PROSPECTUS OF
MILLBANK MINERALS LIMITED
[filed under the provisions of The Securities Act, R.S.O. 1960, c.363]

1. The full name of the Company is MILLBANK MINERALS LIMITED (hereinafter referred to as "the Company"). The head office of the Company is Suite 1512—101 Richmond Street West, Toronto 1, Ontario.

2. The Company was incorporated in the Province of Ontario under Part IV of The Corporations Act, 1960, by letters patent dated the 19th day of September, 1966.

3. The officers and directors of the Company are as follows:

   President and director  IRVING DOBBS
   Vice-President and director  LEONARD HENRY BERK
   Secretary-Treasurer and director  EDWARD LESLIE BAXTER

   IRVING DOBBS
   43 Burbury Crescent,
   Willowdale, Ontario.

   LEONARD HENRY BERK
   B.Sc., P.Eng.
   134 Chiltern Hill Road,
   Toronto 10, Ontario.

   EDWARD LESLIE BAXTER
   19 Burrows Avenue,
   Islington, Ontario.

   Albert Goldman, who is President of the underwriter-optionee Goldmack Securities Corporation Limited (see paragraph 14 hereof) and resides at Apt. 504, 2603 Bathurst Street, Toronto, Ontario, is the promoter of the Company at the present time.

4. The auditors of the Company are STERN, LASS, SHOOM & CO., Chartered Accountants, 801 Eglinton Avenue West, Toronto, Ontario.

5. The Registrar and Transfer Agent for the shares of the capital stock of the Company is GUARANTY TRUST COMPANY OF CANADA, 88 University Avenue, Toronto 1, Ontario.

6. The authorized capital of the Company is $3,000,000 divided into 3,000,000 shares of the par value of $1.00 per share. At the date hereof there are 750,003 shares issued and fully paid up.

7. There are no bonds or debentures outstanding or proposed to be issued.

8. 675,000 shares of the issued shares of the capital stock of the Company are held in escrow with Guaranty Trust Company of Canada, 88 University Avenue, Toronto 1, Ontario, subject to release on the written consent of the Board of Directors of the Company and the Ontario Securities Commission, and subject to transfer, hypothecation or other alienation, only with the written consent of the Ontario Securities Commission.

9. The shares sold for cash to date, the prices and the total cash received therefor are as follows:

   No. of Shares  Price per Share  Consideration
   3             $1.00             $3.00

   Total number of shares sold for cash to date—3
   Total cash received therefor to date—$3.00
   There were no commissions paid on the sale of the above shares
10. No securities, other than shares, have been sold for cash to date.

11. No shares have been issued or are to be issued or cash paid, or is to be paid, to any promoter for services as such.

12. By agreement dated the 14th day of October, 1966, the Company acquired from Albert Goldman aforesaid 18 contiguous unpatented mining claims in Township 144, Sudbury Mining Division, Province of Ontario, more particularly described as being Claim Nos. S.138440-57 inclusive. The consideration paid to Albert Goldman aforesaid was the issue to him of 750,000 shares of the capital stock of the Company of which 90% thereof were escrowed and subject to the provisions of paragraph 8 hereof. No other person has received or is entitled to receive an interest greater than 5% in the share consideration aforementioned.

13. Reference is made to the report of C. T. Ritchie, B.Sc., P.Eng., dated the 28th day of September, 1966, as to the means of access to, known history and the character, extent and condition of previous surface or underground exploration and development work done on the Company’s property described in paragraph 12 of this prospectus. There is no surface or underground plant or equipment on the Company’s property at the date hereof. The present management has not done any work to date nor made any improvements on the said property to date.

14. Under an underwriting-option agreement dated the 14th day of October, 1966, GOLDMACK SECURITIES CORPORATION LIMITED, 100 University Avenue, Toronto 1, Ontario, a registered security dealer (hereinafter referred to as the “Underwriter-Optionee”), on its own behalf underwrote 200,000 shares of the capital stock of the Company at the price of 10 cents per share payable forthwith on the date when the capital stock of the Company is qualified for primary distribution with the Ontario Securities Commission, which date is hereinafter referred to as “the effective date”. In consideration of this underwriting, the Underwriter-Optionee aforesaid was granted the following options on shares of the capital stock of the Company:

200,000 shares at the price of 12½¢ per share to be taken down and paid for within three months of the effective date;
200,000 shares at the price of 15¢ per share to be taken down and paid for within six months of the effective date;
200,000 shares at the price of 20¢ per share to be taken down and paid for within nine months of the effective date; and
200,000 shares at the price of 25¢ per share to be taken down and paid for within twelve months of the effective date.

There are no sub-option or sub-underwriting agreements outstanding or proposed to be given.

Provided in the event of default by the Underwriter-Optionee through failure to exercise an option in the amount of shares, at the price and at the time above set forth, then the option with respect to which default is made and all remaining options shall be terminated and at an end, and the Underwriter-Optionee shall have no further right than to receive delivery of certificates representing the shares paid for prior to default. In the event of default, an amending statement will be filed within twenty (20) days of the date of such default if the shares of the Company are then in the course of primary distribution.

The only person who has a greater than 5% interest in Goldmack Securities Corporation Limited is Albert Goldman aforesaid.

15. Reference is made to the report of C. T. Ritchie, B.Sc., P.Eng., attached hereto, as to the future development and exploration plans of the Company. The management proposes to expend the proceeds from the current sales of securities in carrying out the recommendations set forth in the said report and also for current operating expenses of the Company.
The Company may expend funds on hand in excess of its current and forward commitments for the exploration and acquisition by option or otherwise of additional mining properties of merit, on such terms as the directors deem fit. Any such acquisition shall be subject to the acceptance by the Ontario Securities Commission of an appropriate amendment to the Company's prospectus including an engineer's report, reflecting such acquisition, which amendment shall be filed with the said Commission within twenty (20) days of such acquisition.

No part of the proceeds will be used to invest, underwrite or trade in securities other than those that qualify as investments in which trust funds may be invested under the laws of the jurisdictions in Canada in which the securities offered by this Prospectus may be lawfully sold. Should the Company propose to use the proceeds to acquire non-trustee type securities after primary distribution of the securities offered by this Prospectus has ceased, approval by the shareholders will be obtained and disclosure will be made to regulatory bodies having jurisdiction over the sale of the securities offered by this Prospectus.

Additionally, monies will not be advanced to other companies except to the extent necessary to enable the Company to implement its exploration and development program, as set forth in this Prospectus and any amendment thereto.

16. No preliminary expenses of the Company have been paid to date and are estimated as follows:-

- Organization expenses in the amount of $4,000.00 and in the current year administration expenses will accrue each month at least in the amount of $150.00 a month, which sum is to be paid for accounting and secretarial services. An amount for professional services including legal and audit and also directors' fees for meetings attended cannot be estimated as it will depend on the services performed and directors' meetings held respectively; Development expenses in the amount of $7,000.00.

17. There is no indebtedness intended to be created or assumed which is not shown in the balance sheet of the Company as reported on by Stern, Lass, Shoom & Co., Chartered Accountants, which balance sheet is dated the 14th day of October, 1966, and attached hereto and forming part of this Prospectus.

18. (i) The principal business in which each director or officer has been engaged for the last three years is as follows:-

- IRVING DOBBS has since the month of March, 1961, been President of Dobbs & Company Insurance Limited, and also is a director of Deer Horn Mines Limited, North Briar Mines Limited and Silver Regent Mines Limited;
- LEONARD HENRY BERK has for more than the last five years been employed in marketing research with Ontario Hydro Commission and is also associated with North Briar Mines Limited.
- EDWARD LESLIE BAXTER has been self-employed as a Commercial Aerial Photographer during the past three years and also is a director of Deer Horn Mines Limited, North Briar Mines Limited and Silver Regent Mines Limited.

(ii) No director or officer of the Company, either personally or as a partner in a firm, has or is entitled to any interest, direct or indirect, in any property acquired or to be acquired by the Company.

(iii) The aggregate remuneration paid by the Company since incorporation to directors and officers is nil. The Company does not intend to pay any remuneration to directors or officers as such. The sum of $150.00 a month is intended to be paid for accounting and secretarial services to be rendered during the current financial year. The Company intends to pay directors for all directors' meetings an amount not to exceed Fifty Dollars ($50.00) per meeting.
19. The Company has not paid any dividends to date.

20. Albert Goldman, by reason of the beneficial ownership of securities of the Company as set out in paragraph 12 hereof, is in a position to elect or cause to be elected a majority of the directors of the Company.

21. 75,000 free vendor shares owned by Albert Goldman aforesaid will be offered for sale under this Prospectus at a price not in excess of the offering price of the shares sold under paragraph 14 hereof but the proceeds therefrom will not accrue to the treasury of the Company.

22. There are no other material facts known to the signatories hereto not disclosed in the foregoing.

Dated this 18th day of October, 1966.

The foregoing constitutes full, true and plain disclosure of all material facts in respect of the offering of securities referred to above as required under Section 38 of The Securities Act (Ontario) and there is no further material information other than in the financial statements or reports where required.

DIRECTORS

IRVING DOBBS    LEONARD E. BARTY    EDWARD LESLIE BAXTER

PROMOTER

ALBERT GOLDMAN

To the best of our knowledge, information and belief, the foregoing constitutes full, true and plain disclosure of all material facts in respect of the offering of securities referred to above as required by Section 38 of The Securities Act (Ontario), and there is no further material information applicable other than in the financial statements or reports where required. In respect of matters which are not within our knowledge, we have relied upon the accuracy and adequacy of the foregoing.

UNDERWRITER-OPTIONEE

GOLDMACK SECURITIES CORPORATION LIMITED

Per: Albert Goldman.

AUDITOR'S REPORT

We have examined the Balance Sheet of Millbank Minerals Limited as at October 14, 1966, and have received all the information and explanations which we required.

The accompanying Balance Sheet is, in our opinion, properly drawn up in accordance with generally accepted accounting principles so as to present fairly the financial position of the Company as at October 14, 1966, according to the best of our information, the explanations given to us and as shown by the books of the Company.

Toronto, Canada,
October 17, 1966.

STERN, LASS, SHOOM & CO.
Chartered Accountants.
MILLBANK MINERALS LIMITED
Incorporated under the Laws of the Province of Ontario

Balance Sheet as at October 14, 1966

ASSETS

Cash on hand .................................................. $  3.00
Mining claims and properties:
18 Unpatented mining claims in Township 144, Province of Ontario, acquired for 750,000 shares of the Company's capital stock valued at ................. 75,000.00
Deferred expenditures:
Organization costs (estimated) ................................ 4,000.00
Total Assets ................................................... $79,003.00

LIABILITIES

Accounts payable and accrued liabilities (estimated) ....................... $  4,000.00
Total Liabilities ................................................ 4,000.00

CAPITAL

Capital Stock
Authorized: 3,000,000 shares, par value $1.00 each
Issued and to be issued as fully paid:
For Cash
3 Shares ...................................................... $  3.00
For Mining Claims
750,000 Shares ............................................... $750,000.00
Less: Discount thereon ....................................... 675,000.00 75,000.00 75,003.00
$79,003.00

By agreement dated October 14, 1966, the Company agreed to sell 200,000 shares of its capital stock at 10¢ per share ($20,000.00) payable forthwith on date of acceptance for filing the Company's Prospectus by the Ontario Securities Commission (herein referred to as "effective date") and in addition granted options on 800,000 shares as follows:
200,000 shares at 12½¢ per share payable 3 months from "effective date"
200,000 shares at 15¢ per share payable 6 months from "effective date"
200,000 shares at 20¢ per share payable 9 months from "effective date"
200,000 shares at 25¢ per share payable 12 months from "effective date".

Approved on behalf of the Board of Directors:

"IRVING DOBBS", Director

"E. L. BAXTER", Director
REPORT
ON PROPERTY OF
MILLBANK MINERALS LIMITED
TOWNSHIP 144
SUDBURY MINING DIVISION
PROVINCE OF ONTARIO

Introduction
Following recent predictions that a strong demand for uranium will develop in the near future, considerable attention to the Elliot Lake Uranium Area has recently been given by mining interests. This report assesses the possibilities of finding ore on a recently acquired property in that mining camp.

Summary
Millbank Minerals Limited holds eighteen mining claims in the Elliot Lake Uranium Area, covering ground which is not to have undergone a systematic search for mineralization of economic interest. A programme of exploration is recommended for the claim group.

Geological literature on the area does not mention direct evidence of mineralization on the property, neither do the available records of the sporadic work performed on the claims during previous years.

However, no tests have been made on the major portion of the property. It is suggested that magnetic and electromagnetic surveys be carried out to examine the base metal possibilities and that one diamond drill hole be put down in the center of the claim group to a depth of some 1,500 feet to test the horizon favourable for the deposition of uranium bearing mineralization.

Property
Eighteen contiguous, unpatented mining claims, numbered S138440 to S138457 inclusive, comprise the property of approximately 720 acres, which is held by Millbank Minerals Limited.

Location
The property is located in the southeastern quarter of Township 144, which is situated within the Mississagi Provincial Forest, Sudbury Mining Division, District of Algoma in the Province of Ontario. The northwestern corner of the claim group lies near the east end of Quirke Lake, while its approximate center coincides with the east end of Teasdale Lake.

Access
Situated ten air-miles northeast of Elliot Lake, the property is accessible from that town by means of vehicles using Highway 108 and local mining roads that terminate on the shore of Quirke Lake, which provides access by boat to the property. Highway 108 connects with the main transportation systems of Ontario.

Topography, Vegetation, Culture
A small stream traverses the northern claims. About fifteen percent of the property is occupied by lakes. Gentle hills rise 200 feet above the water. Barren rock exposures are numerous in the widespread forest of second growth birch, poplar, and balsam fir.

Though located near mining developments and summer cottages on Quirke Lake, the property itself lacks roads, buildings and cultural impediments to exploration work. The surface rights to the lake frontages are reserved by the Department of Lands and Forests.
History of the Elliot Lake Uranium Area

During the century following the discovery of copper on the shore of Lake Huron’s North Channel in 1846, the general locality was prospected for gold and base metals without spectacular mining achievements west of Sudbury. In 1948 and 1949 radioactive pyritiferous conglomerate was found in Long Township. Geological examination of the conglomerate and studies of the uraniferous surface minerals led to minor staking in 1952 and to a major programme of acquisition in the following year, when diamond drilling indicated ore below the leached surface exposures.

At that time the demand for uranium was high, and during a short period of rapid exploration and development nine contracts for the supply of uranium oxide to the Canadian government were awarded to mines of the Elliot Lake area. Fulfillment of contracts and overproduction, coupled with an uncertain future demand, resulted in the curtailment of operations and in corporate mergers. At present only three mines, operated by Denison Mines Limited and Rio Algom Mines Limited, are producing uranium oxide concentrates from the Elliot Lake deposits.

During recent years many mining claims in the area expired. In 1965 and 1966 a more optimistic view on the future of uranium again stimulated property acquisitions.

History of the Property

The entire property and the surrounding locality were first staked in 1953. At that time the western part of the present group of claims was held by Panel Consolidated Uranium Mines Limited and managed by Technical Mine Consultants Limited, whose geologists brought about the early field successes in the area. Eventually the old claims expired for want of sufficient assessment work, and in 1966 the present property was re-staked. Millbank Minerals Limited then acquired the group of claims.

Exploration Work Performed

No work has been attempted in recent years, and no assessment work has yet been done on the present claims.

In August 1953, Aeromagnetic Surveys Limited, Toronto, performed magnetic intensity and radioactivity surveys using airborne instruments over the Panel group, which comprised a part of the property discussed in this report. It is possible that the old claims were later subjected to ground radioactivity prospecting, at least in a reconnaissance if not systematic fashion, although no records are available to substantiate this. In all probability neither ground magnetic, electromagnetic, nor gravity surveying was conducted over the claim group.

Three diamond drill holes were put down on old Claims No. S67141 and S67142, which roughly correspond to the present claims that are numbered S138440 and S138441 and form part of the property. In February 1955, a steep diamond drill hole collaring on old Claim No. S138444, was sunk to a depth of 835 feet. The results of these holes are discussed later in this report.

The Uranium Market

The market for uranium concentrates has been and is subject to political control. At present, in anticipation of future demand, Canadian production exceeds consumption. In Canada during 1965 only 4,300 tons of uranium oxide were produced, chiefly at the Elliot Lake camp, though the operating and dormant mines together are capable of producing about 16,000 tons annually. The Canadian price is $4.90 per pound of uranium oxide (U₃O₈).

It has been estimated that the electrical energy requirements of the Free World will double every ten years, which means that in the early 1980's the electrical power consumption will be four times as great as at present. To meet such requirements the water power and the conventional fuels for electrical generators will probably be supplemented by uranium. An
annual consumption of 12,000 tons of uranium oxide may be essential by 1970, 25,000 tons by 1975, and between 35,000 and 50,000 tons by 1980. As the total annual production rate of the Free World approximates 15,000 tons at present, an increase can be predicted for early 1970.

The United States uranium ore reserves, though adequate for the immediate future, and the South African gold mining industry's by-product uranium, cannot be expected to meet the anticipated future demand. Canadian production, to be derived from the known ore reserves and the possible ore of partially explored deposits, will increase and cover Western requirements for a few years to come, but before 1980 production from mines that as yet have not been discovered will have long been necessary if an estimate of annual Free World consumption of 35,000 to 50,000 tons is correct. Considering a minimum consumption rate of 35,000 tons in 1980 and an arbitrary average ore grade of 0.1% U₃O₈, it is seen that about 35,000,000 tons of ore must be mined and treated annually. The known reserves, capable of supplying only 25,000,000 tons of ore annually, must be increased by a minimum of 10,000,000 tons each year. Obviously the search for new uranium deposits should be intensified.

Economic Geology

In the Elliot Lake Area a dozen uranium "ore bodies" have been found. About 200,000,000 tons of "ore" with an average grade slightly better than 0.1% U₃O₈ comprise the developed potential. All of it occurs in quartz-pebble conglomerate beds of the Lower Mississagi Formation (Matinenda Formation), which is not mineralized throughout its full extent. Most of the ore is confined to the Quirke Lake Syncline.

Shipments made in 1965 by the three operating Elliot Lake mines totalled 3,365 tons of uranium oxide.

One copper mine is currently producing in Spragge Township, and three other mines once produced copper in Salter Township. Numerous copper showings and a few nickel, lead, and gold occurrences are known in the surrounding region. The base metals are not genetically or structurally associated with the uraniferous deposits.

Geology of the Elliot Lake Uranium Area

The consolidated rocks of the Elliot Lake Uranium Area are of Pre-Cambrian Age. The oldest, the Archean greenstones and granites are overlain unconformably by Proterozoic sedimentary rocks.

Before the sediments were deposited, the Archean rock surface had been eroded, in some places left exposed, and in other places mantled with disintegrated rock products (regolith). The old surface was probably irregular, so that subsequent deposition of sediments in Proterozoic times was uneven, heavy here and light there, missing elsewhere, and further complicated locally by changing deltaic conditions and regionally by uplift, subsidence, and eventual deformation. The geological disturbances, however, were simple in comparison with those of most complex Pre-Cambrian localities, and a generalized conception of the stratigraphy and structure is presentable.

The uraniferous quartz-pebble conglomerate was laid down in lenticular beds either directly on the bare Archean rock and regolith or along with the sedimentary equivalents of quartzite, arkose, greenstone conglomerate, argillite and greywacke. These latter beds range in thickness from hundreds of feet to an inch, the uraniferous quartz-pebble conglomerate beds seldom more than sixteen feet. Thinning toward the margins is a prominent feature. The members of this formation have been termed the Matinenda Formation or the Lower Mississagi Formation of the Bruce Group of the Huronian System.
Layers of variable thickness of the younger Bruce Group and Cobalt Group rocks of Huronian age overlie the uraniferous formation, all of which have been subjected to fairly gentle faulting, folding and metamorphism and have been invaded by still younger plutonic intrusives.

See Table of Formations.

In general the dip of the sedimentary beds is slow and fairly uniform, with local exceptions adjacent to minor faults. The broad structure can be described as a shallow westerly plunging syncline on the north with a parallel anticline on the south, the favourable uraniferous beds of the latter having been removed by erosion except on the flanks. As a thrust fault terminates the south limb of the anticline, most of the hospitable formation occurs in the syncline.

### TABLE OF FORMATIONS

#### CENOZOIC

- **Recent**
  - Swamp, forest and water deposits
- **Pleistocene**
  - Sand, gravel and clay

#### PRE-CAMBRIAN PROTEROZOIC

- **Keweenawan**
  - Diabase, gabbro, diorite, and dikelets
  - (Intrusive Contact)
- **Huronian**
  - Cobalt Group
  - Gowganda conglomerate, quartzite and argillite
  - (Unconformity)
- **Bruce Group**
  - Serpent quartzite and conglomerate, Espanola limestone and greywacke, Bruce conglomerate
- **Mississagi Group**
  - Upper Mississagi feldspathic quartzite and arkose
  - Middle Mississagi greywacke, argillite, siltstone and conglomerate
  - Lower Mississagi argillite, siltstone, greywacke, feldspathic quartzite, arkose, greenstone conglomerate and quartz-pebble conglomerate

#### PRE-CAMBRIAN ARCHEAN

- **Granitic Regolith**
  - Algoman granite, granodiorite, granite porphyry
  - (Intrusive Contact)
- Basic metavolcanics and lean iron formation.

### Geology of the Property

The property occupies a portion of the north limb of the Quirke Lake Syncline. The sequence of sedimentary formations to be encountered during a hypothetical traverse from the south to the north boundary are: Serpent, Espanola, Bruce conglomerate, Upper Mississagi quartzite and arkose, Middle Mississagi argillite, siltstone, greywacke and conglomerate, and possibly, but not necessarily, the Lower Mississagi Formation with or without its favourable quartz-pebble conglomerate beds. Further north, the Archean basement granitic rocks occur. The Proterozoic sedimentary formations of the property have been intruded by Keweenawan diabase, gabbro, and diorite.
The quartz-pebble conglomerate that is favourable for uranium occurrences would be found at very shallow depth near the north boundary, where it would lie immediately below unconsolidated overburden, and at gradually increasing depth toward the south boundary, where it might lie 2,500 feet below the surface.

Three early diamond drill holes on Conecho Mines Limited claims immediately west of the property and one hole on the mutual boundary failed to intersect appreciable radioactive material. A fifth hole, labelled C-4 by Conecho Mines Limited, encountered six feet of quartz-pebble conglomerate grading .028% U₃O₈. As this would be sub-marginal “ore”, it must be stated that no ore has yet been found in the immediate vicinity of the property. Three other holes, located on what are now Claims No. S138440 and S138441 of the property itself, were drilled by Panel Mines Limited in February 1954. The results were discouraging. An isolated hole near but outside the southeastern corner of the property was devoid of uranium mineralization. All drill holes penetrated through the sedimentary rocks to the Archean basement. Locally the favourable quartz-pebble conglomerate appears to be largely missing from its stratigraphic position. Undetected lenticular beds, however, may occur between the widely spaced diamond drill holes, and some may possibly be uraniferous.

Conclusions
(1) The property covers a portion of the north limb of the Quirke Lake Syncline of the Elliot Lake Uranium Area and may possibly contain undiscovered lenticular beds of uraniferous quartz-pebble conglomerate.
(2) Large bodies of basic and intermediate intrusives occur on the property and may possibly be genetically associated with undiscovered sulphide deposits.
(3) Previous ground work on the property was probably confined to reconnaissance examinations and limited diamond drilling.
(4) The property merits exploration for base metals and uranium.

Recommendations
Phase I
(1) That a system of parallel picket lines, spaced 400 feet apart and running north and south to the boundaries from a base line to be cut through the center of the property, be established with stations marked at intervals of 100 feet.
(2) That a vertical intensity magnetic survey be performed over the entire gridsystem with readings taken at all stations.
(3) That an electromagnetic survey, using portable equipment of the Ronka, Sharpe, Magniphase or Crone type, be conducted over all traverse lines.
(4) That any promising anomalies be tested by trenching or diamond drilling after geological examination of the sites.

Phase II
(1) It is recommended:
That, independently of the geophysical surveying, one vertical diamond drill hole be bored down to the Archean basement rocks at the center of the property, the depth to be approximately 1,500 feet.

Estimate of Costs
It is estimated that an expenditure of approximately $7,000.00 be required to complete the geophysical survey's outlined for Phase I and that some $18,000.00 be necessary to execute Phase II. No estimate can be given for testing of geophysical anomalies by trenching or diamond drilling at this time, as the outlay required would entirely depend on the nature of the geophysical results.

Respectfully submitted,
SULMAC EXPLORATION SERVICES LIMITED
“C. T. Ritchie”
TORONTO, Ontario,
September 28, 1966.
C. T. Ritchie, B.Sc., P.Eng.
REFERENCES

GILCHRIST, W. M.,
JOUBIN, F. R., et al,
LANG, A. H., et al,
RENGEL, J. C.,
ROSCOE, S. M.,
ROBERTSON, J. A.,
SIMPSON, R. A.,
MAP 155A,
MAP 41J,
MAP NO. P.304,
PUBLICATION NO. 1970,
PLAN NO. M.1216,

Structural Geology of Canadian Ore Deposits, Sixth Commonwealth Mining and Metallurgical Congress, 1957.
Canadian Deposits of Uranium and Thorium, Economic Geology Series No. 16, G.S.C., 1962.
Lake Huron Sheet, Canadian Dept. of Mines, 1935.
Blind River, G.S.C., 1925.

CERTIFICATE

I, Cicero Theodore Ritchie, of Metropolitan Toronto, County of York, Province of Ontario, hereby certify:
(1) That I am a geologist and reside at 42 Cameron Crescent, Burrough of East York, Metropolitan Toronto, Province of Ontario.
(2) That I studied physics and geology and graduated in 1938 with the degree of Bachelor of Science.
(3) That I am a member of the Association of Professional Engineers of the Province of Ontario, (Mining Branch).
(4) That I have been engaged in mining exploration and have been practising as a mining geologist for more than twelve (12) years.
(5) That I do not have nor expect to receive any direct or indirect interest in the property discussed in this report or part thereof, nor in the securities of MILLBANK MINERALS LIMITED.
(6) That, while I did not actually visit the property itself, this report is based on my personal knowledge of the Elliot Lake Uranium area, on information obtained through an employee of Sulmac Exploration Services Limited who inspected the property, on pertinent publications of the governments of Canada and Province of Ontario, and on the extant records of work performed on the property.


"C. T. Ritchie"
C. T. Pitchle, B.Sc., P.Eng.
SUMMARY AND RECOMMENDATIONS

A programme of electromagnetic, magnetic and radiometric surveying was completed on the property of MILLBANK MINERALS LIMITED, Township 144, Ontario.

The geophysical investigation located a number of small magnetic highs and two scintillator anomalies. No electromagnetic conductors were detected.

No direct association is evident between the magnetic and scintillator anomalies.

The radiometric anomalies may be caused by potassium, uranium or thorium, although certain ambiguity as to the causative sources exists, as the area is covered with snow and possibly overburden.

A geological investigation is recommended. This would attempt to clarify the cause of the anomalies as well as provide a systematic check for any possible evidence of disseminated sulphide mineralization at surface. An estimated expenditure of $3,900.00 would be required.

INTRODUCTION

During the period January 11 to February 4, 1967, Salma Exploration Services Limited conducted vertical loop electromagnetic, magnetic, and radiometric surveys on the property of MILLBANK MINERALS LIMITED, Township 144, Sudbury Mining Division, Province of Ontario.

PROPERTY LOCATION AND ACCESS

The claim group is situated some ten air miles northeast of the town of Elliot Lake, on latitude 47° 27'N, longitude 82° 50'W. Portions of Teasdale and Ouellette Lakes as well as the eastern tip of Quirke Lake lie within the property.

The area surveyed consists of eighteen contiguous unpatented mining claims listed as follows:

S138440 to S138457, inclusive.

Access can be made by aircraft, or by vehicles using Highway 108 and local mining roads that terminate on the shore of Quirke Lake. There the final lap of the journey is completed using either a boat in summer or a skidoo or similar vehicle in winter. This type of transportation involves approximately fifteen miles of road-travel and some 2.5 miles of lake-travel.

PURPOSE

Lenticular beds of uraniumiferous quartz-pebble conglomerate may possibly occur under the northern claims of the group, as this section covers a portion of the northern limb of the Quirke Lake syncline in which the uranium beds have been known to occur. Moreover the property contains rock types of basic and intermediate composition that may be genetically associated with sulphide deposits. Thus an electromagnetic survey was conducted to try and detect any lenses or bands of sulphides, which may occur on the property. The scintillator survey was
carried out to test for radioactive materials. A magnetometer survey was conducted coincidentally to examine the precise correlation, if any, of E. M. conductors, scintillator anomalies, and magnetic rock units and to determine, if any structure exists that might have been enriched with sulphide or uranium mineralization.

GEOLOGY
A study of Geological Report No. 4, on the "Geology of Townships 143 and 144", by James A. Robertson, and published by the Ontario Department of Mines, indicates that the northern extremity of the property may overlay the Lower Mississagi formation, which may contain uraniferous quartz-pebble conglomerate beds. The claim group also contains proterozoic sedimentary formations such as the Espanola limestone and graywacke, the Bruce limestone and conglomerates, the Upper Mississagi quartzite and arkose, the Middle Mississagi argillite and conglomerate and the Lower Mississagi graywacke, arkose, quartzite, and uraniferous conglomerate. Keweenawan diabase, gabbro and diorite, which may be favourable sources of sulphide mineralization, then intruded the aforementioned sedimentary sequences.

SURVEY SPECIFICATIONS
Electromagnetic Survey
The basic principle of any electromagnetic survey is that when an electrical conductor is subjected to a primary alternating field, a secondary current is induced in the conductor. This in turn produces a secondary alternating field, which together with the primary field, causes a resultant field of different amplitude and phase from the primary field. Thus, a conductor would be indicated by such distortions of the primary field.

This electromagnetic survey was carried out employing a Squires vertical-loop electromagnetic prospecting unit. The primary field was set up by suspending a large triangular transmitting coil, fed by a portable generator, vertically from a mast and orienting it so that it is pointed at the receiver coil position. The primary field consists of an induced alternating electromagnetic field of approximately 0.000 c.p.s. over an area of approximately 2,000 feet by 2,400 feet with the transmitter centered within this area.

The receiver coil is then tilted about a horizontal axis until a minimum signal is obtained and the degree and direction of tilt or "dip angle" is measured by means of an attached clinometer. If there is no induced secondary field present, a minimum signal will be obtained when the receiver coil is in the horizontal position, so that any tilt or dip is indicative of a secondary field.

Magnetometer Survey
The magnetometer survey was carried out using a Sharpe MF-1 Fluxgate Magnetometer. This measures variations in the vertical component of the earth's magnetic field to an accuracy of ±10 gammas. Corrections for diurnal variation were made by tying-in to previously established base stations at intervals not exceeding two hours.

Scintillator Survey
A Deluxe Scintillator, Quality Instruments Precision Model 111B was used for this survey. This instrument measures the intensity of the gamma radiation at any given field survey station. Its operation is based on the principle that a flash of visible light, or light photons are released when a gamma ray collides with a phosphor. These light photons in turn hit the cathode of a photo-multiplier tube which in turn produces an output pulse, which is recorded on a ratemeter in milliroentgens per hour.
SURVEY DATA

The grid system was cut prior to the geophysical survey. It consisted of north-south lines turned off every 400 feet from an east-west base line. Pickets were established at 100-foot intervals.

Reconnaissance readings were taken every 100 feet along the traverse lines with the electromagnetic, magnetic and scintillator instruments. Detail work with the magnetometer and scintillator consisted of intermittent 50-foot readings and in some cases with the scintillator 25-foot readings were taken to define the peak point of the anomalous area. The number of readings for each specific instrument is tabulated as follows:

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Survey</th>
<th>Number of Readings</th>
</tr>
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<tr>
<td>Vertical Loop E.M.</td>
<td>(1) Reconnaissance</td>
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<tr>
<td></td>
<td>(2) Detail</td>
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<tr>
<td></td>
<td>(2) Detail</td>
<td>132</td>
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</table>

The results of the survey are presented on the accompanying maps at a scale of 200 feet to one inch. The magnetometer and scintillator values are presented in the form of contour maps. The vertical loop electromagnetic results both reconnaissance and detail are plotted on the magnetic contour map.

A composite profile along line 44W showing approximate relative elevations of the various stations, the magnetometer and scintillator readings, and a cross section of the various rock types as noted on the Ontario Department of Mines Map No. 2002, has been included at the rear of this report.

DISCUSSION OF RESULTS

The magnetic intensity over the surveyed area is relatively uniform. Little or no variation accompanies a change of rock type. Background for the surveyed area is approximately 500 gammas. Several highs of 500 gammas above background were recorded. These are the areas showing the highest concentration of contours on the map. The magnetic high near the end of Guellette Lake can possibly be attributed to a magnetic enriched diabase dyke. There is also a slight increase in magnetic intensity east of line 32W along the Serpent River. This is the area in which the quartz-pebble conglomerate, that has been known to be favourable for uranium occurrences, should be found. Most minor variations obtained can be attributed to changes in overburden thickness and susceptibility of the bedrock.
From the results obtained by the scintillator survey, the background radioactivity level was determined to be approximately .05 milliroentgens per hour. Two anomalous areas which may be following a south-east trend were located. These are designated by numbers 1 and 2. Area No. 1 has a high of .205 milliroentgens or approximately 25,000 counts per minute (c.p.m.) and Area No. 2 a high of .225 milliroentgens per hour or 28,000 c.p.m. Part of the anomaly in Area No. 2 may be due to erratics in the riverbed. If this is not the case then the anomaly may increase in intensity to the north of the property boundary, and could be caused by a uranium occurrence. Correlation with the geological map No. 2002 indicates that the favourable quartz-pebble beds may in fact fringe or lie to the north of the property boundary. Further examination of these anomalies shows that, because the instrument has a threshold level of .01 MeV and is thus capable of detecting low energy radiation, they may be due to potassium in the form of acid dykes rather than uranium or thorium. No magnetic or electromagnetic anomaly is associated with Areas No. 1 and 2.

The vertical loop electromagnetic survey did not indicate any conductors on the property. It is thought that the results obtained indicate an absence of massive sulphides in the area surveyed down to a depth of 390 feet, the depth limitation of the instrument. The lack of a geophysical response indicative of massive sulphide mineralization does not, however, preclude the possibility of disseminated sulphides being present on the property.

CONCLUSION

Several small magnetic highs were found, however, with no associated scintillator or electromagnetic anomalies.

No vertical loop electromagnetic conductors were detected in the survey area.

Two scintillator anomalies were located. Such anomalies could be caused by potassium, uranium or thorium. However since the anomalies are shielded by some three to four feet of snow and possible overburden an accurate evaluation cannot be made at the present time.

Therefore it is recommended that a programme of geologic mapping be undertaken. The purpose would be two-fold in that it would endeavour to determine the cause of the scintillator anomalies, and would check for possible evidence of disseminated sulphides at surface. The execution of this recommendation would require an estimated expenditure in the order of some $3,900.00.

Further investigation of the property should then depend upon conclusions drawn from correlation of the geophysical and geological information.

Respectfully submitted,
SULMAC EXPLORATION SERVICES LIMITED

G. E. White, B.Sc.,
Geophysicist.

TORONTO, Ontario,
February 15, 1967.
CERTIFICATE

TO WHOM IT MAY CONCERN:

I, GLEN ELMO WHITE, of the City of TORONTO, in the Province of Ontario, hereby certify:

1. THAT I am a Geophysicist and Geologist and reside at #1108 - 500 Dawes Road, TORONTO 16, Ontario.

2. THAT I studied Geophysics and Geology and graduated from the University of British Columbia with the degree of Bachelor of Science.

3. THAT I have been engaged in Mining Exploration for five years.

4. THAT I do not have, nor do I expect to receive either directly or indirectly, any interest in the property, or in the securities of MILLBANK MINERALS LIMITED.

5. THAT this report is based on information derived from a geophysical survey carried out by Sulmac Exploration Services Limited, and geological publications by the Ontario Department of Mines.

DATED this 15th day of February, 1967.

G. E. White, B.Sc.,
Geophysicist.
GEOLOGICAL REPORT ON PROPERTY OF

MILLBANK MINERALS LIMITED

TOWNSHIP 144, SUDBURY MINING DIVISION
DISTRICT OF ALGOMA, PROVINCE OF ONTARIO

PRECIS

During the period February to June of 1967, magnetic, electromagnetic and scintillation surveys were carried out over the property. Following these surveys a programme of geological mapping was conducted to currently evaluate the merits of the holdings. The magnetic and electromagnetic surveys did not detect or delineate any areas of particular interest. The scintillation survey indicated two anomalous areas, however, these proved to be of minor consequence when investigated on the ground, i.e. radioactive erratics and a thin arkosic development of minor radioactive character.

Diamond drilling in surrounding areas has revealed the presence of the favourable basal conglomerate however significant mineralization was not detected.

It is therefore suggested that testing of the property by diamond drilling not be pursued unless further work along the local synclinal structure produces results of economic interest in the immediate vicinity of the claims. In an endeavour to obtain relevant information on current developments in the area, it is recommended that a geological study be undertaken for some time, which will compile and correlate data, as they become available. The cost of such a service is estimated to be approximately $700.00.

PROPERTY

The property consists of some eighteen unpatented contiguous mining claims situated in Township 144, Sudbury Mining Division, Province of Ontario. The claims are numbered S138440 - S138457 inclusive and are held by Millbank Minerals Limited.

LOCATION AND ACCESS

The claim group is located some twenty-four air miles NE of Blind River, Ontario, and ten miles NE of Elliot Lake, Ontario. The north margin of the claim group coincides with the north shore of the East Arm of Quirke Lake and north shore of the Serpent River. The south boundary of the group lies along the south shore of the east end of Ouellette Lake.
Access is afforded by means of Highway 108 through Elliot Lake and a number of mine roads terminating at several points on Quirke Lake, thence by boat to the north portion of the property or by portaging overland to Ouellette Lake or Teasdale Lake to reach the south and middle portions of the property respectively. During winter these areas are well travelled using snow tractors instead of boats.

The most convenient access is afforded by air utilizing the service operated by Lauzon Aviation Limited operating Beaver and Cessna aircraft out of Alpoma Mills, some eight miles east of Blind River, Ontario.

TOPOGRAPHY

In general the surface is represented by long, low profile, well glaciated hills or ridges with their long axes approximately E-W. The intervening low areas are represented by the Serpent River, Quirke Lake valley, Teasdale Lake and Ouellette Lake from north to south respectively. Minor beaver ponds, swales and swamps occur near lake margins. The elevation of Quirke Lake is 1192. A.S.L. and the highest hill along the east margin of the property one claim length north of Ouellette Lake is approximately 1400 feet A.S.L.

Vegetation cover consists of sub-commercial second growth birch, pine and spruce with intervening areas of alder, willow and hardwood scrub. Usually the higher areas are devoid of overburden and afford abundant rock outcrop for examination. Over the lower areas, overburden, consisting of unconsolidated glacial debris and minor soil, may reach depths of one hundred feet.

With the exception of minor overgrown trails and portages the property is devoid of roads or transport amenities.

GENERAL GEOLOGY

The oldest known rocks underlying the area consist of Alumian Granite of Archean age, which form the basement. Unconformably overlying the granite basement occur an extensive series of metamorphosed sediments referred to as the Bruce Group of Huronian age. These sediments laid down over the Archean basement have been surprisingly little disturbed so that we may with ease classify them, and trace their extent over great distances. Structural features such as current and graded bedding are well preserved. Of primary interest in the Elliot Lake area is the Lower Mississagi Conglomerate of the Mississagi Series. This member, where present, may host economic uranium mineralization.

Later sills and dykes of Nipissing Diabase, represented usually by a quartz-diorite, have intruded the earlier granite and sediments. These intrusives made entry along zones of weakness i.e. faults and bedding planes, and on occasion may have sulphide mineralization associated with them.
TABLE OF FORMATIONS

| Unit                        | Lithology                        | Age
<table>
<thead>
<tr>
<th></th>
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<th></th>
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<td><strong>PROTEROZOIC</strong></td>
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<td>Olivine diabase</td>
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<tr>
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<td></td>
<td>Arkose + U--- conglomerate</td>
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<tr>
<td>Keewatin</td>
<td>Volcanic and sedimentary rocks</td>
<td></td>
</tr>
</tbody>
</table>

11
GEOLOGY OF PROPERTY

The property lies along the north limb of the Quirke Syncline. The synclinal axis lies along the south bay of Quirke Lake, through Halfmoon and Lizotte Lakes and has a slight westerly plunge. To the north the limb of the syncline is interrupted by the Quirke Lake fault — the anticlinal portion of the structure has been eroded away.

Contact between the Algoman granitic basement and the Middle Mississagi conglomerate is to be found immediately north of the north boundary of the property. The granite is medium to coarse grained, pale green to brick red in colour and traversed by random joints and fractures. The Middle-Mississagi conglomerate consists of a predominantly rusty sandstone with inclusions of granite, greenstone, quartz, usually well rounded. Current bedding may be seen in the matrix.

Immediately above the conglomerate occurs a silty-greywacke or argillite. The bedding laminations are accentuated by iron oxide and frequently the laminations are crinkled by small scale folding at right angles to the regional strike. Also, minor intraformational and crosscutting quartz veins containing disseminated pyrrhotite were observed.

The Upper Mississagi member of the series is represented by widespread beds of quartzite. This former sandstone is medium grained and exhibits a range of colour from grey, green through pink to a brick red; the latter representing sporadic arkosic developments. Bedding is usually clearly visible and the dip and strike are reasonably consistent at 21° SW and 120° respectively. The arkosic member, usually only a few inches thick, is occasionally radioactive.

Continuously overlying the quartzite occurs the Bruce Conglomerate. Pebbles of granite, greenstone, quartz lie in a matrix of fine grained, dark, silty, silty material. The Bruce Conglomerate occurs across the central part of the property.

The Bruce Conglomerate is overlain by the Bruce Limestone. The outcrops observed consist of intercalated limestone and silt laminations, the limestone 1/4" to 1" in thickness and the silt layers from paper thin to 1/8" thick. The rock does not weather well and outcrops were observed only at the base of overhanging diabase scarps.

Underlying the major south portion of the property are the Espanola Greywackes. These rocks are typically of greywacke character in appearance, fine grained, dark coloured and usually well bedded. At times the rock displays sequential deposition of silts with calcareous concentrations, however, the limy segments could not be classed as limestone. These rocks are hard and brittle as reflected by sharply concoidal fracture when struck and the high frequency of randomly oriented joints and fractures.

A large sill and minor dykes of Nipissing Diabase occur on the property. The more common facies represented is that of a quartz diorite, typically medium grained and dark green in colour. Secondary products are predominantly chlorite and epidote with minor calcite. On weathered surfaces the feldspar laths present a raised mosaic, the individual feldspar crystals up to 1/4" in length. The rock is usually fractured with little or no displacement. There would appear to be two major directions of joints, WNW and NE, possibly reflecting a major stress from a NNW direction.
Trace amounts of pyrite are ubiquitous throughout the diorite, however, no apparent concentration was observed nor were any other sulphides noted.

**ECONOMIC GEOLOGY**

Some three miles to the west of the property are several mines, some inactive, engaged in extracting uraniumiferous ore from the basal conglomerate of the Lower Mississagi Series. This polymictic conglomerate is the result of depositional conditions during the early Huronian period i.e. extremely rapid denudation of the granite and greenstone basement and transport and deposition of these products by torrential waters. The uraniumiferous and sulphide mineralization is postulated as the result of combined hydraulic sorting and solution of the various minerals and concentrations of these minerals along former stream channels and deltaic fans along the depressed granitic floor or basement. Subsequent earth movements have distorted the original floor and later deposits so that present occurrences of the basal conglomerate, and more rarely mineralized conglomerate, appear to be randomly distributed throughout the area.

The above-mentioned basal conglomerate does not outcrop on the property, however its presence underlying the property is indicated by diamond drilling in nearby areas and by the known geology of surrounding areas. The presence of the basal conglomerate, and more particularly favourably mineralized conglomerate can be proven by means of diamond drilling to basement of the central part of the property.

**SUMMARY OF PREVIOUS WORK**

It must be assumed that previous to the acquisition of the property by the present holders, various exploration work was carried out over the ground, however, the extent and type of work carried out is in some doubt. Some diamond drilling was carried out along the north margin of the property with non-economic results. Other diamond drilling was conducted on the north shore of Teasdale Lake along the west boundary, and again to the south east of the property. Currently available information indicates that no significant mineralization was intersected at these sites.

During the early part of 1967, Sulmac Exploration Services Limited conducted magnetic, electromagnetic and scintillation surveys over the property. The magnetic and electromagnetic surveys proved to be of little consequence. The scintillator survey indicated two anomalous areas in the north west portion of the property. The anomaly running ESE from 22+00N on line 52+00W occurs along the dip slope of an outcrop of Upper Mississagi quartzite. Along this dip slope are remnants of a poorly developed arkose a few inches thick. These minor remnants of arkose proved to be weakly radioactive. The arkosic member was sampled and specimens sent for assay. The assay results show only trace amounts of uranium oxide.

The anomaly occurring along the Serpent River on lines 44+00W and 40+00W was caused by the slightly radioactive Middle Mississagi Conglomerate. Minor sporadic “highs” are immediately attributable to the presence of erratics derived from the scarp slope to the south of the Serpent River. The erratic profiles shown here are a result of a slightly higher background due to the presence of the Middle Mississagi Conglomerate and the sporadic “highs” due to radioactive erratics of arkosic quartzite derived from a higher horizon.
SUMMARY AND CONCLUSIONS

To date, geophysical methods currently available have proved of little avail in detecting and delineating areas of favourable mineralization.

Magnetic surveys, both airborne and ground, have yielded some information pertaining to regional structures, however, the absence of magnetic minerals associated with either uraniumiferous minerals or base metal sulphides has precluded their use for direct detection of any economic mineral in the area.

Electromagnetic methods revealed no significant results partially due to the fact that the favourable basal conglomerate is usually deep seated, and the depth penetration limit of currently available instruments was often exceeded.

Similarly the deep seated occurrence of the basal conglomerate reduces effective use of scintillation techniques. Detectable radioactive emission is rapidly diminished by overburden cover.

Diamond drilling along margins of the property did not indicate mineralization of economic significance, however, it did indicate the presence of the basal conglomerate at depth. Further exploration of the ground could be carried out by means of diamond drilling to confirm the presence of the Lower Mississagi formation, and, if present, to check for uranium bearing mineralization. However, as the Lower Mississagi member does not necessarily carry uraniumiferous mineralization, and, in fact, no economic mineralization was encountered on adjacent ground, diamond drilling should, at this time, be considered a highly speculative venture.

RECOMMENDATIONS

To obtain critical information regarding the mineralized basal conglomerate, it is thought that two exploratory diamond drill holes to the basement along a north south section bisecting the property would be required. The first hole, vertical, should be collared on the north shore of Ouellette Lake at say 24+00W/22+00S and drilled to sufficient depth to intersect the Algoman basement. The second vertical hole should be collared at 20+00W/5+00N on the north shore of Teasdale Lake. These two holes would effect the greatest economy of drill footage by taking advantage of local topography. Such a programme would entail a total footage of some 4,000 feet and an expenditure of $40,000 to $45,000.

However, it is felt that at the present time an expenditure of this magnitude is not warranted. It is recommended that developments in the area be observed for some time. Should exploration of adjacent ground show serious economic possibilities, then, it is suggested, the drilling programme be implemented. A geological study of current work in the area is estimated to require an expenditure of some $700.00.

Respectfully submitted,

SULMAC EXPLORATION SERVICES LIMITED

TORONTO, Ontario,
June 12th, 1967.

G. E. White, B.Sc., Geologist-Geophysicist.
BIBLIOGRAPHY

5. Ontario Department of Mines — Geological Report No. 4, Geology of Townships 143 and 144, J. A. Robertson.
6. Department of Mines — Plan #1216, Township 144.

CERTIFICATE

TO WHOM IT MAY CONCERN:

I, GLEN ELMO WHITE, of the City of TORONTO, in the Province of Ontario, hereby certify:
1. THAT I am a Geologist and Geophysicist and reside at #1108 - 500 Dawes Road, TORONTO 16, Ontario.
2. THAT I studied Geology and Geophysics and graduated from the University of British Columbia with the degree of Bachelor of Science.
3. THAT I have been engaged in Mining Exploration for five years.
4. THAT I do not have, nor do I expect to receive either directly or indirectly, any interest in the property, or in the securities of MILLBANK MINERALS LIMITED.
5. THAT this report is based on information derived from a geological survey carried out by Sulmac Exploration Services Limited, on correlation with an earlier geophysical survey, and on a study of geologic and aeromagnetic publications by the Ontario Department of Mines, and other reports and papers relevant to the property itself and the area in general.

DATED this Twelfth day of June, 1967.

G. E. White, B.Sc.,
Geologist-Geophysicist.
REPORT ON PROPERTY OF
MILLBANK MINERALS LIMITED

TOWNSHIP 144, SUDBURY MINING DIVISION
DISTRICT OF ALGOMA, PROVINCE OF ONTARIO

PROPERTY

The property consists of six unpatented contiguous mining claims numbered S143525 to S143533, situated in Township 144, in the Sudbury Mining Division, Province of Ontario. It lies immediately north of a group of eighteen contiguous claims also held by Millbank Minerals Limited, and was acquired to protect the possible northward extension of a radiometric anomaly discovered on the original ground during an earlier survey.

LOCATION AND ACCESS

The claim group is located some thirty miles NE of Blind River, Ontario, along the north shore of the east arm of Quirke Lake. Access is facile by means of ice or water travel from several roads terminating on the shore of Quirke Lake. These roads are connected with main arterial routes along the north shore of Lake Huron. The most convenient means of access would be from Algoma Mills by air, good Beaver and Cessna service being offered by Lauzon Aviation Company Limited based on the south shore of Lauzon Lake seven miles east of Blind River.

The claim group consists of six claims, a block of three by two with the greater dimension E-W and the south three claims lying immediately to the north of the east arm of Quirke Lake and the Serpent River.

TOPOGRAPHY

The claim group lies along the southerly slope forming the north shore of Quirke Lake and Serpent River. The elevation of Quirke Lake is some 1,192 feet A.S.L., and the maximum elevation along the north margin of the property would be of the order of 1,400 feet A.S.L. The surface in general consists of low profile hills well rounded by glaciation with a gradual increase in elevation in a northerly direction. Vegetation cover consists of sub-commercial pine and spruce with intervening minor stands of birch and alder scrub. The higher areas afford abundant rock exposure for examination.

GENERAL GEOLOGY

The oldest known rocks of the area under discussion consist of Algoman Granite of Archean Age. This is a batholithic intrusive of granite, granite gneiss, and frequently contains inclusions of basic material.

Unconformably overlying the Algoman Granite is an extensive flat lying sedimentary series i.e. member of the Bruce group locally consisting of Upper Mississagi quartzite and Middle Mississagi argillite and conglomerate.

Intruding the Algoman Granite and Bruce group are rocks of Keweenawan age, the Nipissing Diabase. These rocks occur as dykes and sills from a few feet to hundreds of feet in thickness and consist of fine to medium grained diorite grading up to coarse grained gabbro.
### TABLE OF FORMATIONS

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<thead>
<tr>
<th>Unit</th>
<th>Lithology</th>
<th>Age Million Years</th>
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<tr>
<td>Espanola</td>
<td>Limestone, greywacke</td>
<td></td>
</tr>
<tr>
<td>Bruce Conglomerate</td>
<td>Conglomerate</td>
<td></td>
</tr>
<tr>
<td>Upper Mississagi</td>
<td>Quartzite</td>
<td></td>
</tr>
<tr>
<td>Middle Mississagi</td>
<td>Argillite</td>
<td></td>
</tr>
<tr>
<td>Lower Mississagi</td>
<td>Conglomerate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Argillite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quartzite + U—conglomerate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conglomerate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arkose + U—conglomerate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unconformity</td>
<td></td>
</tr>
<tr>
<td><strong>ARCHEAN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algoman</td>
<td>Granite</td>
<td>2,500</td>
</tr>
<tr>
<td>Keewatin</td>
<td>Volcanic and sedimentary rocks</td>
<td></td>
</tr>
</tbody>
</table>

17
GEOLOGY OF PROPERTY

The bulk of the property, i.e. the north three quarters, is underlain by Algoman Granite. The rocks are pink to brick red in colour and medium to coarse grained in texture. Minor angular inclusions of basic material were observed in the granite as well as minor dykelets of felsic material. This granite would appear to be of the basement type. Approximately six hundred feet north of the south boundary of the property occurs a narrow dyke of diorite representative of the Nipissing Diabase. This dyke runs E-W and consists of fine to medium grained quartz diorite.

The south margin of the property is underlain by an arkosic polymictic conglomerate of the Middle Mississagi series which in turn overlies unconformably the Algoman Granite. This conglomerate is made up of pebbles and boulders of quartz, granite and greenstone set in a weakly arkosic sandstone matrix. The rock is typically rusty red in colour and consistently strikes NW-SE dipping at approximately 21° to the SW. Bedding is well preserved and frequently graded and current bedding may be observed in the sandstone matrix.

ECONOMIC GEOLOGY

The host rock of sulphide and uraniferous mineralization in the area is a basal polymictic conglomerate occurring at the base of the Lower Mississagi series. This conglomerate has not been observed to outcrop within the area under discussion, however its presence may be postulated underlying the Middle Mississagi Conglomerate.

Some three miles to the west are several mines situated in a triangular area with its apex pointing easterly. These mines, not all in operation at the moment, owe their existence to the above mentioned Lower Mississagi Conglomerate and have been extracting uraniferous ore from mineralized portions of the conglomerate structure.

SUMMARY AND CONCLUSIONS

On the basis of known regional geology it is a valid possibility that the favourable host rock, i.e. Lower Mississagi Conglomerate, occurs underlying the outcropping Middle Mississagi Conglomerate along the south margin of the property, however, this possibility is rather remote. The Mississagi Series dip consistently south to southwesterly and the series exhibits an overlap in a northerly direction. In view of the above the uppermost projection of the favourable host rock would probably occur south of the southerly limit of the property.

RECOMMENDATIONS

In order to preclude the possibility that rocks of the Lower Mississagi Conglomerate occur on the property it is recommended that the contact zone between the Algoman Granite and the Middle Mississagi Conglomerate along the south margin of the property be examined geologically and checked by a localized scintillation survey. The above investigations would involve an expenditure of some $600.00 to $700.00.

Respectfully submitted,
SULMAC EXPLORATION SERVICES LIMITED

TORONTO 1, Ontario,
June 7th, 1967.

E. Amendolagine, B.A., M.A., P.Eng.,
Geologist.
BIBLIOGRAPHY

2. Map #P304 — Blind River-Elliot Lake Sheet, Ontario Department of Mines.
5. Aeromagnetic Map — Sheet 2256G, Whiskey Lake, Algoma and Sudbury Districts, Department of Mines and Technical Surveys.

CERTIFICATE

TO WHOM IT MAY CONCERN:

I, EMANUEL AMENDOLAGINE, of the Borough of SCARBOROUGH, in the Province of Ontario, hereby certify:

1. THAT I am a geologist and reside in Scarborough, Ontario.
2. THAT I am a graduate of Hunter College of the City of New York, and Columbia University, with a B.A. and M.A. respectively, and that I have been practising my profession as a geologist for twelve years.
3. THAT the report is based on information obtained from geological and geophysical surveys performed by Sulmac Exploration Services Limited in the immediate vicinity, on a study of geological publications on the area by the Ontario Department of Mines, and on information derived from a visit to the property by a geologist in the employ of Sulmac Exploration Services Limited.
4. THAT the writer does not have, nor does he expect to receive, either directly or indirectly, any interest in MILLBANK MINERALS LIMITED.


DATED this Seventh day of June, 1967.
Dear Sirs:

Your File No. 22-M-52

We are in receipt of your letter of September 8, 1969 in regard to Exploration Permit MX 4/67.

This is to advise you that the claims covered by this Permit have been allowed to lapse and no work was performed on them during 1968.

Yours very truly,

Millbank Minerals Limited

J. P. Brisbois.
September 12, 1969

Millbank Minerals Limited,
34 Adelaide Street West,
Toronto 1, Ontario.

Attention: Mr. J.P. Brisbois

Dear Sir:

This will acknowledge and thank you for your letter dated September 10 giving a Nil report of work carried out during 1968 under Exploration Permit MX 4/67.

As the claims have been allowed to lapse, would you please advise whether this permit is to be revoked.

Yours very truly,

E.M. Nolan,
Senior Administrative Officer.

cc: Mr. G.R. Guillet
Ontario Department of Mines (with copy of report)