

SUMMARY

Under the writer's direction a program of geological mapping and surface prospecting was carried out in the Fall of 1952 on the 13 claim property of the Company in the northwestern part of Garrison Township, Lightning River area, Ontario. This property which is considered an asbestos prospect, adjoins along the north boundary of the Canadian Johns-Manville claims on which recent asbestos ore discoveries have been proven up by diamond drilling in serpentine formation. It is expected that Johns-Manville will proceed with the mining of these asbestos deposits in the near future and that the ore will be treated in the Munro mill of C. J. M.

The writer had previously examined the present property holdings of Colonial Asbestos and conducted a magnetometer survey on the claims. The results of this survey show a strong magnetic anomaly believed to be serpentine along the south boundary of the claims and indicates that the serpentine formation dips north into the Colonial ground. It is strongly recommended that diamond drilling be carried out to explore the favourable serpentine formation for asbestos occurrence, particularly the south part of Colonial claim L-45576.

The purpose of the recent surface program was three-fold:- (1) To map in the rock outcrops with relation to the picket lines for use in locating diamond drill holes; (2) To search for serpentine outcrops or evidence of other magnetic formation which might cause the magnetic anomaly; (3) To prospect for other mineral occurrences, particularly gold.

Submitted with this report is a geological map on a scale of 1" to 200' showing rock outline in detail and the location of recommended diamond drilling. No outcrops of serpentine were found on the property but this formation may occur as bed rock under the overburden at the south end of claim L-45576.

Other rocks examined were greenstone and gabbro, none considered to be sufficiently magnetic to cause the existing anomaly. Early in the prospecting program a quartz vein of interest for possible gold occurrence was discovered on Colonial claim L-56228. This vein was opened up by trenching and rock blasting but did not show gold values although tested for 400 feet in length. Other zones found during the prospecting are of potential interest for gold occurrence. These include quartz veins and shearings.

FOREWORD

A Geomagnetic Report was submitted by the writer June 10, 1952, to Canawide Mines and Minerals Limited. This report covers the present property holdings of Colonial Asbestos in Garrison Township. A geomagnetic map submitted with this previous report shows a strong serpentine anomaly of interest for asbestos occurrence. The anomaly is along the south boundary of the Colonial Property which is a mutual boundary with Canadian Johns-Manville claim holdings. Early in 1952 asbestos ore occurrences were proven up on the Johns-Manville ground by diamond drilling the serpentine formation. These will be mined in the near future by open pit methods and the ore treated in the Munro mill of C. J. M. The prospects are considered good for the extension of this favourable serpentine formation to Colonial ground with the possibility of fibre occurrence.

November 1st, 1952, a program of prospecting and geological mapping was initiated on the Colonial claims. This was carried out by the writer, an assistant engineer and several prospectors. Work was completed December 5th. The results of this work are submitted in the following report and accompanying map on a scale of 1" to 200'.

PROPERTY & ACCESS

The property consists of 13 unpatented mining claims totalling

approximately 500 acres in the northwest corner of Garrison Township, Lightning River Area, Ontario. The claims are recorded as follows:-

145574 - 75 - 76
156223 - 24 - 25 - 26 - 27 - 28 - 29
158662 - 63 - 64

Access is gained by auto drive east from Matheson, Ontario on Highway No. 101 to a point 1 1/2 miles east of the Garrison Township west boundary. From thence a bush road leads from a gravel pit north to the Johns-Manville campsite a mile north of Highway No. 101. During the recent work program this side road was quite suitable for car driving to the point on the map marked Johns-Manville campsite. The driving distance from Matheson is about 25 miles. A draw road out by Feldman Timber Company gives access along the north boundary of the property.

Except for claims 145574 - 75 - 76, and 158664, the property is composed mostly of rock outcropping. Overburden to the south of the claims becomes deep on the Johns-Manville ground but it is not believed to be excessive at the east end of the Colonial property or on the south end of claim 145576 where first Colonial diamond drilling is contemplated. The claims are wooded with second growth poplar, birch, and jack-pine. The recent survey found water of interest for diamond drilling purposes in two springs. These are shown at locations (1) picket line 5W, plus 930' N, plus 80' E, and (2) Picket line 9E, plus 30' N, plus 75' W. These sources are about 2000' from the most remote drill hole No. 1. Other closer sources of water were found and show on the map as creeks or low ground but as spring source for these could not be established, they would be of doubtful value for winter drilling. In the Spring and Fall months surface water is plentiful for drilling purposes.

Activity in the area is confined at the present time to asbestos prospecting and the diamond drill exploration of a copper-zinc showing in the central part of Munro Township. During the past summer two companies, Camray and Rayville, met some success in drilling for asbestos in McCool Township west of the Colonial Property

and on the same general serpentine zone. The area is still considered potent for gold discoveries. On the claims adjoining east of 158664 a copper find was worked in rhyolite formation some years ago and a shaft sunk. This showing however could not be found by the writer.

GEOLOGY

The general country rock in which the Colonial Asbestos claims are located is made up of Keewatin greenstone lava flows. These rocks are folded into anticlinal-synclinal structure with axes trending east-west. A mile south of the Colonial claims some Keewatin sediments occur trending in an east-west direction, associated with the "Dexter-Percupine" faulting. Eight hundred feet east of the north-east corner of the Colonial Property fragmental rhyolite formation crosses the north Garrison boundary in a southeast direction.

The country rock of the area is intruded by four ages of intrusive rocks. The oldest of these is a series of basic to ultra-basic rocks which include the altered peridotites called serpentine, in which asbestos fibre is found. These rocks occur as sill formation and in extensive zones composed of discontinuous lenses. There is often an association of serpentine and gabbro together with the serpentine near the foot-wall or underside of the series. Later intrusive rocks found in the area are Algonian granites and porphyries of which there is a considerable area occurring as a granite boss in the central part of Garrison Township. Two later periods of diabase intrusion are represented by Matachewan and Keweenawian diabase dykes.

On the property of Colonial all the rocks exposed are Keewatin volcanics with the exception of one gabbro occurrence in claim 156227. These volcanics show a north dip and a north facing and an east-west strike. The degree of dip was not observed in outcrop but from geophysical evidence and information on the attitude of

the serpentine locally it is assumed that the volcanics are dipping north at a relatively flat angle of not over 45 degrees. To the south and east of the Colonial property is an east-west zone of gabbro and serpentine. These occur as two adjacent bands and dip to the north with the serpentine being the underlying member. A projection of the strike of these rocks would cross the south half of Colonial 145576. To the north, the gabbro and serpentine rocks probably dip underneath the volcanics exposed on Colonial.

Two systems of rock faulting are found through the Lightning River District. One of these is a system of strike faults of regional extent with associated carbonatized zones. The most prominent of these strike fault zones is located a mile south of Colonial and is known as the Destor-Porcupine fault. Along its length in Garrison Township considerable diamond drilling was done for gold in 1946 - 47 - 48. Crossing the formation of the area in a north-south to northeast - southwest direction is a second system of cross-faults of small offset. Faults of this system are numerous in the neighbourhood of the Johns-Manville ore-body in Munro. It would appear also that at least one of the new Johns-Manville orebodies in Garrison is located along a cross-fault where it cuts the serpentine. On the Colonial property cross-faulting is indicated by the presence of northeast-southwest trending valleys. Geophysical evidence also indicates cross-faulting.

MINERAL DEPOSITS

Asbestos.

Of principal interest for economic mineral possibilities on the Colonial Property at the present time is the chance for asbestos fibre occurrence in the serpentine formation indicated in the south part of the property. A diamond drilling program has been laid out in a series of five holes totalling 2500 feet of drilling for the exploration of the serpentine formation. This formation is believed to dip north under the overlying greenstone on the Colonial claims. General geological

conditions are favourable for fibre occurrence as reported previously and the locations for the proposed drilling show on the accompanying geological map.

GOLD AND BASE METALS

The Lightning River area is considered promising prospecting ground for gold discoveries. In recent years most of the exploration for gold was carried out by large mining companies who directed diamond drilling to the east-west zone of faulting termed the "Destor-Porcupine Break". This zone was well traced through the whole area showing low gold values in many sections and several marginal gold ore deposits which might operate with an increased price of gold. One spectacular drill hole was obtained by Dome Mines in the Destor-Porcupine Break, a mile and a quarter southeast of the Colonial Property. This hole showed over 70 feet of gold ore with considerable visible gold. Further drilling did not check the first hole but undoubtedly more work will be done when interest is renewed in gold exploration. Considering the area in general the opinion is shared by many including the writer, that the more important gold occurrences may be localized by the north-south cross faulting common in the district. It is also quite possible that important gold deposits might be as much as several miles north or south of the Destor Porcupine Break. On the Colonial ground several quartz and shearing locations near cross-faulting were noted and are mentioned under the following heading "Surface Work Program".

The basic and ultra-basic rock formation found in the district mark a likely prospecting area for copper, zinc and nickel occurrence. These rocks are diorite, gabbro, serpentine, and dunite, and follow closely the zone of interest for asbestos exploration. Near the Colonial east boundary a copper find was investigated by shaft development some years ago by a group known as the Boundary Syndicate. The deposit is in fragmental rhyolite formation. An outcrop of this formation is shown on the geological map 800' east of the northeast corner of the Colonial Property

where it strikes northwest-southeast. A base metal investigation is being carried out by diamond drilling at the present time in the central part of Manro Township, by Mr. R. Potter of Matheson. This deposit, which is reported to show high copper and zinc values in some holes, is localized near the contact of rhyolite and gabbro. Other indications, particularly of copper occurrence, have been found in the area, both on surface and during the course of asbestos exploration by diamond drilling. No base metal showings were found during the prospecting of the Colonial ground but the possibility is present where gabbro and serpentine rocks are known.

SURFACE WORK PROGRAM

In conjunction with a geological mapping of the Colonial Property a program of prospecting was carried out. This resulted in the early discovery of a promising quartz vein in the east part of claim L56228. The vein crosses picket line 2nd at footage 470' north where it shows a strike of north 70 degrees east and a dip of 30 degrees north. Considering the good appearance of the vein it was decided to give it a thorough test by surface trenching and rock blasting. This accordingly was carried out and succeeded in tracing a substantial quartz vein two to three feet wide for 400 feet showing pyrrhotite, chalcopyrite, and pyrite mineralization. The vein shows in places a very flat dip to the north, as low as 15 degrees, with a carbonated and sheared hanging wall and footwall mineralized for widths up to two feet. Rock trenches were blasted across the vein at three locations and considerable trenching carried out but no assays returned gold values and the vein should be considered of no further interest.

In the course of the mapping and prospecting the following locations were noted for further investigation. These are listed from west to east across the map and referred to picket lines.

- (A) Picket line 12W, plus 230' N, plus 70' E.
Quartz stringers across an 8' width dipping flat to the north and striking northeast-southwest. These veinlets are close to a cross-fault 200' to the east.
- (B) Picket line 5W, plus 1300' N.
A 5' rust zone striking east-west near a cross-fault. Further prospecting should be done for subsidiary fracturing which might be gold bearing, along both sides of the nearby fault traceable across the property.
- (C) Picket line 4E plus 1750' N.
Carbonated shearing in greenstone striking northwest-southeast near local cross-faulting. A grab sample was taken from this occurrence which did not show gold. As in (B), the nearby faulting shows rust zones localized along it, which should be further investigated.
- (D) Picket line 7K, plus 500' E, plus 50' W.
Carbonated and sheared greenstone. This outcrop probably marks the presence of one of the widely carbonatized strike faults of the district. It appears to cross the property through the overburdened draw to the northwest of the outcrop and under the general overburden to the southeast. It is possibly the largest fault feature on the property and might be gold bearing particularly where intersected by cross-faults.

The above locations are listed as exploration chances for gold occurrences if gold interest becomes active in the immediate area. In general the features of interest observed are localized along the cross-fault locations.

RECOMMENDATIONS

The geological mapping of the Colonial Property has substantiated the conclusions drawn from the geophysical survey. Evidence of rock formation dips indicate that the greenstone flows dip fairly flat to the north which would favour finding the serpentine at shallow horizons at the south end of the Colonial Property. It is recommended that the drilling of holes Nos. 1, 2, 3, 4, and 5, be proceeded with. The locations of holes Nos. 3 and 4 have been changed slightly to facilitate drilling and avoid overburden. While outcrops of serpentine were not found on Colonial ground, it is very likely that serpentine formation occurs as bed rock under the overburden at the south end of Colonial claim L45576 and it should have a good chance of being Bibre bearing. No other rocks were found in outcrop on the property sufficiently

magnetic to cause the strong anomaly showing on the geomagnetic map. This anomaly is assigned to underlying serpentine occurrence dipping north into Colonial ground.

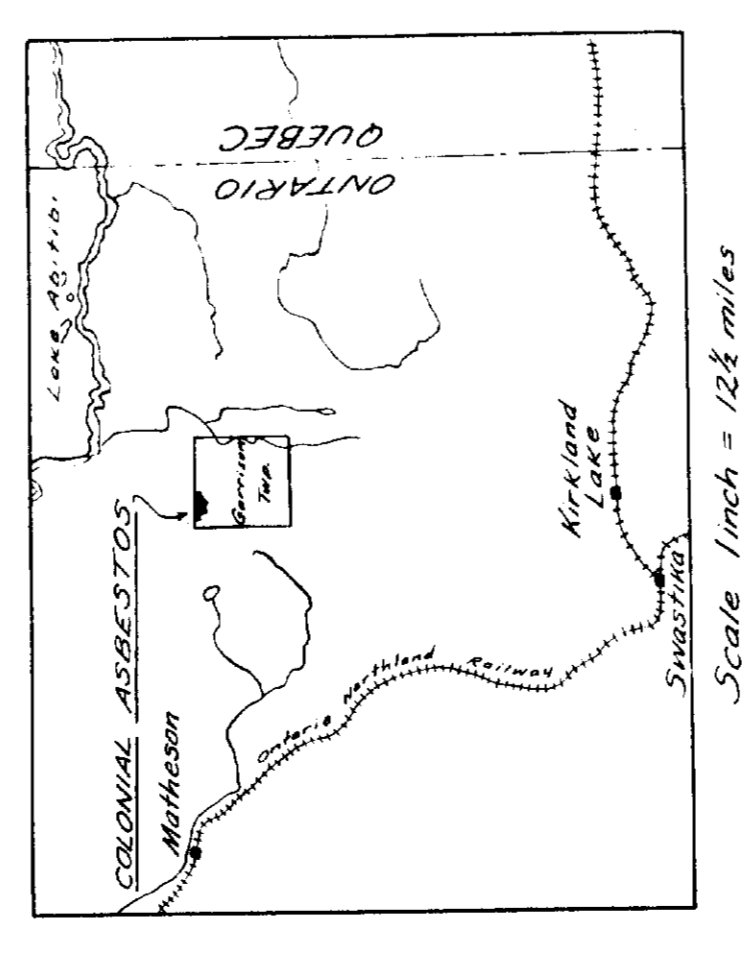
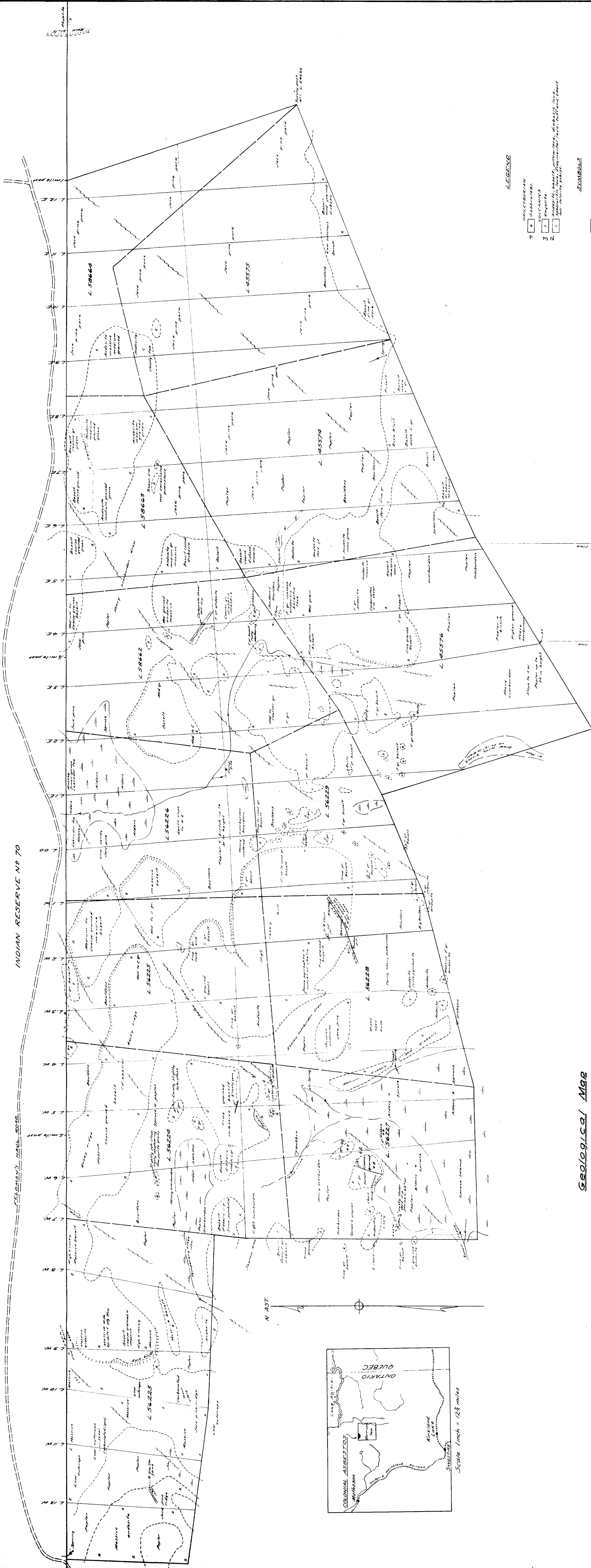
The property shows evidence of mineralization and vein formation along the cross-faults which may be of interest for gold occurrence. While it is not recommended that gold exploration proceed at the present time, it is to be noted that cross-fault locations on the Colonial Property are overburdened depressed zones and not accessible to surface prospecting. Any evidence of gold near them would mark them of interest. Further prospecting and sampling should be carried out in the nearby rocks along their length when gold interest is renewed.

Respectfully submitted by



Halleybury, Ontario.
December 8th, 1952.

E. L. MacVikari, B.A., M.B.



LEGEND

- SYMBOLS**
- 1 Geological boundary, defined, and assumed
 - 2 Boundary of rock outcrop
 - 3 Boundary of new outcrop
 - 4 Boundary of low ground
 - 5 Stream
 - 6 Spring and water dip
 - 7 Spring and dip
 - 8 Diamond drill hole
 - 9 Shear zone
 - 10 Page of A.M.
 - 11 Small creeks, water-courses and springs
- NUMBERS**
- 1 1000000000
 - 2 100000000
 - 3 10000000
 - 4 1000000
- SYMBOLS**
- 1 1000000000
 - 2 100000000
 - 3 10000000
 - 4 1000000

Geological Map
of
COLONIAL ASBESTOS CORPORATION

GARRISON TOWNSHIP - LIGHTNING RIVER AREA - ONTARIO

To accompany Report
by

E.L. MacVeigh B.A., M.S.

SCALE : 1 inch = 200 feet

