry dikes intrude into the "Break".

The "Original" or South Copper Zone occupies a strong shear in the peridotite. Diamond drilling on this zone showed for a length of 800 feet, the zone to average 3.744% copper over a true width of 6.75'. Along with the copper occur interesting values in gold, silver and molybdenite. Teck-Hughes bulked all the remaining half of the core from this 800 feet plus some other holes beyond this length and some added sampling and obtained,

Cu.	3.599%	Au	0.03 ozs.
Ag.	0.60 ozs.	MoS ₂	0.309%

North, approximately 200 feet, widespread copper mineralization has been found occurring in acidic lavas, diorites and acid dykes. The best assay over a good width was 1.65% copper /35.4 ft. core length. The true width is thought to be at least 24 feet.

Surface work and diamond drilling show the "Original Zone" to lie either side of a diabase dyke (approximately 100 feet wide). The formations are displaced on the east side of the dyke to the south but the zone continues on line. It is thought that the fault now occupied by the diabase dyke opened up the old E-W shears and afforded the channel for copper solutions to ascend. Some north-south movement appears to have taken place after the diabase dykes came in.

About 100 feet south of the zone a late E-W shear displaces the diabase dyke.

The copper mineralization appeared to be entirely chalcopyrite occurring as stringers, disseminations and replacement.

With the knowledge gained from the work that had been done on Ryan Lake Mines property, it was decided to map in detail the Keewatin-Temiskaming contact and a strip several hundred feet wide on either side. The Ryan Lake baseline was extended across the property to Mistinikon Lake (7900 feet) and cross lines run north and south, where possible, at 400 foot intervals. A few lines were out north and south to the boundaries of the claims. In all, approximately 51,000 feet of line was out in a very rugged country with heavy underbrush.

A strip 3500 feet along the "Contact" was mapped in detail when, owing to the heavy underbrush and deep foliage coming out, it was decided to postpone the mapping until autumn when the leaves had fallen off. At the time of the report the leaves were all on so the accompanying map shows only that portion of the property.

While the dense foliage prevented detailed mapping several days were spent in traversing the property in a general way.

The detailed mapping showed the "Break" at the Temiskaming-Keewatin contact to continue into the Welsh-Sauve property with the same sequence of rocks and faulting. A highly serpentinitized and, in places, highly carbonated and sheared peridotite intruded by several dykes, mainly porphyries. One fresh looking basic dyke or dykes picked up in several places near the south side of the "Break" contains porphyry pebbles or fragments up to 15" long. Cutting all the above are several north-south trending diabase dykes.

The Keewatin is better exposed here and shows dacitic to rhyolitic flows with areas of dioritic rocks, either old basic flows or intrusives.

Several N-S trending faults show up in the mapping with one at the first lake having a displacement of around 600 feet. It is easily discernible from the aerial photos and extends well beyond the Welsh-Sauve claims. A north-westerly fault passes up the third lake and has a throw of around 200 feet.

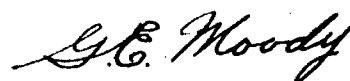
Occurring near the south side of the "Break" is a strong E-W shear that displaces the diabase dykes. At Ryan Lake this fault lies about 150 feet south of their "Original Zone". On Welsh-Sauve the critical area is largely overburdened and where the "Zone" might pass are several draws with sheared and carbonated rocks alongside.

A little chalcopyrite was seen on the N-W side of the first lake in brecciated and highly altered flows. In D.D.H. No. 1, chalcopyrite was seen scattered over about 30 feet of core in an altered porphyry; while in D.D.H. No. 2 a few stringers of chalcopyrite were seen in the diabase.

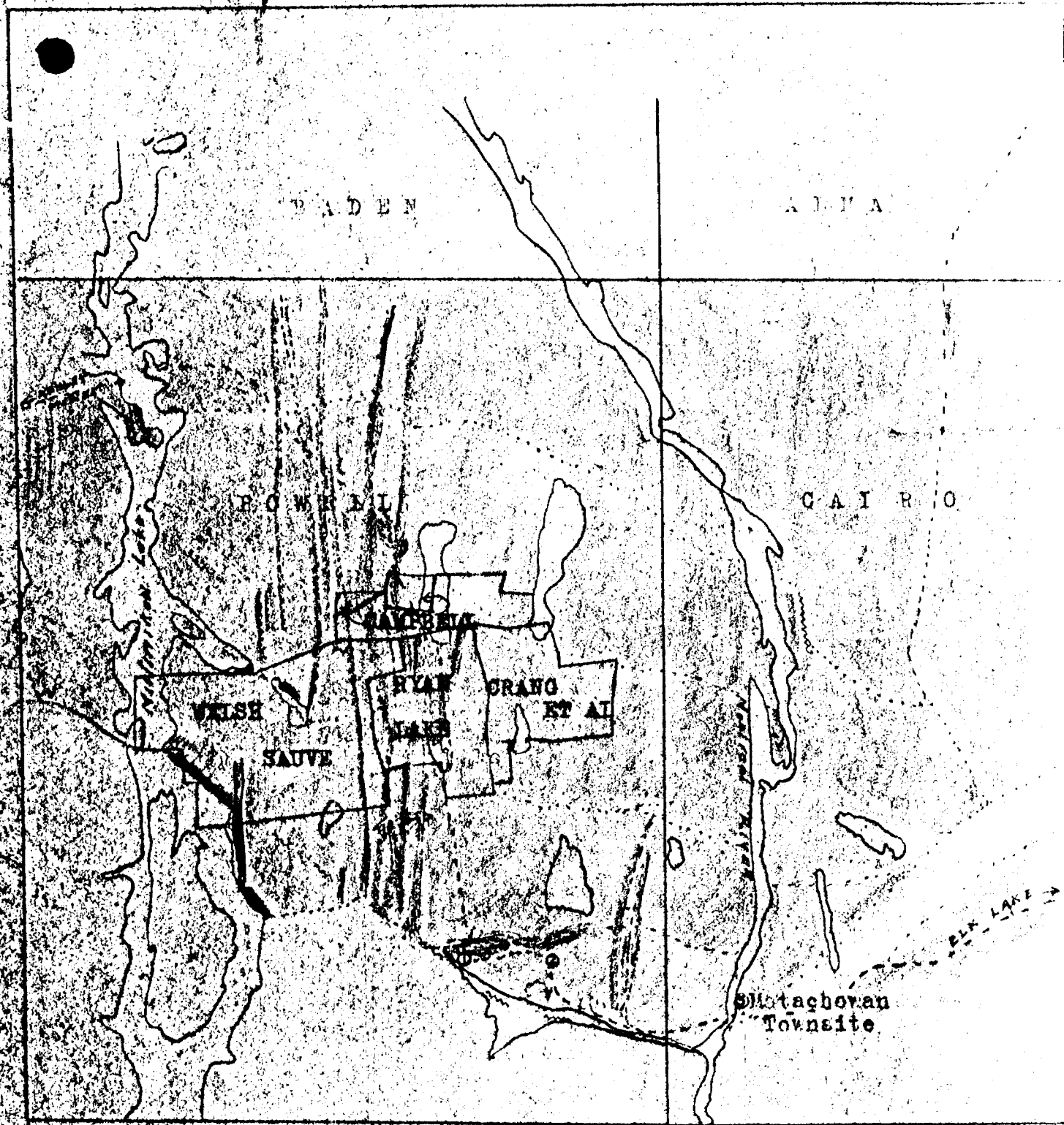
While the dense foliage prevented detailed mapping several days were spent in traversing the property in a general way. This showed the "Break" to follow the Temiskaming-Keewatin contact across the property with a succession of north-south trending diabase ridges and areas of highly altered (serpentinized, carbonated and brecciated) older diorite or peridotite beyond the "Break" noticeably along the north-east side of the third lake and at the south contact of the Temiskaming sediments at the west side of the property.

The "Break" in or near which Ryan Lake has found its copper zones crosses the Welsh-Sauve property for over $1\frac{1}{2}$ miles and lies only 1400 feet away from these "Zones" at its east boundary. Several N-S trending faults that would tend to open up the old east-west shears are known as are several N-S trending diabase dykes, some of which may be occupying faults, similar to the dyke cutting the "Zones" at Ryan Lake. Only a small part of the favourable areas of the claims have been prospected or geologized, and good chances exist for the finding of copper mineralization under conditions similar to Ryan Lake. The property also lies in a gold country and the possibility of gold-bearing porphyries should not be overlooked. On the west side of the small lake on the south boundary a quartz vein with galena occurs and this and the surrounding area should be looked over.

Respectfully submitted,



G. E. Moody, M.E.



LEGEND

- ⊙ - Young - Davidson
- ⊙ - Matachewan Mansol.
- ▭ - Cobalt - Conglomerate
- ▭ - Diabase
- ▭ - Old Diorite - Peridotite?
- ▭ - Syenite Porphyry
- ▭ - Temiskaming Sediments
- ▭ - Keewatin Volcanics

Scale 1 in. - 1 mile

WELSH-SAUVE COPPER GOLD MINES LIMITED

(NO PERSONAL LIABILITY)

1112 Star Building,
Toronto, 1.

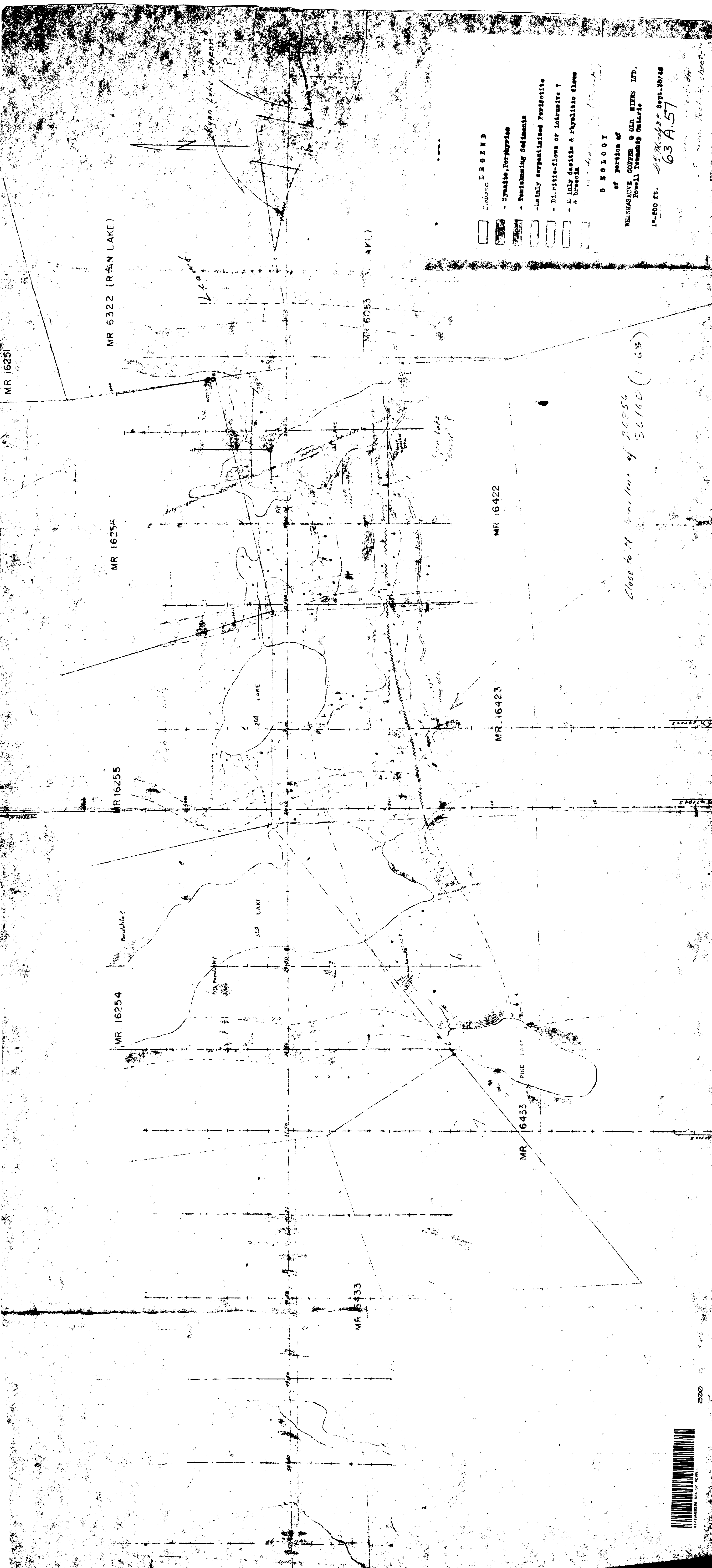
CERTIFICATE:-

I, GEORGE EDWARD MOODY, of the Town of Matachewan, in the Province of Ontario, hereby certify as follows: -

1. That I am a Mining Engineer presently residing at Matachewan, Ontario.
2. That I have a degree in Mining Engineering from the University of Alberta in the year 1931 and that I have been practicing my profession continuously since that time, the last four years as Consulting Mining Engineer.
3. That the following report on the geology of the Welsh-Sauve Copper Gold Mines Limited is based on personal examination of the property; one and a half year as Consulting Engineer on the adjoining property (Ryan Lake Mines) and work on several other prospects in same area. The report and accompanying map of the Ontario Department of Mines entitled "Matachewan Gold Area" by W. S. Dyer, 1934 were also used as a reference.
4. That I did the geological mapping and work referred to in the accompanying report on the dates shown on the work report filed with the Mining Recorder at Elk Lake on 24th September, 1948.

DATED this 30th day of September, 1948.


George E. Moody, M.E.



MR 16251

MR 6322 (RYAN LAKE)

MR 16254

MR 16255

MR 16254

MR 6433

MR 16422

MR 16423

MR 6433

PINE LAKE

MR 6053 (AKL)

- LEGEND**
- Syenite Porphyries
 - Residual Sediments
 - Mainly serpentinized Peridotite
 - Dioritic-flows or intrusives
 - Mainly gabbro & rhyolitic flows & breccia

GEOLOGY

of portion of
 WELLSVILLE COPPER & OLD MINES LTD.
 Town of Township Ontario

1"=200 ft. *W. H. Wood* Sept. 20/48

63 A.57

Close to N. 1/2 sec 10 of T. 26 S. 6 E. 16 W. (1.63)

