

Report on the
BEAUCAGE MINES LIMITED
(NO Personal Liability)

Property

Lake Nipissing, Ontario



31L04NE9767 L. NIPIS 1881 NIPISSING

010

By William C. Martin

April 23, 1953

LOCATION

The property is situated in Lake Nipissing, about 5 miles due West of the City of North Bay, Ontario.

PROPERTY

The property consists of (a) a Licence of Occupation covering 4,076.57 acres, chiefly under water but including little Manitou Island and Rankin Island, and excluding Great Manitou Island, Calder Island, and Newman Island; (b) a second Licence of Occupation covering 3,840 acres entirely under water; (c) Mining Rights to Great Manitou Island; (d) an option for the mining rights to Calder Island.

HISTORY

Radioactivity was first discovered on the Island by James Strohl of Tunkhanock, Pa, USA, in August, 1952. The discovery was examined a few days later by Martin Van Clieaf, a prospector residing at North Bay. The latter selected a specimen sample which was subsequently tested by the Department of Mines, Ottawa, and ran 0.11 % U³8 per ton.

James Joseph Kenmey, geologist of North Bay, who was associated with Van Clieaf, had a grab sample of the radioactive material assayed for columbium and tantalum. This was done by the Union Carbide and Carbon Company, Niagara Falls, USA., and found to carry 1.0 percent columbium-tantalum oxide and 0.08 percent uranium oxide per ton.

Diamond drilling commented from the ice, near Newman Island, in January 1953 and by the break-up in April a remarkably large tonnage of ore had been indicated.

GEOLOGY

The rocks underlying the island, and in the zone diamond drilled, consist of altered crystalline carbonate rocks probably altered limestones. These rocks are cut by small syenite dikes, lamprophyre and metadiabase dikes. A vague bending or layering is evident in the limestones in places. On surface the common limestone type is a pinkish red limestone about the colour of the feldspathic gneisses on the mainland. Interbedded with this limestone, apparently in thick beds is a white to brownish crystalline limestone and a dark brown weathering limestone.

**DUPLICATE COPY
POOR QUALITY ORIGINAL
TO FOLLOW**

GEOLOGY (contd)

The rocks are almost structureless. Small dikes, less than a foot wide are evident in places. Brecciation and fracturing on a coarse scale is evident by the trend and dip of the fractured zones is difficult to determine.

Vague indications on Newman Island and in the diamond drilling suggest that the ore lies in a wide brecciated zone striking S.70E. Vague layering on Newman Island, and probable banding in the limestone on Rankin Island, trends East-West to N.70 E and dip 70 deg. South. The possible difference in trend of the brecciated zone and the limestone beds, suggested by the above evidence, may in part control the localization of ore shoots. The ore possibly replaces beds of certain favourable composition cut by the breccia zone.

ORE & VEIN MINERALS

The ore minerals have been identified by the Department of Mines, Ottawa as one of the pyrochlore-microlite group and uraninite. Other minerals present of possible economic interest but unknown quantity, are rare earths and spatite. Common minerals include calcite, hornblende, chlorite, pyroxene, epidote, scapolite, pyrite, magnetite, fluorite, pyrrhotite.

WORK DONE

The work done to date has consisted solely of surface diamond drilling, mostly from the ice. A magnetometer survey was made over the Newman Island ore zone over a width of 1,000 ft. and a length of 1 mile.

DIAMOND DRILLING

Altogether 7,460 feet of diamond drilling was completed from the ice on the Newman Island zone. An additional 2,000 feet of drilling has been done on Calder Island to make a total of date of 9,460 feet.

MAGNETOMETER SURVEY

The magnetic survey covered the Newman Island ore zone and its projection for a length of a mile and a width of 1,000 ft. It shows a magnetic high over the ore zone.

The "Plan of the Drilling and Magnetometer Survey for Beaucage Mines Ltd.," which accompanies this report shows the relationship of the diamond drill hole ore intersections to the magnetic high anomaly "Zone A". Clearly the Zone A anomaly is worth investigation but the writer doubts any direct association of the ore and the anomaly. The latter might represent an amphibolite zone, or a ferroginous bed of limestone, which makes ore only where cut by the breccia fault zone. A small portion only of the magnetic zone may therefore prove to be ore bearing.

**DUPLICATE COPY
POOR QUALITY ORIGINAL
TO FOLLOW**

CHARACTER OF THE ORE ZONE

The ore minerals replace amphibolite and syenite-amphibolite mixtures. There are no definite walls to the mineralized sections which in many cases can only be differentiated from water rock with a geiger counter. The ore mineralization is fine, mostly too fine to be seen, but assays show the values to remarkably evenly distributed within the ore sections.

Numerous small injections of syenite and feldspathic material, from a fraction of an inch to several feet in width are common in the ore zone. This condition is a measure of the brecciation and appears to be particularly favourable for ore. In many places in the ore sections, replacement by scattered red crystals of feldspar is evident.

CORRELATION OF THE DIAMOND DRILL HOLE ORE INTERSECTIONS

The evidence, in the diamond drill core and the surface outcrop of the ore zone at the east end of Newman Island, suggests the ore occurs within a broad zone of brecciation. The amphibolite-syenite-ore mixture appears to follow the brecciation. The stronger direction of brecciation appears to be parallel to the long axis of the zone but also probably occurs at a high angle to it. Narrow ore sections are unlikely to correlate, bore hole to bore hole. For this reason, large widths will probably have to be taken in mining. In making the tonnage and grade estimates, given below, this fact has been taken into consideration and much marginal grade material included in the ore estimate.

Most of the tonnage lies in the 400 foot length in which D.Hs. 9,13,16,15,18 and 20 lie. The average indicated horizontal width of the ore bearing zone in the above length is 283 feet. About 70 percent of more of the zone appears to make ore in this block. Due to this high percentage of ore in the zone, doubtful correlation of the individual ore intersections in this part of the zone is not a serious matter. At the west end comparatively narrow ore sections are assumed but these do appear to correlate roughly, also, when intervening assays are available probably bigger widths will be indicated than assumed by the writer.

OTHER RADIOACTIVE OCCURENCES ON THE ISLANDS EXCEPT THE NEWMAN ISLAND ZONE

The map accompanying this report entitled "Key Plan of Leases Shwoing Radioactive Material" shows the location of a numer of radioactive occurences which have been discovered. The locations on Calder Island were tested by the writer and the radioactivity appeared to be about as strong as on Newman Island.

These occurences mark potential ore areas where new ore may be found. About 2,000 feet of drilling has already been done on the two locations on Calder Island with encouraging results. Assays upto 0.3 percent Cb^{205} have been obtained and low values in U^{238} . Considerable drilling will have to be done here before the area can be assessed.

The writer was also shown an area of radioactivity on Great Manitou Island but no work has been done here yet nor any samples taken.

LIST OF DIAMOND DRILL HOLES WITH ORE INTERSECTIONS USED FOR TONNAGE AND GRADE CALCULATION PURPOSE

For the location of the diamond drill holes please refer to the "Plan of Drilling and Magnetometer Survey for Beaucage Mines Ltd."

All the columbium values are given as the percentage of contained oxide Cb²O₅. Tests at the Department of Mines, Ottawa have revealed little tantalum accompanying the columbium although probably some is present. A common ratio throughout the world is 11:1 columbium to tantalum according to "Geochemistry" by Rankama and Sahama.

<u>D.H.No.</u>	<u>Core Length ft.</u>	<u>U308 %</u>	<u>Cb²O₅ %</u>	<u>Remarks</u>
1	145	.072		Cb ² O ₅ not assayed for
2 & 3				Very incompletely sampled.
4	144	.064	.87	Cb ² O ₅ estimated from incomplete assays
5	15	.10	.82	
6	83.6	.030	.60	Cb ² O ₅ assays not complete
7	31.9	.030	.67	
8	56.2	.017		
8	38.9	.058		
9	337.3	.032	.49	Sampled intermittently, grade of intervening sections estimate at .6 of U ³ O ₈ grade of sections sampled, Cb ² O ₅ estimated.
10	31.0	.072		U ³ O ₈ assays incomplete.
11 & 12	Lost holes.			
13	15.5	.068	1.03	20.3 of this section
13	50.3	.069	.712	Estimated from radioactivity and reduced.
14	Radioactivity low, very little sampling.			
15	88.0	0.10	1.01	
15	23.0	.03	.45	Radioactive section, entirely estimated grade, reduced from expected.
16	290.0	.043	.595	
17	85.0	.047	.547	

**DUPLICATE COPY
POOR QUALITY ORIGINAL
TO FOLLOW**

LIST OF DIAMOND DRILL HOLES WITH ORE INTERSECTIONS USED FOR TONNAGE AND GRADE CALCULATION PURPOSE (cont'd)

18	40.5	.045	1.72
18	29.0	.060	.99
18	94.0	.057	1.345
19	Very low values in some narrow sections		
20	181.0	.038	.615
20	55.0	.048	.470

TONNAGE AND GRADE OF ORE INDICATED BY DIAMOND DRILLING

The writer has adopted two classifications for ore in this report due to the deposit lying under water and clay. Namely, "Inaccessible Ore" which is core down to a depth of 300 ft. below the level of the lake and "Possible ore" which is ore indicated by two deeper holes more than 300 ft below the level of the lake. The large widths of possible ore indicated will require a greater height of pillar than 250 ft. if the length of ore approaches the length indicated above the 300 foot horizon. The vertical depth of water and mud indicated by the drill holes is upto 80 ft. in D.H. 20.

The metallurgy of the ore presents a problem. Until some ideas can be given of the percentage metal recovery that can be made on the ore, and the probable costs of treatment, it is impossible to determine what grade of ore will be required to equal the cost of mining, milling and metal extraction. The writer assumes that providing a sufficient tonnage of mineable ore is indicated the metallurgy will be solved. The ore potentialities are indicated by the estimates of tonnage and grade of ore given below.

The drill holes in the section from D.H. 9 West to D.H. 1 have been incompletely sampled, but enough sampling has been done to indicate the probability of a large tonnage of ore here. The writer therefore has attempted to estimate the grade of comparatively short sections, lying between ore sections for which there are no assays results yet, in order to arrive at a preliminary, but reasonably safe, estimate of the possible tonnage of ore in the area.

No dilution is allowed for on the estimates given below :

Inaccessible ore (Above 300 foot Vertical depth)

<u>D.H.Nos.</u>	<u>Tons</u>	<u>U³O₈</u>	<u>Cb²O₅</u>
# 9 to #1 (?) Length 475'	1,332,150	.036	.535
# 16 to 17 (?) Length 550'	1,448,635	.049	.682
Total	2,780,785	.042	.613

**DUPLICATE COPY
POOR QUALITY ORIGIN.
TO FOLLOW**

TONNAGE AND GRADE OF ORE INDICATED BY DIAMOND DRILLING (cont'd)

Possible Ore (All below 300-foot vertical depth)

<u>D.H. No.</u>	<u>Tons</u>	<u>U³O₈</u>	<u>Cb³O₅</u>
# 18 & 20 length taken = 200'	1,256.900	.054	.845

VALUE OF POSSIBLE ORE

The present prices quoted by the Canadian and U.S. Governments for uranium oxide and columbium oxide concentrates is \$7.25 and \$3.40 per pound of contained oxide respectively. With a grade of .054 U³O₈ and .845 Cb³O₅ the value of the ore would be \$7.81 for the uranium and \$57.46 for the columbium or a total value per ton of \$65.27.

The price for concentrates is conditional mainly on the grade of concentration that can be produced and the absence of objectionable elements. The value of the ore therefore hinges on metallurgical research and the success and efficiency that can be achieved in making an acceptable concentrate.

CONCLUSIONS

1. The tonnage and grade of possible and inaccessible ore indicated by the diamond drilling off Newman Island, and the other radioactive occurrences discovered on adjacent island, altogether point to a major ore area in the vicinity of these islands.
2. Immediate underground development of the Newman Island ore zone would be justified in the opinion of the writer, but for shaft location purpose more diamond drilling should first be carried out off Newman and Little Manitou Islands. The latter island would provide the best location for the shaft and power plant, provided ore is indicated in the vicinity.
3. Underground development would enable depth exploration of the ore zone. Depth exploration is essential due to the lake, the great widths of ore indicated and necessity of leaving a thick surface pillar for protection in mining.
4. The deepest hole D.H. 20 establishes ore to a depth of over 700 ft. vertically below lake level.
5. The structure of the ore area is only vaguely known but no geological evidence was found by the writer to suggest ore conditions deteriorate with depth. Ore will likely be found to occur well below the 700 ft. depth indicated by the deepest hole to date.

April 23, 1953

W. C. Martin.

**DUPLICATE COPY
POOR QUALITY ORIGINAL
TO FOLLOW**

CERTIFICATE

I, William Churchill Martin of the Town of Haileybury
in the Province of Ontario , hereby certify :

1. THAT I am a Consulting Mining Geologist with business
address at Hutt Block, Haileybury, Ontairio.
2. THAT I am a graduate of the Univeristy of Toronto in
Mining Engineering with the degree of B.A.Sc. inthe year
1927, and I have been practising my profession since
graduation as a geologist in the employ of various mining
companies and as a consultant.
3. THAT I have no interest directly or indirectly nor do I
expect to receive any interest directly or indirectly in
the property or securities of Beaucage Mines Limited or of
Inspiration Mining & Development Company Limited.
4. THAT the accompanying report is based upon a personal
examination of the property between March 3d and March
12th, 1953 and on April 13th and 19th, 1953 and from
personal examination of diamond drill core.

DATED at Haileybury, Ontario, this 23rd day of April, 1953

Consulting Mining Geologist.

**DUPLICATE COPY
POOR QUALITY ORIGINAL
TO FOLLOW**



31L04NE9767 L. NIPIS 1881 NIPISSING

900
on the
BEAUCAGE MINES LIMITED
(No Personal Liability)

Property

Lake Nipissing, Ontario.

By William C. Martin

April 23, 1953

LOCATION:

The property is situate in Lake Nipissing, about 5 miles due West of the City of North Bay, Ontario.

PROPERTY:

The property consists of: (a) a License of Occupation covering 4,070.57 acres, chiefly under water but including Little Manitou Island and Rankin Island, and excluding Great Manitou Island, Calder Island and Newman Island; (b) a second License of Occupation covering 3,840 acres entirely under water; (c) Mining Rights to Great Manitou Island; (d) an option for the mining rights to Calder Island.

HISTORY:

Radioactivity was first discovered on the Islands by James Strohl of Tunkhannock, Pa., U. S. A., in August 1952. This discovery was examined a few days later by Martin Van Clieaf, a prospector residing at North Bay. The latter selected a specimen sample which was subsequently tested by the Department of Mines, Ottawa, and ran 0.11 percent U₃O₈ per ton.

James Joseph Kenney, geologist of North Bay, who was associated with Van Clieaf, had a grab sample of the radioactive material assayed for columbium and tantalum. This was done by the Union Carbide and Carbon Company, Niagara Falls, U. S. A., and found to carry 1.0 percent columbium-tantalum oxide and 0.08 percent uranium oxide per ton.

Diamond drilling commenced from the ice, near Newman Island in January 1953 and by the break-up in April a remarkably large tonnage of ore had been indicated.

GEOLOGY:

The rocks underlying the islands, and in the zone diamond drilled, consist of altered crystalline carbonate rocks probably altered limestones. These rocks are cut by small syenite dikes, lamprophyre and metadiabase dikes. A vague banding or layering is evident in the limestones in places. On surface the common limestone type is a pinkish red limestone about the colour of the feldspathic gneisses on the mainland. Interbedded with this limestone, apparently in thick beds is a white to brownish crystalline limestone and a dark brown weathering limestone.

GEOLOGY (cont'd)

The rocks are almost structureless. Small dikes, less than a foot wide are evident in places. Brecciation and fracturing on a coarse scale is evident but the trend and dip of the fractured zones is difficult to determine.

Vague indications on Newman Island and in the diamond drilling suggest that the ore lies in a wide brecciated zone striking N. 70. E. Vague layering on Newman Island, and probable banding in the limestone on Rankin Island, trend East-West to N. 70 E. and dips 70 deg. South. The possible difference in trend of the brecciated zone and the limestone beds, suggested by the above evidence, may in part control the localization of ore shoots. The ore possibly replaces beds of certain favourable composition cut by the breccia zone.

ORE & VAIN MINERALS

The ore minerals have been identified by the Department of Mines, Ottawa, as one of the pyrochlore - miscolite group and uraninite. Other minerals present of possible economic interest but unknown quantity, are rare earths and apatite. Gangue minerals include calcite, hornblende, chlorite, pyroxene, epidote, scapolite, pyrite, magnetite, fluorite, pyrrhotite.

WORK DONE

The work done to date has consisted solely of surface diamond drilling, mostly from the ice. A magnetometer survey was made over the Newman Island ore zone over a width of 1,000 ft and a length of 1 mile.

DIAMOND DRILLING

Altogether 7,460 feet of diamond drilling was completed from the ice on the Newman Island zone. An additional 2,000 feet of drilling has been done on Calder Island to make a total to date of 9,460 feet.

MAGNETIC SURVEY

The magnetic survey covered the Newman Island ore zone and its projection for a length of a mile and a width of 1,000 ft. It shows a magnetic high over the ore zone.

The "Plan of the Drilling and Magnetometer Survey for Beauchage Mines Ltd.," which accompanies this report shows the relationship of the diamond drill hole ore intersections to the magnetic high anomaly "Zone A". Clearly the ore anomaly is worth investigation but the writer doubts any direct association of the ore and the anomaly. The latter might represent an amphibolite zone, or a ferruginous bed of limestone, which makes ore only where cut by the breccia fault zone. A small portion only of the magnetic zone may therefore prove to be ore bearing.

CHARACTER OF THE ORE ZONE

The ore minerals replace amphibolite and syenite-amphibolite mixture. There are no definite walls to the mineralized sections which in many cases can only be differentiated from waste rock with a geiger counter. The ore mineralization is fine, mostly too fine to be seen, but assays show the values to be remarkably evenly distributed within the ore sections.

Numerous small injections of syenite and feldspathic material, from a fraction of an inch to several feet in width are common in the ore zone. This condition is a measure of the brecciation and appears to be particularly favourable for ore. In many places in the ore sections, replacement by scattered red crystals of feldspar is evident.

CONTINUITY OF THE DIAMOND DRILL HOLE ORE INTERSECTIONS

The evidence, in the diamond drill core and the surface outcrop of the ore zone at the east end of Newman Island, suggests the ore occurs within a broad zone of brecciation. The amphibolite - syenite - ore mixture appears to follow the brecciation. The stronger direction of brecciation appears to be parallel to the long axis of the zone but also probably occurs at a high angle to it. Narrow ore sections are unlikely to correlate, bore hole to bore hole. For this reason, large widths will probably have to be taken in mining. In making the tonnage and grade estimates, given below, this fact has been taken into consideration and much marginal grade material included in the ore estimate.

Most of the tonnage lies in the 400 foot length in which D. Hs 9, 13, 15, 19, 10 and 20 lie. The average indicated horizontal width of the ore bearing zone in the above length is 253 feet. About 70 per cent or more of the zone appears to make ore in this block. Due to this high percentage of ore in the zone, doubtful correlation of the individual ore intersections in this part of the zone is not a serious matter. At the west end comparatively narrow ore sections are assumed but these do appear to correlate roughly, also, when intervening assays are available probably bigger widths will be indicated than assumed by the writer.

OTHER RADIOACTIVE OCCURRENCES ON THE ISLANDS EXCEPT THE NEWMAN ISLAND ZONE

The map accompanying this report entitled "Key Plan of Islands Showing Radioactive Material" shows the location of a number of radioactive occurrences which have been discovered. The locations on Calder Island were tested by the writer and the radioactivity appeared to be about as strong as on Newman Island.

These occurrences mark potential ore areas where new ore may be found. About 1,000 ft. of drilling has already been done on the two locations on Calder Island with encouraging results. Assays up to 0.3 percent Cb_2O_5 have been obtained and low values in U_3O_8 . Considerable drilling will have to be done here before the area can be assessed.

The writer was also shown an area of radioactivity on Great Manitou Island but no work has been done here yet nor any samples taken.

- 4 -

LIST OF DIAMOND DRILL HOLES WITH ONE INTERSECTIONS USED FOR CONCENTRATED
AND GRADE CALCULATION PURPOSES

For the location of the diamond drill holes please refer to the "Plan of Drilling and Magnetometer Survey for Beauport Mines Ltd."

All the columbium values are given as the percentage of contained oxide Cb_2O_5 . Tests at the Department of Mines, Ottawa, have revealed little tantalum accompanying the columbium although probably some is present. A common ratio throughout the world is 1:1 columbium to tantalum according to "Geochemistry" by Rankama and Sahama.

<u>D. H.</u> <u>No.</u>	<u>Core</u> <u>Length Ft.</u>	<u>U₃O₈</u> <u>%</u>	<u>Cb₂O₅</u> <u>%</u>	<u>Remarks</u>
1	14.5	.072		Cb_2O_5 not assayed for Very incompletely sampled
2				
4	14.0	.064	.87	Cb_2O_5 estimated from incomplete assays
5	15	.30	.82	
6	33.0	.030	.60	Cb_2O_5 assays not complete
7	31.9	.030	.67	
8	30.2	.017		
8	37.9	.050		
9	27.3	.032	.49	Sampled intermittently, grade of intervening sections estimated at .6 of U_3O_8 grade of sections sampled, Cb_2O_5 estimated.
10	31.0	.072		U_3O_8 assays incomplete
11 & 12	lost holes			
13	15.5	.023	1.03	20.3 of this section Estimated from radioactivity and reduced.
13	17.5	.009	.712	
14				Radioactivity low, very little sampling.
15	37.0	0.10	1.01	
15	33.0	.03	.45	Radioactive section, entirely estimated grade, reduced from expected.
16	290.0	.043	.595	
17	15.0	.047	.547	

DIAMOND DRILLED DRILL HOLES WITH ONE INTERSECTION USED FOR TONNAGE
AND GRADE CALCULATION PURPOSES (cont'd)

<u>D. H. No.</u>	<u>Core Length Ft.</u>	<u>U₃O₈ %</u>	<u>Pb₂O₅ %</u>	<u>Remarks</u>
13	50.5	.045	1.72	
15	39.0	.030	.99	
16	94.0	.057	1.345	
19	Very low values in some narrow sections			
20	121.0	.038	.615	
	55.0	.048	.470	

TONNAGE AND GRADE OF ORE INDICATED BY DIAMOND DRILLING

The writer has adopted two classifications for ore in this report due to the deposit lying under water and clay. Namely, "Inaccessible Ore" which is ore down to a depth of 300 ft. below the level of the lake and "Possible Ore" which is ore indicated by two deeper holes more than 300 ft. below the level of the lake. The large widths of possible ore indicated will require a greater height of pillar than 250 ft. if the length of ore approaches the length indicated above the 300 foot horizon. The vertical depth of water and mud indicated by the drill holes is up to 80 ft. in D. H. 20.

The metallurgy of the ore presents a problem. Until some idea can be given of the percentage metal recovery that can be made on the ore, and the probable costs of treatment, it is impossible to determine what grade of ore will be required to equal the cost of mining, milling and metal extraction. The writer assumes that providing a sufficient tonnage of mineable ore is indicated the metallurgy will be solved. The ore potentialities are indicated by the estimates of tonnage and grade of ore given below.

The drill holes in the section from D. H. 9 West to D. H. 1 have been incompletely sampled, but enough sampling has been done to indicate the probability of a large tonnage of ore here. The writer therefore has attempted to estimate the grade of comparatively short sections, lying between ore sections, for which there are no assay results yet, in order to arrive at a preliminary, but reasonably safe, estimate of the possible tonnage of ore in the area.

No dilution is allowed for on the estimates given below.

Inaccessible Ore - (Above 300-foot Vertical Depth)

<u>D. H. No.</u>	<u>Tons</u>	<u>U₃O₈</u>	<u>Pb₂O₅</u>
D. H. 9 to D. H. 1 length 475'	1,332,150	.036	.535
D. H. 1 to 17 length 550'	1,448,635	.049	.682
Total	2,780,785	.042	.613

TONNAGE AND GRADE OF ORE INDICATED BY DIAMOND DRILLING (cont'd)

Possible Ore: (All Below 300-Foot Vertical Depth)

<u>D. H. Nos.</u>	<u>Tons</u>	<u>U₃O₈</u>	<u>Cb₂O₅</u>
D. H. 18 & 20 Length taken - 200'	1,256,900	.054	.845

VALUE OF THE POSSIBLE ORE

The present prices quoted by the Canadian and U. S. Governments for uranium oxide and columbium oxide concentrates is \$7.25 and \$3.40 per pound of contained oxide respectively. With a grade of .054 U₃O₈ and .845 Cb₂O₅ the value of the ore would be \$7.81 for the uranium and \$7.46 for the columbium or a total value per ton of \$65.27.

The price paid for concentrates is conditional mainly on the grade of concentrate that can be produced and the absence of objectionable elements. The value of the ore therefore hinges on metallurgical research and the success and efficiency that can be achieved in making an acceptable concentrate.

CONCLUSIONS:

1. The tonnage and grade of possible and inaccessible ore indicated by the diamond drilling off Newman Island, and the other radioactive occurrences discovered on adjacent islands, altogether point to a major ore area in the vicinity of these islands.
2. Immediate underground development of the Newman Island ore zone would be justified in the opinion of the writer, but for shaft location purpose more diamond drilling should first be carried out off Newman and Little Manitou Islands. The latter island would provide the best location for the shaft and power plant, provided ore is indicated in the vicinity.
3. Underground development would enable depth exploration of the ore zone. Depth exploration is essential due to the lake, the great widths of ore indicated and the necessity of leaving a thick surface pillar for protection in mining.
4. The deepest hole D. H. 20 establishes ore to a depth of 700 ft. vertically below lake level.
5. The structure of the ore area is only vaguely known but no geological evidence was found by the writer to suggest ore conditions deteriorate with depth. Ore will likely be found to occur well below the 700 ft. depth indicated by the deepest hole to date.

WCM/gn
April 23, 1953

W. C. Martin
W. C. Martin

CERTIFICATE

I, William Churchill Martin of the Town of Haileybury
in the Province of Ontario, hereby certify:

1. THAT I am a Consulting Mining Geologist with business address at Hutt Block, Haileybury, Ontario.
2. THAT I am a graduate of the University of Toronto in Mining Engineering with the degree of B.A.Sc. in the year 1927, and I have been practicing my profession since graduation as a geologist in the employ of various mining companies and as a consultant.
3. THAT I have no interest directly or indirectly nor do I expect to receive any interest directly or indirectly in the property or securities of Beauvoage Mines Limited or of Inspiration Mining & Development Company Limited.
4. THAT the accompanying report is based upon a personal examination of the property between March 3rd and March 12th, 1953, and on April 13th and 19th, 1953 and from personal examination of diamond drill cores.

DATED at Haileybury, Ontario, this 23rd day of April,
1953.

W. C. Martin
Consulting Mining Geologist.

BEAUCAGE MINES LTD.

KEY PLAN OF LEASES SHOWING
RADIO ACTIVE MATERIAL

APR. 16/53
1" = 1333.3'

LEGEND

RADIO ACTIVE MATERIAL



Approved: *L. C. Martin*

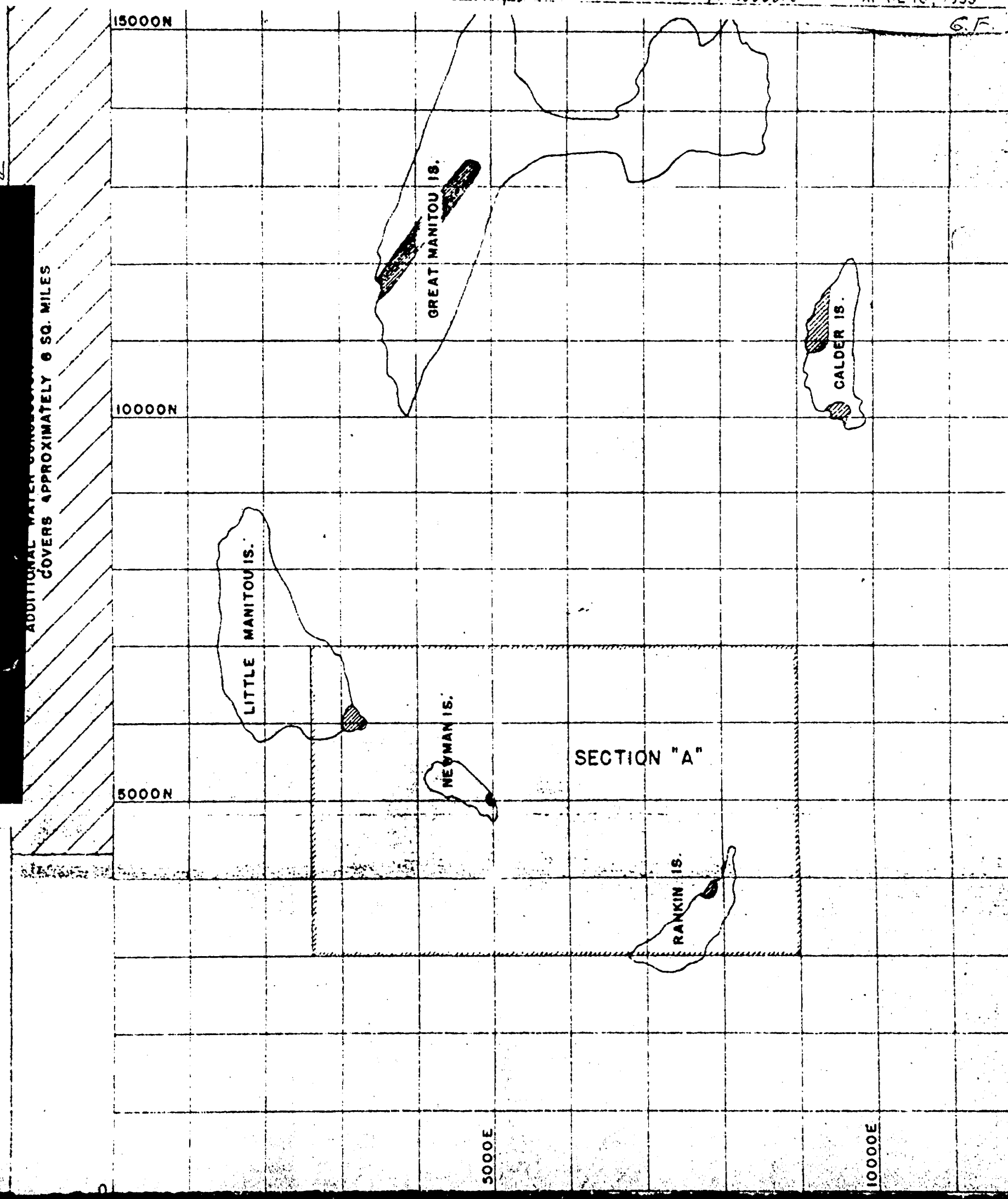
SCALE 1" = 1333.3'

APRIL 16, 1953

G.F.

Additional water concessions purchased

ADDITIONAL WATER CONCESSIONS
COVERS APPROXIMATELY 6 SQ. MILES



SEE ACCOMPANYING
MAP(S) IDENTIFIED AS

LAKE NIPISSING - 0018, 81, #1

LOCATED IN THE MAP
CHANNEL IN THE FOLLOWING
SEQUENCE (X)

