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CAVENDISH VERMICULITE PROJECT

Southeastern Ontario

John Charles Archibald, B.Sc. Geologist
December 31, 1992.

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Final Report
on the
Cavendish Vermiculite Project
QFAF File Number OP92-236

introduction

The purpose of this program was to evaluate the extent and potential of the vermiculite mineralization located in the southern portion of Cavendish Township, in the Eastern Ontario Mining District.

Previous work in the area had outlined several high grade vermiculite occurrences some 2.4 kilometers to the east, unfortunately their proximity to cottages created a conflict and the program was shelved temporarily.

The work performed in this program consisted of geophysical surveys which included Drone VLF Electromagnetic and proton magnetometer surveys, cutting, chaining, and flagging of lines, geological mapping, and geochemical sampling of the weathered bedrock outcrops. The surveys and sampling was done during the summer and fall period of 1992. Sample exploitation and studies were completed between November 1 and Dec. 31, 1992.

Some 15.9 kilometers of line was cut and flagged during the program. A total of 100 kilometers of magnetometer and VLF electromagnetic was run, with a spacing of 100 meters between lines and intervals of 25 meters between stations on the lines. A total of 22.6 kilometers of geological mapping was run during this program.

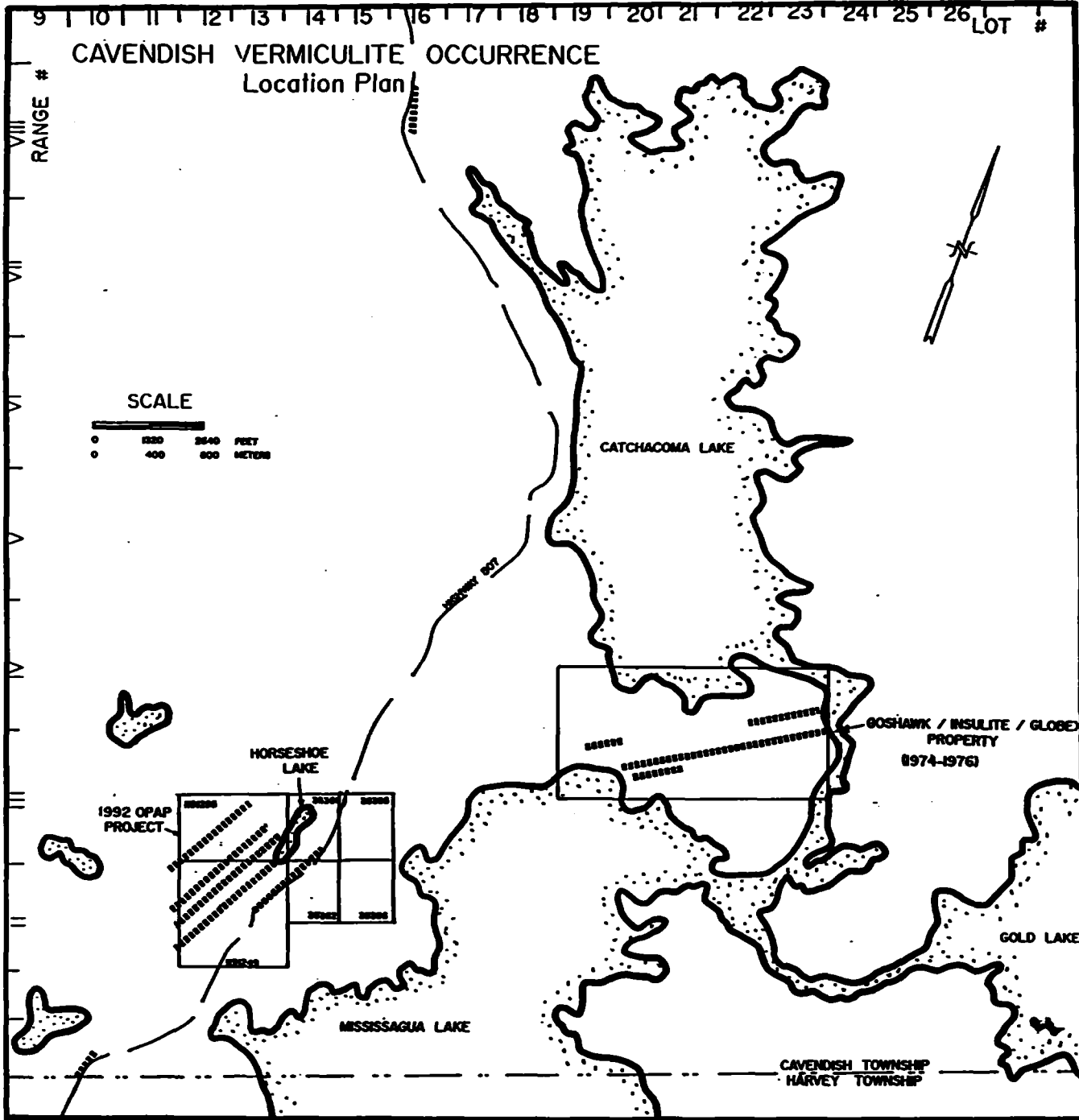
A total of some 336 samples were collected during the geochemical sampling program, ten of which have come from adjacent areas to the north, east, and south of the main survey area. A majority of the samples have come from a marble-dolomite metasedimentary unit.

Approximately 116 of these samples have indicated vermiculite values of which 35 have significant values.

The second phase of this project involves the evaluation of approximately 92 of these samples by a laboratory for percentage of vermiculite and for the size and density of the vermiculite.

Two other individuals, C.W. Archibald (mining engineer) and F.T. Archibald (geologist) (QPAP grants QP92-255 and QP92-254 respectively) worked on this same project. Grant QP92-255 consisted of overburden drilling underneath areas that indicated significant vermiculite mineralization to see if values extended to depth and to carry out assaying through an independent laboratory. Grant QP92-254 covered the portion of the program that included the geophysical surveys, some geological mapping and sampling whereas my portion covered reconnaissance prospecting, mapping, sampling and reconnaissance sample analysis for vermiculite.

A total of 62 days were spent on field work and 10 days on sample preparation and analysis, one day on data research and 5 days on report preparation. A total of \$3397.22 was spent on project expenditures for Grant QP92-236. A total of \$11,697.22 was spent on this project by J.C. Archibald in time and expenditures as outlined by the QPAP Program requirements.



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Property

The original property consisted of three patented claims numbered 35355, 35356, and 35362. The original discovery of vermiculite was located on the north-west section of claim 35362. Consequently, it was found that this original discovery was along the eastern contact of a dolomite/marble unit which contained several parallel zones of vermiculite-bearing material, and subsequently claims E01191249 and E01191295 were picked up to cover these areas. The original claims consisted of approximately 130 acres. Since vermiculite-bearing lenses continued off the property onto Crown land, an additional 260 acres was staked onto the main group. The surveys in this program cover an area of approximately 450 acres.

The original vermiculite discovery was made by Hervey Greene on Lots 19 to 23 in Concessions III and IV in the southeast section of Cavendish Township. This program managed to locate parallel vermiculite systems on Lots 12 to 14 in Concessions II and III of Cavendish Township.

The property is located some seven kilometers north on Highway #507 which runs between Buckhorn and Gooderham. It is approximately 35 kilometers northwest of Peterborough, 45 kilometers northeast of Lindsay, and approximately 243 kilometers northeast of Toronto. The property is located approximately 1.2 kilometers north of the Cavendish-Hervey Township line along Highway #507.

The property consists of gently rolling terrain with mature pine, maple, and oak (4 to 12 inch diameter). Overburden cover is shallow and on average is approximately 0.5 to 1.0 meters to bedrock. In the swampy areas, depths of up to 10 meters of overburden were encountered consisting of mainly peaty material and poorly developed basal till. It was hoped that some of these areas might yield larger volumes of weathered vermiculite that infilled low depressions during the last glacial period.

History

In 1950, Harvey Greene acquired claims in the area where the work program was run. Vermiculite was first located on Lot 14-Concession II, on Lot 23-Concession IV, on Lot 25-Concession IV, and on Lot 22-Concession IV.

In 1973, Globex Minerals Inc. prospected and drilled the area immediately to the east of the claims. This program consisted of a limited amount of diamond and auger drilling.

In 1975 and 1976, under the supervision of Mr. C.W. Archibald, Gasnewk Mines Ltd. carried out an exploration program consisting of auger drilling, soil sampling, auger drilling, diamond drilling, and backhoe trenching. Approximately 1163 meters of diamond drilling and 3400 meters of backhoe trenching was completed during this program. Vermiculite was located over a strike length of some 1737 meters, to depths of up to fifteen feet.

A total of three vermiculite zones were outlined by these previous programs. The zones averaged 122 meters to 274 meters in width, and 163 meters to 623 meters in length. Some 93,3000 cubic yards of vermiculite (of over 5% vermiculite by volume) was located in an area of 366 meters by 152 meters. Due to the close proximity to colleges, the program was temporarily shelved.

Geology

The area is underlain by carbonate-rich metasediments of marble and diopside (Grenville), amphibole-rich metasediments, syenite and syenite gneiss, and quartz monzonite. These units are all cut by pegmatite and syenite dykes. The metasediments are formed from metamorphosed limestone. Bands of altered biotite or amphibole-rich material can be seen within areas of intense shearing as an alteration product of metamorphism.

The vermiculite is mainly found within the weathered-silicified marble and dolomite bedrock, particularly in the areas bordering shallow swamps. Some pseudo-vermiculite can be seen within the amphibolite-rich shears, caused in part by hydrothermal alteration. A majority of the vermiculite horizons are located within the marbles around the edges of the Anstruther granite batholith. A thin band of amphibolite is found between the Grenville marbles and the Anstruther batholith. Bands of biotite-rich amphibolite and granite are found to cut the metasedimentary marbles along shear contacts which now appear as schistose material.

The modal makeup of the vermiculite is as follows:

40.0-42.4% SiO₂

23.6-29.3% MgO

9.6-12.2% Al₂O₃

5.1-6.7% FeO

0.7-1.1% TiO₂/CaO/K₂O

The phlogopite, tremolite, and biotite hydrothermally alter to vermiculite, talc, and serpentinite. The vermiculite forms at higher temperatures and different Ph than the other minerals. Vermiculite is essentially a hydrated aluminum and magnesium rich mineral.

in this area the vermiculite is beige (phlogopite-biotite origin) and green (tremolite-serpentinite origin) and found mainly in sheet-like lenses. The latter is a higher-grade material. There are minor amounts of red colored vermiculite flakes, due to alteration of actinolite. The Mg content is caused by dissolution of dolomite from the calc-silicate rocks.

On the Goshawk/Insulite property to the east of the survey area, the vermiculite bands strike at North 70 degrees East, and dip 20 to 60 degrees to the south.

Geological Survey

The geological survey was run during the summer and fall of 1992. There was a one-week period in November when there was up to seven centimeters of snow cover but this did not effect the survey as the ground conditions were not frozen and outcrops were still visible.

A total of 22.6 kilometers was traversed during the survey, along flagged lines and claim lines. Although this was a reconnaissance program attempting to locate vermiculite bearing material within the marble and dolomite units, differentiation between biotite rich amphibolites and amphibole-rich amphibolites was not made.

A metasedimentary complex of marble and dolomite was located on the property. This unit is approximately 750 meters in width and at least 1200 meters in length, continuing off the property onto crown land in the southwest. Where the metasedimentary unit continues off the property, it appears to narrow but still averages approximately 350 meters in width. To the north, roughly through the mid-section of Horeshoe Lake, the metasedimentary unit is terminated by both amphibolite and syenite units. This same metasedimentary unit appears to outcrop approximately 0.9 kilometers to the south of the property and also 3.2 kilometers to the north of the property.

It appears that the Goshawk Mines Ltd. vermiculite deposit is not connected to the zones outlined during this survey. The new zones occur on the north-west flank of a fold, and the Goshawk deposits occur on the ridge of the same fold; both are separated by biotite-amphibole-syenite amphibolite units. The Goshawk marble-dolomite metasedimentary units extend as far as the east boundary of claim 35355.

Vermiculite mineralization is found all around the contact area of the metasedimentary unit and within amphibolite-rich shears which are trending from the metasediments and within the sedimentary unit itself.

Along the edges of the metasedimentary unit, the vermiculite bearing zones appear to be confined within lenses. These lenses dip from 45 degrees to 80 degrees, the latter being the prevalent dip to the southwest. The vermiculite mineralization in the central portion of this metasedimentary unit appears to be wider and has greater potential for depth.

The metasedimentary unit is terminated north of Line 6 South (west side of Horseshoe Lake), and appears to pinch south of Line 17 South (southwest of claim 1191249). However, extensions of this zone can be found along Highway #507 a few kilometers south and north of the claim group.

Geochemical-Soil Testing Program

Approximately 338 samples were taken during this phase of the program of which ten were taken in areas adjacent to the main section of the survey grid.

The samples were taken for the most part from the soil horizon immediately above the bedrock. Extra care was taken to try and obtain chips of the bedrock. Dolomite/marble units appeared for the most part to be weathered to semi-weathered. The amphibolite units, with exception of the sheared units, appeared to be more massive and less resistant to weathering processes.

On average the samples were taken at 0.5 to 1.0 meters in depth. The southern and extreme northern sections of the property were overlain by shallow overburden. The areas surrounding Horseshoe Lake and to the southwest of Horseshoe Lake were overlain by deeper overburden averaging 1.0 to 3.0 meters in depth. Drilling by C.W. Archibald (QPAP Grant # QP92-265) indicated that depths of up to 10.0 meters of overburden are found in some of the swamps surrounding Horseshoe Lake. The drilling program was run over areas which indicated high surface values and areas of possible high tonnage situations.

It was found by initial prospecting that the main vermiculite values coincide with the marble/dolomite metasedimentary units, and within sheared amphibolite/amphibolite gneiss units which are in close contact with the metasedimentary units. For this reason a majority of the samples were taken from the marble/dolomite units.

Samples were taken every 25 meters on lines spaced at 100 meters apart.

These samples were evaluated visually by using a propane torch to exfoliate a portion of the samples. Samples were first pulverized before exfoliating to allow for greater surface area and better exfoliation of the micaceous booklets. The samples were divided into three categories:

- A) no visual vermiculite exfoliation
- B) visual indication of vermiculite under 10% volume (V or *)
- C) visual indication of vermiculite over 10% volume (VG or **or***)

Samples which indicated vermiculite were used in a qualitative determination program to determine:

- A) exact percentage of vermiculite
- B) size distribution of vermiculite
- C) weight of vermiculite (pounds per cubic foot determination).

The initial phase of logging and visual determination took between 0.5 and 1.5 hours per sample on average. The detailed analyses of size distribution and weight determination, including sample drying, averaged 6.6 hours per sample. The samples were dried in a convection oven at temperatures of under 100 degrees F. Low temperatures are needed as higher temperatures will change the exfoliation potential of the vermiculite mineral. The samples are then pulverized and weighed before exfoliation. After exfoliating each sample, the vermiculite is weighed. The samples are then screened using +4, +4 to -8, +8 to -14, +14 to -28, -28 screen fractions. Each fraction is weighed and then pound per cubic foot determinations are made.

Results of Program

Some 338 geochemical/soil samples were taken during the program. Most of these were obtained within the marble/diopside units and the remainder within amphibolite-rich shear zones. Of the samples taken, 135 (40%) contained vermiculite. Approximately thirty-five of the samples or 34.9% of the vermiculite-bearing samples have visually indicated values of over ten percent vermiculite by volume (upon exfoliation).

Ninety two samples have been analyzed for quantitative analyses and size distribution/density analyses.

Industrial Use for Vermiculite

Vermiculite is primarily used in gypsum plaster, insulation, and replacing sand in concrete. It is desirable due to its low density, high heat

resistance, low thermal conductivity, light weight, inert chemical properties, and acoustic (sound-proofing) qualities. It is also cheaper to transport in bulk as a raw product before exfoliation and have it expand to its final product once it reaches its proper market.

Other vermiculite deposits located in Canada are in the Sudbury and Perth areas. Due to the high asbestos/talc contents, these deposits are not in demand. There are only four other producers of vermiculite in the world which include, Libby (Montana), Palabora (South Africa), Enoree (South Carolina), and Santa Luzia (Brazil). The first three are high grade (~90% vermiculite) but within narrow lenses and pods. The last is not in high demand due to a high biotite content.

Vermiculite is generally graded into six categories: No. 1 is coarser than +4 mesh (density of 7 pounds per cubic foot), No. 2 is between -4 and +14 mesh (density of 6 pounds per cubic foot), No. 3 is between -14 to +28 mesh (5 pounds per cubic foot), and No. 4 to No. 6 is between -28 and +48 mesh (4 pounds per cubic foot). No. 1 is used for loose fill and agricultural purposes, No. 2 is used for refrigerator insulation or asphalt impregnation or plaster/concrete aggregate, No. 3 is used for agricultural growing or plaster/concrete aggregate, and Nos. 4-6 is used for fillers, insecticides, carriers, paint extenders and home insulation. Vermiculite competes with gypsum, perlite, foamed slag, clay, and sand as an industrial mineral. It has a higher k factor and is lighter than the other materials, although it has less compressive strength.

Our concern with this particular occurrence is its potential for uses in the environmental field as a capping or inner material for waste and landfill sites and as an absorbent material for toxic spills if the qualities of this particular deposit are amenable to this purpose.

Summary of Results-

Of the 358 samples taken during the surface geochemical sampling program, 92 of the samples returned vermiculite values. Of the samples which returned vermiculite values, some forty-one (44.6%) of the samples in them contained significant values. Significant values are determined as those which are over ten percent vermiculite by volume.

Significant values were returned from all five of the vermiculite-bearing anomalies. The highest percentage of vermiculite found in each anomaly is as follows:

anomaly 1 - up to 14.15% vermiculite (14.7% average)

anomaly 2 - up to 16.26% vermiculite (16.1% average)

anomaly 3 - up to 26.00% vermiculite (24.2% average)

anomaly 4 - up to 13.97% vermiculite (13.1% average)

anomaly 5 - up to 26.44% vermiculite (8.1% average)

Samples were also analyzed from the insight/Boschway property to the east of the survey area and from the roadcut some 1.2 kilometers to the south of the survey area. These returned 14.16% and 14.47% vermiculite respectively.

Sampling has indicated that the zones extending to the southwest and to the east of the survey area have been covered by six claims were staked during this program to cover some of the important areas.

A majority of the vermiculite is contained within the -20 to +44 mesh size fraction (grades 2 to 5), but there is sufficient material also in the -14 to +20 (grade 3) mesh size fraction.

Approximately 42 percent of the samples within the -6 to +14 mesh fraction contain material with a density of 5 to 7 pounds per cubic foot, and approximately 25 percent of the samples within the -14 to +28 mesh fractions contain material with the same density. Only 10.9 percent of the samples containing vermiculite contained material coarser than +6 mesh size.

Visual indications during the field studies indicated that Anomaly D and Anomaly E contained coarser vermiculite material with lower densities.

The method of exfoliation of vermiculite using propane torches is sufficient for field studies, but it has been found that without proper temperatures at specific time intervals, vermiculite will not expand to its fullest potential. It is therefore estimated that the vermiculite under ideal conditions will occupy more of the coarser mesh intervals, and that the densities will be lower than what this study has indicated. An oven with 1350 to 1700 degrees F. should be used for future exfoliation of materials.

Conclusions

This phase of the exploration program has expanded the previously known areas of vermiculite-bearing material which were first located on patented claim E035362. Prospecting, geological mapping, geochemical/soil sampling, VLF-Electromagnetic and magnetometer surveys were all useful tools in outlining these vermiculite deposits. Vermiculite has been found to be associated within defined geological units (metamorphosed limestone), and it has been found that the magnetometer survey is useful in delineating between the iron-rich amphibolites and the iron-poor marble/limestone units.

A total of five vermiculite-bearing zones in total were outlined, encompassing a surface area of over 450 square meters.

It appears that these zones, all of which lie within a marble (metamorphosed limestone/dolomite) unit, trend in a northeasterly direction (N 20 degrees E). These zones are truncated in the middle section of Horseshoe Lake (at Line 6 South), but appear to continue off the property and survey grid to the southwest.

The vermiculite-bearing zones are located either at the contact or in the central portions of the marble complex. At the contact edges the vermiculite material appears to be relatively shallow and unweathered at depth but in the central areas appears to be wider and weathered to greater depths.

It is possible that the material in the central sections of the marble complex is possibly an accumulation of weathered material within a "bowl" or trough; and for this reason there is potential for a large-tonnage situation in this area. Although Anomaly E, in the northwest section of claim E0 35362, has some of the highest vermiculite percentages per volume of material, it is thought that Anomalies C and B respectively have the greatest potential for both grade and volume.

A total of ninety two samples returned significant vermiculite assays. Approximately forty-five percent of the vermiculite-bearing samples contained over ten percent vermiculite by volume and these high-grade samples covered an area of approximately 600 meters square (800 meters east-west and 400 meters north-south). This area is located to the south and southwest of Horseshoe Lake.

Most of the vermiculite mineralization was located in low ground or at the edges of swamps. It is possible that there is one large area of accumulation in some areas where some of the anomalous zones are one of the same. It is also thought that some of these anomalous zones are close enough to each other to be mined as one deposit in the future.

There is sufficient quantities of vermiculite within the -8 to +28 mesh fractions, (the majority in the -14 to +28 mesh range), with a density of 3 to 7 pounds per cubic foot. The exfoliated vermiculite coincides with the industrial categories of #3 grade to #6 grade. The size and grades outlined by lab analyses indicate that this material is useful as plaster/concrete aggregate, fillers, and paint extenders. With a proper method of exfoliation (using an ideal exfoliation temperature of 1350 to 1650 degrees F over a specific time period), it is thought that there is sufficient material in the higher-grade/ coarser size fractions which would be useful for insulation purposes. There appeared to be coarser material associated with Anomalies B, C, and E.

It visually appears that the vermiculite in this deposit is relatively free of talc, serpentinite, and other gangue minerals. It also appears that this vermiculite is anhydrous or of the non-absorbing type; thus it would be more useful as an insulating material rather than for planting/agricultural products or as an environmental adsorber. It is too soon to determine from this first phase study whether this material may be conducive to uses in the environmental field.

Recommendations

The next phase should be to evaluate the area and depth of the higher grade mineralization, to outline the tonnage and grade potential. There is a surface area of approximately 400 meters by 800 meters (between Lines 7 south and 11 south on the south and southwest side of Horseshoe Lake) which should be tested to see if this is in effect a large bowl-type accumulation of residual material. At the same time a backhoe should be used to bulk-test and sample at depth (to approximately 4.5 to 5.5 meters depth) on each of the anomalies where high values were indicated. One fence per anomaly would total approximately 500 to 600 meters of trenching. These trenches could be logged, sampled, and backfilled in approximately 40-50 hours of backhoe time.


This vermiculite deposit, contained within a marble complex, appears to terminate to the north but extends to the southwest. The extent of this deposit is unknown and continues to the southwest into an area overlain by crown-land. As the highgrade values continue into this area, it should be geologically mapped and sampled to see the extent of this zone. A magnetometer survey would be useful in outlining geological contacts under swamp or heavy-overburden areas.

Vermiculite mineralization has been located in several other locations off the property such as on the Harvey-Cavendish Township line some 0.8 kilometers to the south, on the Insulite/Goshawk property some 2.4 kilometers to the east, and in a roadcut on Highway #507 in line of strike and some 4.4 kilometers to the northeast. It is possible that all of these areas are geologically related.

Although the marble complex is truncated to the north, it is possible it squeezes and bulges, with the possibility that there are a series of other truncated marble complexes extending further north. There is also a large area of open Crown land underlain by metamorphosed limestone or marble some 3.6 to 4.4 kilometers to the north of the present survey area which should be investigated during the next program phase, at the same time the detailed survey and bulk-sampling programs are being runover this property. The next phase could be carried out during the summer and fall months of 1993 when the ground conditions and exposures are ideal. Part of this work program would include some further in-depth study of the properties of the higher quality vermiculite material to see if it has the chemical properties for uses in the environmental field.

December 31, 1992.

Toronto, Ontario.


J.C. Archibald, B.Sc. Geologist.

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LEGEND. — X no vermiculite value
*** Vermiculite visible**

Sample Analysis -

Sample Nos./Location	Wet Wt.(gm.)	Dry Wt.(gm.)	Exfol Wt.(gm.)	Verm Content
J003	26.5	26.4		X
J004	19.8			*
J007	20.0	20.0		X
J0013	11.9			*
J0017	13.2			*
J0018	19.9	19.9		X
J0019	25.9	25.9		*
J0023	16.5			*
J0030	19.4	19.4		X
J0031	19.7	19.7		X
J0034	19.5	19.5		X
J0036	18.6			*
J0039	15.3			*
J0050	21.6	21.6		X
L5S - 0+50W	21.4			*
L6S + 0+50W	105.2	105.2		X
L6S - 6+50W	24.5	24.5		X
L6S - 8+25W	15.6			*
L6S - 8+50W	14.8	14.8		X
L6S - 7+75W	17.9			*
L6S - 9+25W	19.8			*
L7S - 0+25W	43.1	43.1		X
L7S - 1+00W	71.1			*
L7S - 1+50W	36.5	36.5		X

L8S - 0+75W	49.1	49.1	X
L8S - 1+00W	35.7	35.7	X
L8S - 1+25W	84.2	84.2	X
L8S - 1+50W	20.9		*
L8S - 2+50W	56.2	56.2	X
L8S - 9+00W	15.9		*

L9S - 4+00W	34.6	34.6	X
L9S - 5+25W	17.6		*
L9S - 5+50W	61.8		*
L9S - 5+75W	21.7		*
L9S - 6+00W	23.2		*
L9S - 6+25W	21.4		*
L9S - 8+50W	13.7		*
L9S - 8+75W	17.6		*
L9S -			

L10S - 2+25W			*
L10S - 5+00W	79.3	79.3	X
L10S - 6+25W	66.3	66.3	X
L10S - 3+75W	157.6	157.6	X

L11S - 3+00W	73.1	73.1	X
L11S - 3+25W	85.1	85.1	X
L11S - 3+50W	97.3	97.3	X

L12S - 1+50W	19.4		
L12S - 3+25W	118.6	118.6	X
L12S - 5+00W	243.7	243.7	X
L12S - 3+50W	29.5	29.5	X
L12S - 4+75W	38.1	38.1	X
L12S - 6+00W	108.8	108.8	X
L12S - 7+75W	46.0	46.0	X
L13S - 1+75W	33.4	33.4	X
L13S - 2+75W	40.3		
L13S - 4+25W	34.6	34.6	X
L13S - 4+75W	25.4	25.4	X
L13S - 5+25W	67.9	67.9	X
L13S - 7+00W	52.5	52.5	X
L13S - 7+50W			
L13S - 7+75W	1.2	1.2	X

Sample Analysis -

Sample Location	wet Wt.(gms)	Dry Wt.(gms.)	Exfol. Wt.(gms.)	% Verm.
BL - 4+75 W				X
L1+50S - 5+25 W				X
BL - 600 W				X
L0+50N - 1+75W				X
L1+11N - 2+75E				X
L1+00N - 5+50W				X
L0+50N 4+50W				X
L0+50S - 6+00W				X
L0+50N - TL				X
L1+00N - 1+50W				X
L1+00N - 1+50E				X
L1+00N - 5+75W				X
L0+50N - 5+00W				X
L0+00 - 0+25W				X
L0+50S - 2+00W				X
L0+50N - 1+50E				X
L1+00S - 0+25W				X
L2+50S - 4+75W				X
L4+00S - 4+75W				X
L2+50S - 5+25W				X
L4+50S - 6+00W				X
L0+00 - 0+75W				X
L1+00N - 4+25W				X
L3+50S - 5+25W				X
L0+50N - 0+75E				X

Sample Location Wet Wt.(Gms) Cr₂O₃ wt.(gms) Exfol. Wt.(gms) %Verm.

L1+00N - 1+00W				X
L0+50N - 0+75W				X
L4+00S - 6+00W				X
L4+00S - 5+50W				X
L1+00S - 4+00W				X
L4+50s - 5+75W				X
BL - 3+25E				X
BI - 3+00W				X
L4+50S -7+00W				X
L4+00S - 4+50W				X
L4+00S - 6+25W				X
BL - 5+75W				X
L0+50S - 1+75W				X
L1+00N - 3+00E				X
BL - 5+00W				X
L4+50S - 5+50W				X
L4+50S - 6+25W				X
L0+00 - 3+50W				X
L4+00S - 5+25W				X
L0+50S - 4+75W				X
L4+50S - 7+25W				X
L1+00S - 1+00W				X
L1+50S - 2+75W				X
L4+00S - 5+75W				X
L1+00N - 4+50W				X
L1+50S - 5+75W				X

Sample Location	Wet Wt.(gms)	Dry Wt.(gms)	Exfol. Wt.(gms)	% Verm.
BL	- 3+00W			X
L3+50S	- 6+00W			X
L1+50S	- 3+00W			X
L2+50S	- 3+50W			X
L0+50S	- 5+00W			X
L4+00S	- 6+50W			X
L4+00S	- 4+ 80 W			X
BL	- 1+50W			X
L1+00S	- 4+50W			X
BL	- 1+ 00 W			X
L0+50N	- 1+25 W			X
L3+00S	- 6+00W			X
L0+50N	- 4+25W			X
L0+50N	- 0+50W			X
Bl	- 0 +75W			X
BL	- 0+25W			X
L0+50N	- 1+50W			X
L1+00N	- 1+75W			X
L0+50N	- 5+50W			X
L0+50N	- 0+50E			X
L3+00S	- 3+75W			X
BL	- 1 +50W			X
L1+00N	- 0+50W			X
TL	- 1+00N			X
L1+00N	- 1+75E			X

Sample Location Wet Wt.(gms) Dry Wt.(gms) Exfol. Wt.(gms) % Verm.

L0+00 - 4+50W				X
L0+50N - 4+75W				X
L1+00N - 0+25W				X
L0+50N - 1+75E				X
L4+50S - 4+75W				X
L1+00S - 4+75W				X
L0+00 - 3+75W				X
L0+50S - 4+50W				X
L0+00 - 4+25W				X
L0+00 - 4+00W				X
EL - 2+00W				X
EL - 5+50W				X
L1+00N - 2+25W				X
L1+00N - 5+00W				X
L1+00N - 2+50E				X
L1+00N - 4+75W				X
L1+00N - 1+25W				X
L1+00N - 2+00W				X
L0+50N - 1+00E				X
L1+00N - 0+75W				X
L0+50N - 0+25E				X
L0+50N - 2+50W				X
L2+00S - 5+00W				X
L1+00N - 2+25E				X
L1+00N - 5+50W				X

Sample Location wt. (gms) Dry Wt.(gms) Exfol. Wt.(gms) %Verm.

L1+00N - 3+75W				X
L4+00S - 5+00W				X
L0+00 - 5+ 20 W				X
L4+50S - 6+50W				X
L1+00N - 4+00W				X
L0+00 - 2+ 20 W				X
L2+00S - 4+00W				X
L0+50N - 5+25W				X
L4+50S - 6+75W				X
L1+50S - 3+75W				X
				X

Sample Location : Description

L4+50S-6+00:Liteyellow/buff,sandysilt,dry,loose,oddroot+frag,poor flakes

L0+00-0+75W:buff/mid bn., matted, moist,homogeneous,lot flakes,no frags

L1+00N-4+25W: dk.bn.color, loose, sandy, lot frags, poor flakes

L3+50S-5+25W: moist, matted, dk.bn.to buff, lot frags+silver flakes

L0+50N-0+75E:moist, matted,dk.bn./buff, odd frag., few roots, lot flakes

L1+00N-1+00W: moist/matted,buff brown,odd frag.,lot silver flakes,roots

L0+50N-0+75W: dk.bn. ,matted, moist, few roots, small flakes, no frags.

L4+00S-6+00W dry, fine buff/yellow sandy soil, lot frags, poor flakes

L4+00S-5+50W: dry, ~~fine~~ sandy soil, dk.brown,lot frags, poor flakes

L1+00S-4+00W: dry, buff/dk.bn. sandy soil, lot frags, poor flakes

L4+50S-5+75W: dry, red.bn. sandy soil, lot frags/flakes

BL - 3+25E: dk.brown, granular marble, dry, roots, poor flakes (Bedrock)

L4+50S-7+00W:fine grey, sandy/granular, lot frags, dry, no roots or flakes

L4+00S-4+50W:lite buff bn., moist/matted, lot flakes, no frags. or roots

L4+00S-6+25W : fine, grey sandy, lot frags, lot roots, no flakes, dry

BL -5+75W:lite buff bn.,moist/matted, lot flakes, no frags.,homogeneous

L1+00N-3+00E:dk.red/bn.,sandy,dry,loose/granular soil,lot frags.,no flakes

BL -5+00W: dk.red/bn., sandy, dry, loose, lot frags., no flakes

Sample Location : Description

L4+50S-5+50W: mid.buff bn., dry, loose, sandy soil, lot frags., no flakes
L4+50S-6+25W:mid bn./buff color,dry,loose,sandy soil,lot frags.,no flakes
L0+00-3+50W : mid.buff bn., dry, loose, sandy soil, lot frags., no flakes
L4+00S-5+25W: mid.bn/buff color, dry, loose, sandy,lot frags.,no flakes
L0+50S-4+75W:grey/bn,matted-clay (marl),wet,no frags/roots,lot flakes
L4+50S-7+25W: moist/matted(marl),wet,lot flakes,some frags.,no roots
L1+00S-1+00W:red/bn.,loose, dry, sandy with frags., no flakes
L1+50S-2+75W: wet,grey/blk.mar,lot frags,silver lge.flakes (on bedrock)
L4+00S-5+75W:fine, loose, dry, mid bn.sandy soil, odd flake, no frags.
L1+00N-4+50W: dk.red/bn.loamy soil, lot frags., poor flakes, dry
L1+50S-5+75W:Lite gm./bn.micaceous, loose, wet/matted, small flakes
BL -3+00W: lite green/bn.,micaceous,lot frags/flakes(bedrock)
L3+50S-6+00W: very wet,gn./bn., lot mica flakes + frags., loose, matted
L1+50S-3+00W:wet, lite buff color, sandy alt.marble?, no flakes,
L2+50S-3+50W: wet, dk.gm./blk, micaceous, sandy, fine flakes
L0+50S-5+00W: wet, lite gm./bn., lot flakes, loose, matted, no frags.
L4+00S-6+50W : moist, gm./bn. micaceous,lot larger flakes, lot frags.
L4+00S-4+50W: wet gm./buff, lge. flakes, lot roots, matted, odd frag.

Sample Location : Description

BL -1+50W: moist, red/bn., sandy fine soil ,fine flakes, lot mica

L1+00S-4+50W: wet, dk.bn./blk.with lot silver flakes, odd frag.

BL - 1+25W: moist, red/bn.sandy loam, matted, odd flake

L0+50N-1+25E: moist, red/bn.sandy loamy soil, lot flakes, odd frag.

L3+00S-6+00W: very wet, dk.bn./blk.laom, lot silver flakes, lot frags.

L0+50N-4+25W:moist, red/bn.sandy loam lot silver/green flakes, no frags.

L0+50N-0+50W: dryer, red/bn.sandy, lot silver flakes, odd frag.

BL - 0+75W: moist, matted, w. roots, lge. silver flakes in bn. sandy loam

BL -0+25W: moist, matted sandy soil, w. roots,lge.silver flakes,lot frags.

L0+50N-1+50W: moist, red/bn.sandy soil, lot flakes, loose, no frags.

L1+00N-1+75W:moist lite buff/ bn. sandy soil, loose, lot flakes, roots

L0+50N-5+50W:dry,loose,bn/blk.sandy soil,lot roots,silver flakes,no frags.

L0+50N-0+50E: loose,moist,med.bn.sandy,lot silver flakes+roots,no frags.

L3+00S-3+75W: wet, loose, dk.bn.sandy, lot silver flakes, no frags.

BL - 0+50W: moist,lite buff/bn.,matted silts,lot silver flakes,no frags.

L1+00W-0+50W: lite red/bn.sandy loam, no frags.,lot silver flakes(med)

TL - 1+00N: moist, grey clay/loamy marl, lot frags, poor flakes

Sample Location : Description

L1+00N-1+75E: moist, mid.bn.sandy soil, lot roots/silver flakes/odd frag.

L0+00-4+50W: wet, matted, mid.-dk.bn.sandy, large flakes

L0+50N-4+75W: dryer, loose dk.bn.sandy soil, less silver flakes, no frags.

L1+00N-0+25W: moist, med.bn., loose sandy soil, lot roots, poor flakes, no frags.

L0+50N-1+75E: dry loose granular marble, poorly flaked, lot roots,no frags

L4+50S-4+75W: moist/matted , mid bn., sandy, lot flakes/roots, no frags.

L1+00S-4+75W: wet,lite grey/bn.sandy, lot silver flakes, no frags

L0+00-3+75W :wet, dk.bn/blk.organics over med/grey marl, odd flake

L0+50S-4+50W: wet, dk.bn.organics over grey marl, larger flakes

L0+00 - 4+75W: wet, grey/buff bn. sandy soil, no frags, lot med.flakes

L0+00 - 4+00W: wet, grey/buff sandy soil, no frags, lot med. flakes

BL - 1+00W: moist, red/bn.sandy loam, lot flakes, no frags.

BL - 5+50W: moist, dk.bn.sandy loam, poorly flaked, no frags.

L1+00N-2+25W: wet,dk.bn./blk. sandy loam, lot lge. silver flakes, no frags.

L1+00N-5+00W: moist,loose,red/bn.sandy loam,few flakes,homogeneous

L1+00N-2+50W:dry, dk.bn.loamy soil, lot frags + silver flakes

L1+00N-4+75W: dk.bn.loamy soil, loose, dry, lot roots, no frags.

L1+00N-1+25W: dry, lite red/bn., loose sandy soil, lot roots, poor flakes

Sample Location : Description

L1+00N-2+00W:wet,lite red/bn.buff sandy soil,lot frags/roots,some flakes

L0+50N-1+00E:moist,lite red/bn.sandy soil, no frags,some flakes/roots

L1+00N-0+75W: moist, lite red/bn.loamy soil, lot roots, flakes, no frags.

L0+50N-0+25E: moist, lite red/bn.loamy soil, w.roots, flakes, no frags.

L0+50N-2+50W: moist, red/bn.loamy soil, lot roots, flakes, no frags.

L2+00S-5+00W: fine lite buff sand with frags,poorly flaked

L1+00N-2+25E: dry, dk.bn.loamy soil, lot roots, odd frag., poor flakes

L1+00S-5+50W: dry, red/bn.sandy soil, odd frag., few flakes

L1+00N-3+75W : moist, dk.bn.loamy soil,lot roots/frags., small flakes

L4+00S-5+00W:dry,mid.bn./buffcolor,matted marl, no frags/roots, flakes

L0+00-5+50W: dry, loose, red/bn.sandy soil, lot frags, no roots/flakes

L4+50S-6+50W: dry,loose,fine red/bn.sandy soil,lot roots/frags.,no flakes

L1+00N-4+00W: dry, loose, dk.bn/blk.soil, lot roots/frags/flakes

L0+00 -2+00W:dry,loose,red/bn.loamy soil,lot roots,no frags,poor flakes

L2+00S-4+00W: moist,lite buff sandy soil, lot roots, no frags, poor flake

L0+50N-5+25W: lite bn./buff sandy soil, lot roots, odd frag., poor flake

L4+50S-6+75W: dry, mid bn. sandy soil, lot roots/frags, some flakes

L1+50S-3+75W: dry, loose, red/bn.sandy soil,lot roots/frags, poor flakes



CREDITON ROCK DRILL LIMITED

1690 SISW ROAD, MISSISSAUGA, ONTARIO L4W 1R4

TELEPHONE (416) 625-0941

FAX (416) 625-7459

INVOICE NO: 6220

CUSTOMER NO: BC3

TO: John Archibald
100 Adeliade St.W.-Suite 702
Toronto, Ontario. M5H 1S3

G.S.T. #R101200418

1 1/2% per month service charge on overdue accounts.

DATE	SHIP VIA	FOB	TERMS
------	----------	-----	-------

12/10/92	Pick up	Origin	Net 30 Days
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PURCHASE ORDER NUMBER	ORDER DATE	SALES PERSON	OUR ORDER NUMBER
-----------------------	------------	--------------	------------------

Rental	11/11/92	WC	44796
--------	----------	----	-------

QTY. ORDERED	QTY. SHIPPED	QTY. B.O.	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	1	0	REN-MD RENTAL Pionjar drill/bkr sn 430699	800.00	800.00
1	1	0	RENTAL 104-0314 Narrow Chisel No Charge	0.00	0.00
			RENTAL PERIOD Nov. 11/92 to Dec.10/92		
			Rental Complete		
				Subtotal	800.00
				GST	56.00
				PST (8.000 %)	64.00
				Total	920.00

Page 1

This equipment remains the property of the Vendor until paid in full.

INVOICE

PROGRAM EXPENDITURES - BREAKDOWN

EXPENSES:

Equipment Rental..... Drill + Samplers (1 mo.).....	\$800.00 ✓
Gas Expenses: Field, Travel, Drill.....	\$294.42 ✓
Office/Stationary Supplies.....	\$ 46.64 ✓
Xerox/Map copies	\$ 27.60 ✓
Field Supplies(flagging,tape,baggies.)	\$174.15 ✓
Subsistence/grocery/meals	\$1125.00
Vehicle Use: 4400 km. @\$30/km.	\$1320.00 ✓
Accomodations (Rental of cabin-1 mo)	\$ 800.00 ✓
Special equipment: Exfoliation Furnace	\$ 475.00 ✓

Expenses Sub-Total.....	\$5,062.81

MAN DAYS :

Field Days /Sample collection.....	35 days
Sample Prep./Exfoliation/Analysis.....	13 days
Report/Compilation.....	2 days
Total days worked.....	50 days
Thus 50 days @\$100/day.....	\$5,000.00

TOTAL EXPENDITURES UNDER GRANT PROGRAM.....\$10,062.81

DAILY WORK LOG - J.C. ARCHIBALD

Dates	Field Days	Sample Prep	Office	Description
July 16	X			Travel + equip. set-up
July 17	X			Trail prep.-cut and flag lines
July 18	X			Line Prep - Cut, chain, flag
July 19	X			" " "
July 20	X			" " "
July 21	X		6 sites	-Sample w Pionjar 120 System
July 22	X		8 Sites	- " " " "
July 23	X		7 sites	- lost one hole " " "
July 24	X		9 sites	- Pionjar 120 O.B. System
July 25	X		10 sites	- " " "
July 26	X		5 sites	- Broke sampler/retrieved parts
July 27	X		11 sites	- Pionjar 120 system
July 28	X		5 sites	- Sampling, demob.
				<u>Nov</u>
Nov. 6	X			Mob., set-up equipment, orientation of grid
Nov. 7	X			-grid set-up-chain,flag lines
Nov. 8	X			- Line preparation-flag,cut,chain
Nov. 9	X			- " " " " "
Nov. 10	X			- 8 sites Pionjar 120 O.B System Sampling
Nov. 11	X			- 7 sites -repairs to equip.
Nov. 12	X			- 8 sites - Pionjar 120 system
Nov. 13	X			- 7 sites - " " "
Nov. 14	X			- 8 sites - " " "
Nov. 15	X			-10 sites - " " "
Nov. 16	X			- 2 sites - Equip.breakdown - broken sampler
Nov. 17	X			- 8 sites - Pionjar 120 system

Dates worked Field Office Sample Prep. Description

Nov 18 X

- 9 sites - Pionjar 120 system
17

SAMPLE DESCRIPTION - CAVENDISH VERMICULITE PROGRAM

Sample Location	Description of Sample	Contains Vermiculite ()
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Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

~~Geoscience Approvals Office~~
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

November 7, 1994

Our File: 2.15554
Transaction #: W9490.00058

Mining Recorder
Ministry of Northern Development
and Mines
MacDonald Block, Room M2-17
900 Bay Street
Toronto, Ontario
M7A 1C3

Dear Sir/Madam:

**Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS
SO.1191249 & 1191295 IN CAVENDISH TOWNSHIP**

The deficiencies in the original submission have been rectified.

Assessment work credits have been approved as outlined on the report of work form for the submission. The credits have been approved under Section 13, Geochemical, Mining Act Regulations.

The approval date is November 1, 1994.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705) 670-5861.

ORIGINAL SIGNED BY:

Ron C. Gashinski
Senior Manager, Mining Lands Section
Mining and Land Management Branch
Mines and Minerals Division

JLJ/jl
Enclosures:

cc: Resident Geologist
Tweed, Ontario

✓
Assessment Files Library
Sudbury, Ontario



Report of Work Conducted After Recording Claim

Mining Act

Transaction Number
W9490.00058

Personal information collected on this form is obtained under the authority of the Mining Act. This collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, 100 Queen Street West, Toronto, Ontario, M5H 1S3, telephone (705) 670-7264.



31D09NW0009 2.15554 CAVENDISH

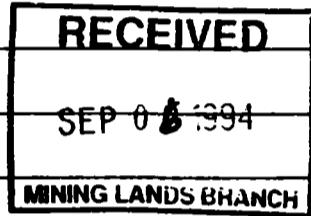
900

- Instructions:**
- Please type or print and submit in duplicate.
 - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
 - A separate copy of this form must be completed for each Work Group.
 - Technical reports and maps must accompany this form in duplicate.
 - A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s) ALAN A. ARCHIBALD		Client No. A51431
Address 74 Conley St. Thornhill, Ontario L4J 2X5		Telephone No. 905-6601554
Mining Division Southern Ontario	Township/Area Cavendish	M or G Plan No. M 72
Dates Work Performed From: June 19⁹82	To: December 19⁹82	

Work Performed (Check One Work Group Only)

Work Group	Type
Geotechnical Survey	
Physical Work, Including Drilling	Till Sampling / Drilling
Rehabilitation	
Other Authorized Work	SECTION 18 ONLY
Assays	
Assignment from Reserve	



Total Assessment Work Claimed on the Attached Statement of Costs \$ **10,828.00**

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
John C. Archibald	702-100 Adelaide St. West Toronto, Ont M5H 1S3

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date August 1/94	Recorded Holder or Agent (Signature) <i>John C. Archibald</i>
--	----------------------------	--

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying John C. Archibald 702-100 Adelaide St. West Toronto, Ontario M5H 1S3		
Telephone No. 905-660-0501 416-3635054	Date August 1, 1994	Certified By (Signature) <i>John C. Archibald</i>

For Office Use Only

Total Value Cr. Recorded \$ 0	Date Recorded Aug 9/94	Mining Recorder <i>[Signature]</i>	Received Stamp RECEIVED
	Deemed Approval Date Nov 7/94	Date Approved <i>[Signature]</i>	SEP 9 1994
	Date Notice for Amendments Sent		1, 2, 3, 4, 5, 6

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units
20155	1191249	4
	1191295	2
Total Number of Claims		2

Value of Assessment Work Done on this Claim	Value Applied to this Claim
9745	9745 0
1083	1083 0
Total Value Work Done	
10828	10828 0
Total Value Work Applied	

RECEIVED
 SEP 06 1994
 MINING LANDS BRANCH

Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
9745 0	9745
----	1083
Total Assigned From	
9745 0	10828
Total Reserve	

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

1. Credits are to be cut back starting with the claim listed last, working backwards.
2. Credits are to be cut back equally over all claims contained in this report of work.
3. Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature

[Handwritten Signature]

Date

AUG. 1 1994



Statement of Costs
for Assessment Credit

État des coûts aux fins
du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction

W9490.00058

2.15554

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4^e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain	50 day	7500
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type		
Supplies Used Fournitures utilisées	Type office	46.64	
	xerox	27.60	
	field supply	174.15	
	exfol. furnace	475.00	723.39
Equipment Rental Location de matériel	Type drill	800	
			800
Total Direct Costs Total des coûts directs			9023.39

2. Indirect Costs/Coûts indirects

** Note: When claiming Rehabilitation work indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
	gas	294.42	294.42
Food and Lodging Nourriture et hébergement	groc. & accom.	192.25	192.25
Mobilization and Demobilization Mobilisation et démobilisation	4400 X 30¢	1320	1320.00
Sub Total of Indirect Costs Total partiel des coûts indirects			1804.68
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excedant pas 20 % des coûts directs)			1804.68
Total Value of Assessment Credit (Total of Direct and Allowable indirect costs)			10828.07
Valueur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)			

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
	x 0.50 =

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valueur totale du crédit d'évaluation	Évaluation totale demandée
	x 0,50 =

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Holder I am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature C. Archibald Date August 1, 1994

Glamorgan Twp. (M-95)

Galway Twp. (M-94)

Anstruther Twp. (M-45)

Harvey Twp. (M-101)

Burleigh Twp. (M-62)

THE TOWNSHIP OF
OF
CAVENDISH
COUNTY OF
PETERBOROUGH

2.155 54

SOUTHERN ONTARIO
MINING DIVISION

SCALE: 1 INCH=40 CHAINS

LEGEND

- PATENTED LAND (P)
- CROWN LAND SALE (C S)
- LEASE (L)
- LOCATED LAND (Loc)
- LICENSE OF OCCUPATION (L O)
- MINING RIGHTS ONLY (MRO)
- SURFACE RIGHTS ONLY (SRO)
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKIEGAMA
- MINES
- CANCELLED
- PATENTED FOR S.R.O.



NOTES

This Map is Not To Be Used
- FOR SURVEY PURPOSES -

400' Surface Rights Reservation along the shores of all lakes and rivers.
For status of summer resort locations & islands please contact Ministry of Natural Resources

Original shoreline shown thus
FR1 shoreline shown thus
Patents Map shoreline shown thus

Area shown thus reserved for proposed Provincial Park, withdrawn from staking - Sec 34(d) of Mining Act File 160708

Mining Claims staked in this Twp subject to Sec 118 of Mining Act

SAND & GRAVEL

- (1) Gravel File 154616
- (2) Gravel " 21547
- (3) M.N.R. Gravel Pit #6 File 21538
- (4) Gravel File 40832
- (5) Gravel " 73125
- (6) QUARRY PERMIT
- (7) M.N.R. Gravel Pit No 138 File 152744
- (8) Gravel File 104960
- (9) Gravel File 40832

Areas withdrawn from staking under Section 34(d) of the Mining Act

File	Date	Disposition
W 67/74	7598V.4	19/12/74 SR BMR
W 3/77	34261	7/1/77 SR BMR
W 50/83	160708	27/8/83 SR BMR
W 11/83	73118	30/9/83 SR BMR
W 67/74	7598V.4	19/12/74 MRO

DATE OF ISSUE
AUG - 9 1994
SOUTHERN ONTARIO
MINING DIVISION

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

PLAN NO - M-72
ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



PLATE I

PLATE A

VI

V

KAWARTHA
HIGHLANDS
PROVINCIAL
PARK

R₂

Beville Lake

Catchacoma Lake

Mississauga R

PUBLIC RESERVE
Beaver Lake

Lake

Gold Lake

CAVENDISH TOWNSHIP

Location of Sampling

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MINING LANDS BRANCH

CONCESSION

PROPERTY LOCATION PLAN

Harvey Twp. (M-101)

Burleigh Twp. (M-101)

PLATE A



210

SCALE
0 800 METERS

SCALE
0 400 800 METERS

Handwritten signature

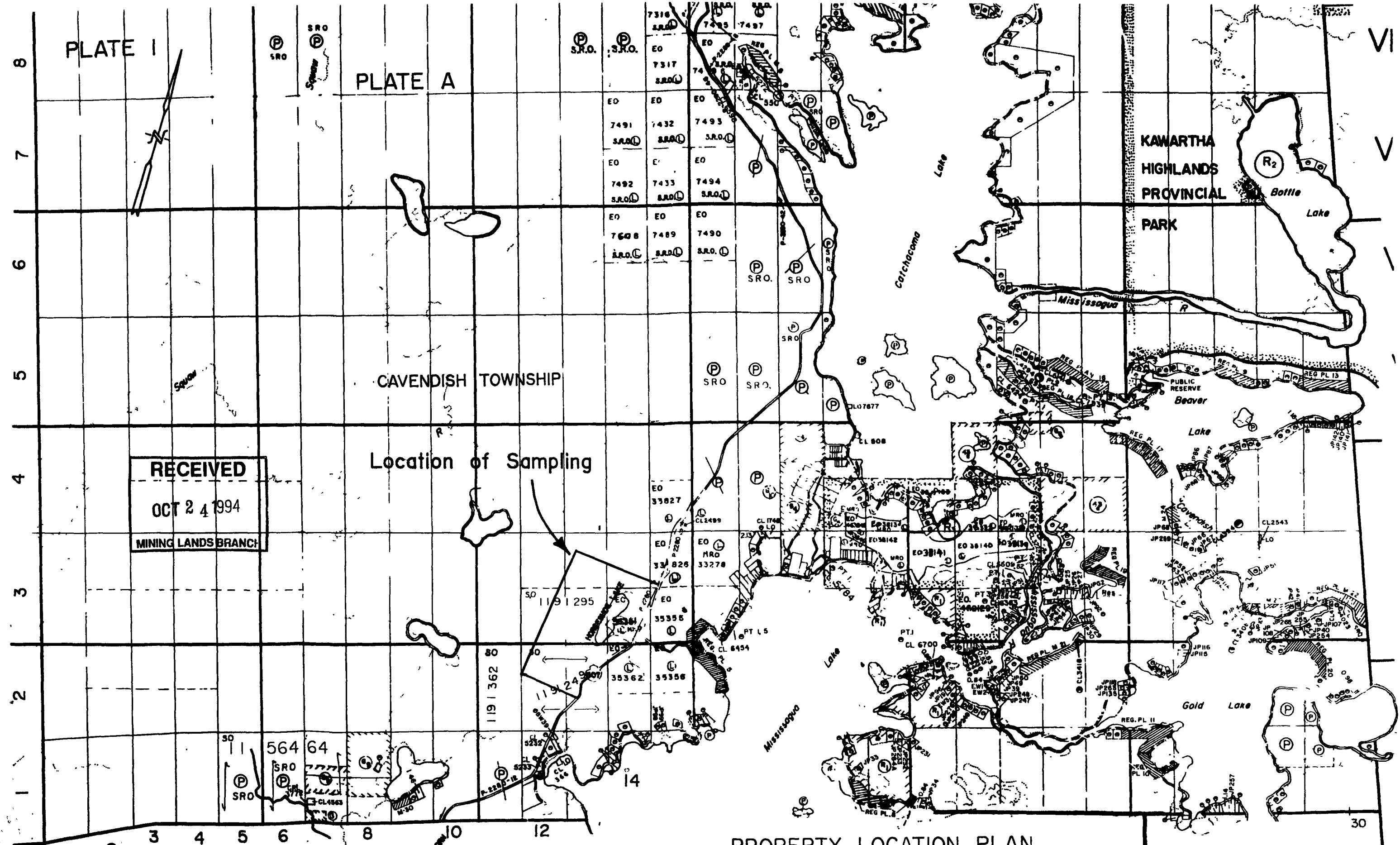


PLATE 2

12 CAVENDISH TOWNSHIP 13 14

LOT II

CL 2488

CL 1748 L.O.

2.13

EO

EO

MRO

33 826

33278



EO

35355



EO

35362



35356



PT. 1, 5

REG. CL 6434

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PROPERTY LOCATION PLAN
TILL SAMPLING AREA

SCALE



MISSISSOQUA LAKE

AREA OF SAMPLING
PLATE 3

HORSESHOE LAKE

WEST ROAD

507

HIGHWAY 507

1191295

1191249

1191362

1191249

OBW39

66df

66df

P

3

CONCESSION 2

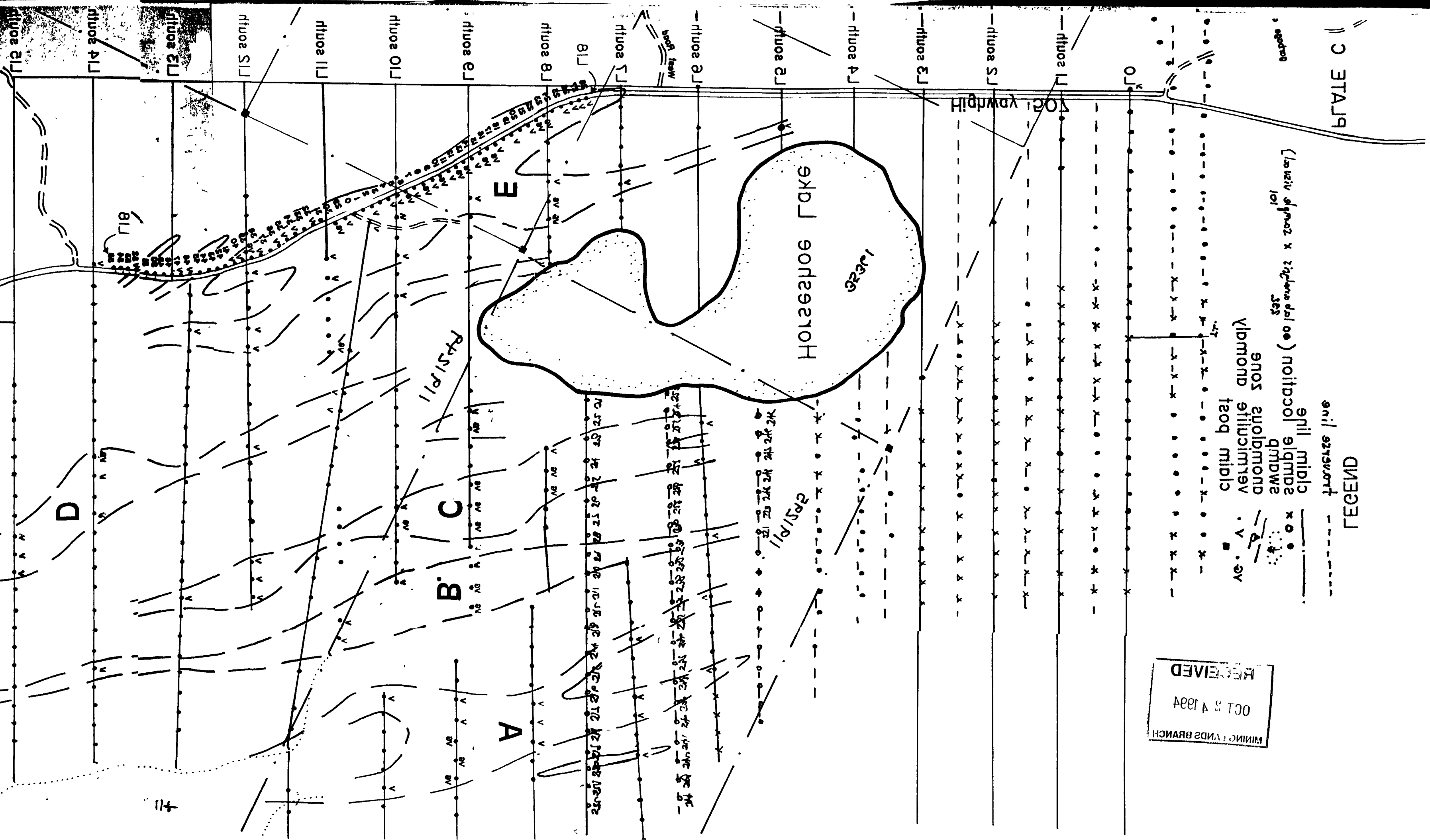


31D08NW0008 2 16654 CAVENDISH



0 50 100 meters
SCALE

САМЫЕ ГОЛОТНОГО
ЭЛЕМЕНТА



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MINING ENDS BRANCH

- LEGEND
- claim boundary
 - vermiculite anomaly zone
 - sample location
 - claim line
 - swamp
 - road
 - GATE C