A GEOLOGICAL SURVEY OF THE
DIMENSION STONE RESOURCES ON THE
BURNT LAKE PROPERTY
THE PARRY SOUND DISTRICT OF ONTARIO

by

JAMES R. TRUSLER

LONG.: 79°50' 21"W - 79°51' 03"W
LAT.: 45°13' 21"N - 45°13' 47"N
NTS: 31E/4

DATE: December 29, 1993
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SUMMARY
The Parry Sound area of Ontario is underlain by complex
gneisses and migmatites of Middle to Late Proterozoic age which are
part of the Ontario segment of the Central Gneiss Belt of the
Grenville Structural Province. A working model of thrust plates
(called domains and sub-domains) which are separated by ductile
thrust faults and moved in a northwesterly direction upon each
other has been postulated by Davidson et al (1982). Easton (1992)
has improved this model in his synopsis using a hierarchy of
terranes and domains wherein the terranes include domains of
similar age which are autochthonous with respect to each other. Age
dating has indicated that four of these large scale terranes or
plates are stacked on each other with the base being near Sudbury
at the Grenville Front and the top being near Kingston.

Despite the recent wealth of scholarly publications a
comprehensive geological map has not yet been made available for
the area. However, the limited information available has enabled
the clear identification of potentially favourable conditions for
both flagstone and dimension stone. Several flagstone occurrences
cluster along Davidson's thrusts and several potential dimension
stone prospects have been identified within the interior of
particular domains.

Although one may ordinarily not expect to find dimension
stone within tectonite terranes, it is evident that the
autochthonous nature of some of the domains combined with annealing
effect of later superimposed amphibolite facies metamorphism
preserved large competent blocks of migmatites and gneisses.

As a result of mapping dimension stone potential, and
sawing and polishing specimens from many prospects. Seven sites in
the Britt domain, and one in each of the Rosseau and Moon River
domains have been staked and mapped by the writer resulting in the
definition of a large number of potential quarry sites. The two
claim unit Burnt Lake property is one of these.

The property is underlain by a folded, steeply dipping,
south trending, cataclastic, weakly foliated, medium to coarse
grained, bright salmon pink, felsic gneiss. The northern portion of
the western edge of the large outcrop in the middle of the property
has a relief of 30 metres, and a quarry could be developed here
capable of producing a high volume of large attractive blocks at
low cost and minimal waste factors. Unfortunately, the local
cottagers association is opposed to exploration and mineral
development which renders this a low priority dimension stone site.
Further research into the potential for uranium is warranted.
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INTRODUCTION

In 1991, the writer commenced a project to evaluate the flagstone and dimension stone resources of the Parry Sound area. At the same time efforts by former Ministry of Northern Development and Mines geologists, principally Chris Marmont and Dave Villard, were being made to outline the substantial potential for these stone resources and make the public aware of the opportunity. In 1992, the regional investigation of flagstone resources by the writer proved discouraging. It was decided late in the field season to focus solely on the dimension stone potential.

By the end of 1992, many prospective dimension stone sites had been identified by either government publications or by the writer's prospecting. Nine of these dimension stone properties have now been staked by the writer, and an initial evaluation of each property involving geological mapping of the outcrops at a scale of 1:5,000 has been completed. The work provides an initial evaluation of potential quarry sites on each property. The project has been supported by the Ontario Prospector's Assistance Program in both 1992 and 1993.

In March, 1993, the Burnt Lake property was staked for its dimension stone potential. Geological mapping was carried out in 1993, and the map in the back pocket was prepared and is being submitted with the final report for the OPAP grant in 1993.

The format of the geological report is formulated in compliance with assessment submission requirements.

LOCATION AND ACCESS

The property is located in Humphrey (formerly Conger) Township, Parry Sound District, Southern Ontario Mining District, and Sudbury District Regional Geologist's area approximately 135 miles (214 km) north of Toronto (Figure 1). The property is bounded by longitudes 79°50'03"W on the west and 79°50'21"W on the east and latitudes 45°13'21"N on the south and 45°13'47"N on the north. The corresponding UTM co-ordinates in metres are 590,195 on the west, 591,120 on the east, 5,008,085 on the south and 5,008,840 on the north. The property is within National Topographic System area 31E/4 and is recorded on claim map M170.

The property can be accessed by a secondary road which leads west from Hwy 69 at the north end of McTaggart Lake (3.5 Km. north of the Gordon Bay Marina). The road passes within 500 m of the property 3 km west of the highway. A small portion of the access crosses private land for a direct walk to the property, but several more circuitous routes are possible which involve using right of ways on private land and crown land access.
PROPERTY

The Burnt Lake property comprises approximately 100 acres and is more particularly described in TABLE 1 (Figure 2).

Assessment will be filed for the current work on the claims, and it is anticipated, as a result, that sufficient credits should be available to keep the entire claim group in good standing for some five years from the date of submission.

TABLE 1: BURNT LAKE PROPERTY

<table>
<thead>
<tr>
<th>Claim No</th>
<th>Township</th>
<th>Lot</th>
<th>Conc.</th>
<th>Area</th>
<th>Recording Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1191211</td>
<td>Conger</td>
<td>N/2</td>
<td>7&amp;8</td>
<td>VIII</td>
<td>100 ac Mar. 29, 1993</td>
</tr>
</tbody>
</table>

Scale: 1:20,000
Figure 2: Property Map
DATES WORKED METHODS USED ON CURRENT PROJECT

Preparation work on the project commenced in March, 1993, the field work commenced on September 8, 1993 and the map drafting and report writing was completed on December 29, 1993. Actual work days for assessment purposes break down as follows:

Burnt Lake Property: Claims SO1191211

Preparation: Apr. 4, July 9, 10, 1993 (2½ days)

Field: Sept. 8, 1993 (1 day)

Drafting: Sept. 29, 30, Oct. 1,4-7,22, Nov. 30, Dec. 1,2,8, 1993 (4½ days)

Reporting: Sept. 20-24,27, Nov. 1, Dec. 16-24, 26-29, 1993 (3½ days)

Preparation for field work involved production of 1:5,000 enlargements of data from Ontario Base Maps and 1:30,000 air photographs. A grid was overlain on the maps, and stations for recording observations at approximately 100 metre centres were plotted and coded. Due to the high percentage of outcrop, visual control was feasible in almost all cases, but traversing by pace and compass from known sites was sometimes supplemented by the use of a rangefinder. The magnetic declination used in the field work is 11°-12° W.

At each station rock types with variations were noted generally with a visual description of colour and textures. Foliations were described and measured where possible. The main emphasis was in measurement of joints and their separations. In this respect at each station joints were observed within a 50 to 100 foot radius of the station. The attitude of each joint was recorded with the minimum and maximum spacing observed and the average spacing estimated.

Observations were directly recorded on a dictaphone in the field. The verbal record was later transcribed to paper notes. Drafting of the data onto maps was later done from the paper notes.
PREVIOUS GEOLOGICAL WORK

A traverse of the shore of Georgian Bay was made by Alexander Murray in 1848, and he gives a brief account of the geology of the shoreline (Murray 1848, p.45,46). The shoreline of Georgian Bay was again examined by Robert Bell in 1876 (Bell 1876, p.198-207). The Huntsville -Bracebridge area was investigated by W.A. Parks (1900, p.121-126), and brief notes on the geology are given. Further field work was done in the area in 1905 by T.L. Walker (1905, p. 84-86). The International Geological Congress had a field excursion in Parry Sound area in 1913. Some local geological features are described by T.L. Walker (1913, p. 98-100).

The first comprehensive reconnaissance mapping in the area was done by Satterly (1942) who visited all the local known mineral deposits. Satterly (1955) also mapped Lount Twp. in detail showing for the first time the existence of mappable units in the Parry Sound area. Hewitt (1967) was able to accurately identify the complexity of petrographic units and correlate some of these in a reconnaissance mapping program.

Greater interest in resolving the geological complexity of the area was kindled by Lumbers who was progressively mapping Grenville terranes in Ontario from the Grenville Front to the south. Lumbers (1975) and by Wynne-Edwards (1972). Wynne-Edwards suggested the first interpretive framework for the Central Gneiss Belt of the Grenville Structural Province. The controversy which arose from Wynne-Edwards "Sea of Gneisses" lead a profusion of other researchers into the area who have conducted specific detailed and reconnaissance mapping and synoptic studies. Since 1972 M. W. Schwerdtner and students have concentrated on resolving many of the structural geology problems of the area contributing a great amount to the understanding of the geology of the Central Gneiss Belt.

The framework for all current work in the area was provided by Davidson et al. (1982). This has been modified subsequently by Davidson and other workers, and Easton (1992) has synthesized this work eloquently. The tectonic terranes and domains separated by shear zones have become imbedded in the literature.

REGIONAL GEOLOGY

The Muskoka-Parry Sound region is part of the Ontario segment of the Central Gneiss Belt in the Grenville Structural Province (Wynne-Edwards 1972). No detailed geological map of the whole region, which was included in a recent major project on the Ontario Gneiss Segment by the Geological Survey of Canada, has been published to date.

Recent mapping by Davidson et al. (1982) has led to a tectonic model in which the thickening of Proterozoic crust is accomplished by deep-level thrusting and associated reverse ductile
shearing (Davidson 1984a, 1984b). According to this model, major crustal slices (called domains and sub-domains, see Fig. 3) have been translated over large distances toward the margin of the Superior Structural Province.

Figure 3: Lithotectonic terranes, domains Central Gneiss Belt (Easton, 1992)

This view has been further modified by some more local studies by Hanmer (1988) and Schwerdtner (1987). According to Hanmer the southeast to northwest thrusting was initiated at approximately 1160 Ma and continued for 100 Ma. However he claims that subordinate northeastward thrusting was coeval and that late synmetamorphic extensional shears cut these major thrusts and thrust sheets but are in turn cut by late movement on the thrusts. He further alludes to the comparison to the structural style of the
Central Gneiss Belt and the Himalayas suggesting that the Grenville exposes the architecture and processes presently active in the roots of younger mountain belts. Schwerdtner's observations agree with Hanmer's respecting a northeasterly component to deformation which he invokes to explain north-south buckle folds. However, Schwerdtner observed that not all foliations can be explained by the thrust model and that three sets of folding are superimposed and cross the domain boundaries. He claims that all the structural facts can be explained without large differential translations of crustal slices and most discordances in the regional gneissosity could have been created by décollement and repeated buckling.

Easton (1992) synthesized all previous studies stating that, "Recorded within the Grenville Province is the tectonic evolution of the southeast margin of Laurentia during the Mesoproterozoic. The Grenville Orogeny has overprinted the structural trends and metamorphic effects of the Archean and Paleoproterozoic geological province of Laurentia. It is now generally accepted that this orogenic event or events involved northwest directed thrusting and imbrication of the entire crust, presumably as a result of a terminal collision at about 1100 Ma. with a continental landmass somewhere to the southeast.

The Central Gneiss Belt consists mainly of upper amphibolite and local granulite facies, quartzo-feldspathic gneisses, chiefly of igneous origin with subordinate paragneiss. Distinctive lithotectonic terranes, some further subdivided into domains, have been identified within the Central Gneiss Belt. The terranes and domains are distinguished by differences in rock types, internal structure, metamorphic grade, geological history, and geophysical signature and are bounded by zones of intensely deformed rocks traceable for tens of kilometres."

The Algonquin terrane consists of 1800 to 1600 Ma gneisses intruded by 1500 to 1400 Ma granitic and monzonitic plutons that may represent an extension of the Eastern Granite-Rhyolite Province. Although imbricated by later thrusting the Algonquin terrane is probably parautochthonous. The Britt and Rosseau domains are part of the Algonquin terrane.

The Britt Domain (Figure 4) comprises a complexly deformed and metamorphosed series of rocks. Although some of the rocks are metasedimentary in origin the preponderance of the rocks were originally plutonic, but have been changed by dynamic and thermal metamorphism. The final stages of this metamorphism appear to have annealed the rock into a compact and durable material having some relict textures and many overlapping and lively features. Dips of these rocks are generally flat to 10° to the southeast. Some units are entirely composed of isoclinal sheath folds whereas other units are evidently deformed megacrystic granitic plutons.
The Parry Sound and Moon River domains consist chiefly of juvenile crust 1450 to 1350 Ma in age and are parallochthonous. The Parry Sound domain rocks comprise dense high metamorphic facies rocks (amphibolite and granulite facies) which are emergent on the other domains. The rocks in the Parry Sound domain are dominantly amphibolite and pyroxenite gneisses which strike to the north east and dip 20°-60° to the southeast (at a much steeper angle than the postulated shear couple accompanying thrusting). The bedrock
largely comprises veined, banded and homogeneous pink and grey migmatitic gneisses produced by injection and granitization of metamorphic gneisses of various types. The rocks are mainly of upper amphibolite and granulite metamorphic facies. Hypersthene-bearing charnockitic gneisses are present in the area. The origin of much of the amphibolite gneiss is obscure. Some which is associated with bands of marble is thought to be paragneiss whereas some is proximal to large bodies of gabbro and anorthosite and thought to be orthogneiss. Trusler and Villard (1980) found evidence that some of the mafic and felsic rocks are of volcanic origin. The high metamorphic grade of the rocks is attributed to a deep seated origin possibly involving underplating at an early stage.

The Bolger pluton in the Britt domain is dated at circa 1450 Ma and underlies the Black Lake, Woods Road and Shebeshekong Lake properties (Figure 4). The Dillon Road property is underlain by both the Bolger pluton and the Ojibway gneiss association. The Killbear Point and Jacknife Harbour properties are underlain by the Sand Bay gneiss association. The Grundy Lake property is underlain by an unnamed V-shaped pluton believed to be circa 1450 Ma.

Comparable regional maps do not cover areas about the Turtle Lake property and the Burnt Lake property which are situated in the Rosseau and the Moon River domains respectively.

DESCRIPTION OF ROCK UNITS

Since no comprehensive, detailed geological maps have been produced for the Parry Sound area, none of the previous workers have made an attempt to construct a table of rock units. None of the rock units have been correlated across domain boundaries. Trusler and Villard made an attempt to derive a Table of Rock units for the Parry Sound -Sans Souci area in 1980 and some of that information is used here to produce Table 2. These Formation names are not used in the mapping since these have been inadequately defined for inclusion in the literature. However, the area mapped by Trusler and Villard covers parts of the Britt, Parry Sound and Moon River domains and the lithologic variety is well represented.

The Sans Souci-Killbear Point Group correlates well with the Sand Bay gneiss association of Figure 4 which underlies the Killbear Point and Jacknife Harbour properties. Similar rocks which are younger underlie the Burnt Lake property. The Ojibway gneiss association which underlies part of the Dillon Road property correlates with the tonalite in Table 2. The remaining sites are megacrystic granites or migmatitic derivatives of megacrystic granites classified under quartz monzonite in Table 2.

The rocks on the property have been subdivided into mappable units as follows: felsic gneiss.
The felsic gneiss is an intense pink, weakly layered to massive rock, varying from fine grained to coarse grained from one area to another and comprising quartz, plagioclase and microcline with minor biotite and variable accessory magnetite, hematite and almandine. A significant portion of this rock unit is demonstrably composed of breccias cataclastically derived from granite pegmatites. Tectonic grain gradation from coarse to fine grained across thicknesses of up to 0.5 metres are common on the outcrops. The textures and colour are very uniform. However, a brown pigment is apparent on the broken surface. This is suspected to be a weathering feature.
**TABLE 2: TABLE OF ROCK UNITS FOR THE PARRY SOUND AREA**

**PHANEROZOIC**

**CENOZOIC**

Quaternary  
Recent  
swamp, lake, and stream deposits  

Pleistocene  
bouldery, cobbly and silty sand till, silt, sand, pebble  
gravel, and cobble gravel  

_______Unconformity (possible regolith)_______

**PALAEOZOIC**

Cambro - Ordovician  
Calcareous fracture fillings  

_______Unconformity_______

**PRECAMBRIAN**

Late Precambrian  
Late Breccias- thin mylonites; quartz veined dilatant  
breccias of unknown origin  

Late Pegmatite  
massive granite pegmatite dikes  

_______Intrusive Contact_______  
High Rank Regional Metamorphism  

Middle to Late Precambrian  

Tectonites  
Mylonite: very fine grained massive to thinly to thickly  
laminated rock frequently exhibiting compositional and  
graded layering and containing rotated porphyroclasts;  
generally marginal to schistose and gneissic rocks; matrix  
minerals generally are siliceous and comprise quartz,  
microperthite, biotite and/or amphibole and/or pyroxene  

Tectonic Breccia: brecciated rock comprising lithic clasts  
within a fine to coarse grained schistose to gneissic  
cataclastic matrix with quartz, perthitic microcline,  
biotite and/or amphibole and/or pyroxene  

_______Sheared Contact_______

Syenite and Monzonite Suite Intrusive Rocks  
pink to grey and green, massive to porphyritic to lineated  
and gneissic biotite, hornblende-biotite and hornblende  
syenite and monzonite, charnockite and mangerite.  

_______Intrusive Contact_______

Page 11
Anorthosite Suite Intrusive Rocks
Anorthosite- massive to gneissic labradorite anorthosite, andesine anorthosite with up to 10% pyroxene, and gabbroic anorthosite
__________Intrusive Contact__________

Gabbro- massive to gneissic fine to coarse grained, black pyroxenite, anorthositic gabbro and gabbro
__________Intrusive Contact__________

Tonalite- massive to strongly lineated and gneissic light to dark grey pyroxene tonalite and diorite with minor gabbro
__________Intrusive Contact__________

Quartz Monzonite - Syenite Suite Intrusive Rocks
massive to gneissic medium to coarse grained biotite quartz monzonite, pyroxene quartz monzonite and foliated granite pegmatite, pyroxene syenite and foliated syenite pegmatite; megacrystic granite and derivatives.
__________Intrusive Contact__________

Parry Sound Group Metavolcanic Rocks

Spider Lake Formation*: intermediate to felsic rocks, medium to coarse grained generally porphyritic, massive to gneissic rocks containing quartz, feldspar, almandite, amphibole and pyroxene; some fragmental units present.

Parry Sound Formation*: mafic, medium to coarse grained, schistose to gneissic, pyroxene-feldspar and amphibole-feldspar bearing massive and fragmental rock

Sans Souci - Killbear Point Group Metasedimentary Rocks

Unsubdivided: thinly laminated to extremely thickly layered; interlayered medium to coarse grained schists and gneisses; lower amphibolite to granulite facies; intercalated with metavolcanics above

Killbear Point Formation*: thinly to extremely thickly layered, schistose and gneissic medium to coarse grained biotite, quartz, feldspar rocks

Bateau Island Formation*: very thickly layered, medium to coarse grained felsic gneiss with mafic biotite and amphibole rich parting planes; variously interpreted as an arkose or granite; cataclastic textures.

* The formation names have not been accepted and criteria for introduction of these names into the literature have not been fulfilled. Identification as to origin is tentative.
PROPERTY GEOLOGY

The property principally is underlain by felsic rocks of unusual character of Middle to Late Precambrian age. The felsic gneiss which underlies the entire property appears in large part to be generated by tectonic deformation of syntectonic pegmatites. No progenitors were identified on the property, and this part of the Moon River Domain has not been mapped.

The individual rock units were described under the heading DESCRIPTION OF ROCK UNITS on Page 9 of this report. The felsic gneiss is generally a granular aggregate of equant to elongated interlocking grains. Several features of this rock unit infer at least a partial metamorphic origin: cataclastic textures including tectonic grain gradation characterize the fine grained portions of the unit and rarely occur with regularly spaced biotite and amphibole rich partings; the cataclastic grain classification forms a strong gneissic foliation in portions of the unit; significant portions of the unit comprise up to 5% pegmatite porphyroclasts which consist of partially strained microcline. The matrix is a gneissic, fine to coarse grained, quartzo-feldspathic mixture. The genesis of this material would also be obscured except for some textbook quality examples in road cuts near the property on Hwy 559 near the Killbear property in Carling Twp. where a well constituted coarse grained granite pegmatite grades laterally into a pegmatite breccia.

A brown weathering colour appears on freshly exposed surfaces and polished specimens. Apparently this is a weathering feature which may disappear at depth.

Gneissic foliations were measured at each station where possible. Despite some exceptions, the general pattern displayed is of a relatively structurally uniform sequence. In general a weak steeply dipping northerly trending gneissic foliation is imparted on the rocks, but on the western edge of the main outcrop the foliations dip steeply to the west.

Joint spacings are widespread. Vertical joints have an average separation of five metres, based on 39 data, and sub-horizontal joints have an average spacing, based on 6 data, of over three metres. A scatter of the vertical joint data is apparent on a statistical plot, based on 42 data. However, in the field, there tends to be only two orthogonal joints at any station. A variation in the azimuth of the joints appears to correlate with variation in the strike and dip of the gneissic foliation. Despite the large spread of data the median in each data cluster appears to have a complementary median direction which is orthogonal. Twenty-five per cent of the data are centred about an azimuth of 80° and 16% of the data are centred about the orthogonal direction at 170°. Twenty-seven per cent of the data are centred about the azimuth of 25° and 22% are centred about the complementary set at 115°.
POTENTIAL DIMENSION STONE SITES

The entire outcrop area on the property covers an area approximately 300 metre X 500 metres on a 30 metre high promontory. The entire outcrop exposes a relatively homogeneous rock with uniform colour which is suitable for dimension stone. The resource totals approximately 12,000,000 tonnes. The west side of the outcrop along the north claim boundary provides a steep access for quarrying purposes. A site plan should be prepared commencing in this area of the property when this activity can be justified.

TABLE 3: RESULTS OF SAMPLE POLISHING

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Type of Sample</th>
<th>Rock Type</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-1</td>
<td>polished slab</td>
<td>Felsic gneiss or migmatite</td>
<td>The specimen takes a very high polish with practically no imperfections. One fracture crosses this particular sample. The colour is salmon pink with a cloudy brown colouration attributed to weathering. Also some poorly defined aggregates of black substance. Plagioclase (40%), quartz (30%), microcline (25%), magnetite (1%), fluorite (1%), Biotite (&lt;1%), metamict brown mineral (tr), Hematite (tr), muscovite (tr). Hematite occurs on grain boundaries and along albite twin lamellae, and probably accounts for the colour of the stone. (Marmont, 1993)</td>
</tr>
</tbody>
</table>
Photo 1 Outcrop (above) and Photo 2 Tectonic Grain Gradation (Close-up view below) Burnt Lake depicting the pink felsic gneiss or migmatite in outcrop. The rock takes a very attractive polish. The intense red is caused by extremely fine hematite staining.
CONCLUSIONS

The Moon River domain comprises a complexly deformed and metamorphosed series of rocks. Although some of the rocks are metasedimentary in origin the preponderance of the rocks were originally plutonic, but have been changed by dynamic and thermal metamorphism. The final stages of this metamorphism appear to have annealed the rock into a compact and durable material having some relict textures and many overlapping and lively features.

Nine dimension stone prospects in the Parry Sound area were staked and have since been geologically mapped. All of these rocks are migmatitic or gneissic derivatives of quartzo-feldspathic metasedimentary rocks or granitic intrusions and present a great variety of textures. In some cases it is evident that the paleosome constituent was megacrystic and subsequent neosome phases have distinct compositions and fabrics. The sites were chosen for their attractiveness and the apparent availability of accessible large blocks.

The outcrop area on the property covers an area approximately 300 metre X 500 metres on a 30 metre high promontory. The entire outcrop exposes a relatively homogeneous rock with uniform colour which is suitable for dimension stone. The resource totals approximately 12,000,000 tonnes. The west side of the outcrop along the north claim boundary provides a steep access for quarrying purposes. A site plan should be prepared commencing in this area of the property when this activity can be justified.

It was noted during the mapping exercise that systematic pitting and sampling of the outcrop had been conducted probably about 15 to 20 years ago. It was surmised that the purpose of this sampling would have been for uranium since the rocks underlying the property have an origin similar to those of the Rossing uranium deposit in South Africa. Marmont (personal communication) said that he had met the person who had conducted the work, and that that person had verbally reported low values. More research of this possibility is warranted.

The most direct access to the property is across a small stretch of private land. Access has been denied by the landowner and the Joselin-Mogridge-McLeod Cottagers Association has stated that they will oppose exploration and development activities on this property through any legal means at their disposal which they deem necessary. Since such legal action could be extremely costly, it is proposed to forgo further activity on the property at this time and continue prospecting in the vicinity for similar prospective dimension stone.
RECOMMENDATIONS

1. Further work developing the dimension stone potential on the property should be deferred until the impass with the cottagers is resolved.

2. Research should be conducted into the suspected radioactive mineralization on the property.

3. Prospecting should be conducted in the surrounding area to acquire a similar site to this one which is free of conflict with local cottagers.
REFERENCES


Murray, A. 1848. On an examination of the shores, islands and rivers of Lake Huron including parts of the east coast of Hudson Bay and the Spanish River; in Geological Survey of Canada Report of Progress 1848-49.


_________ 1913. The pre cambrian of Parry Island and vicinity; in Geological Survey of Canada Guide Book No. 5., p. 98-100.

AUTHOR'S CERTIFICATE

a. This report was prepared by:

James R. Trusler P.Eng.
Principal,
J R Trusler and Associates
143 Temperance St.
Aurora, Ontario L4G 2R5
(416) 727-5084

GEOLOGICAL ENGINEER.

b. Qualifications:

B A Sc - Geological Engineering, University of Toronto, 1967
M S - Geology, Michigan Technological University, 1972
Professional Engineer - Ontario
Fellow - Geological Association of Canada
Member - Canadian Institute of Mining, Metallurgy and Petroleum

c. This report is based on a review of all available relevant data; historical, and geological, on personal involvement as Regional Geologist, Algonquin Region, Ministry of Natural Resources from 1974 to 1980, and on a program of field mapping conducted within the area of this report in 1993. I have personally examined the properties and the surrounding area in the field.

d. I have used my experience gained in geological mapping, the exploration for minerals, visits to most dimension stone quarries in North America, the definition of mineral deposits and the evaluation of properties (over 30 years) in preparation of this report.

e. I hold an undivided 100% interest in the claims mentioned in this report, but do not expect to receive any remuneration for the report or as a result of statements made in this report.

Dated: December 29, 1993

Signed

James R. Trusler M.S., P.Eng.
**Report of Work Conducted After Recording Claim**

**Ministry of Northern Development**

**Mining Act**

**Instructions:**
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for required information.
- A separate copy of this form must be completed for each project.
- Technical reports and maps must accompany this form.
- A sketch, showing the claims the work is assigned to, must be submitted.

**Recorded Holder(s):**

<table>
<thead>
<tr>
<th>James R. Trusler</th>
</tr>
</thead>
<tbody>
<tr>
<td>43 Temperance St., Aurora, ON, L4G 2R5</td>
</tr>
</tbody>
</table>

**Mailing Division:**

<table>
<thead>
<tr>
<th>Southern Ontario</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONGER</td>
</tr>
</tbody>
</table>

**Date of Work Performed:**

| APR. 4, 1993 To: SEPT. 7, 1993 |

**Work Performed (Check One Work Group Only):**

<table>
<thead>
<tr>
<th>Work Group</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geotechnical Survey</td>
<td>GEOLOGICAL SURVEY</td>
</tr>
<tr>
<td>Physical Work, Including Drilling</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td></td>
</tr>
<tr>
<td>Other Authorized Work</td>
<td></td>
</tr>
<tr>
<td>Assay</td>
<td></td>
</tr>
<tr>
<td>Assignment from Reserve</td>
<td></td>
</tr>
</tbody>
</table>

**Total Assessment Work Claimed on the Attached Statement of Costs:** $4,103

**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):**

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>James R. Trusler</td>
<td>43 Temperance St., Aurora, ON, L4G 2R5</td>
</tr>
</tbody>
</table>

**Certification of Beneficial Interest:**

*See Note No. 1 on reverse side*

**Certification of Work Report:**

*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:**

<table>
<thead>
<tr>
<th>James R. Trusler</th>
</tr>
</thead>
<tbody>
<tr>
<td>43 Temperance St., Aurora, ON, L4G 2R5</td>
</tr>
</tbody>
</table>

**Date:** Jan 11, 1994

**Certified By:**

<table>
<thead>
<tr>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>James R. Trusler</td>
</tr>
</tbody>
</table>

**For Office Use Only:**

<table>
<thead>
<tr>
<th>Total Value Cr. Recorded</th>
<th>$4,103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Recorded: 11/1/94</td>
<td></td>
</tr>
<tr>
<td>Claim Number</td>
<td>Number of Credits</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Total Number of Credits: 1.403

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 claim.

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: [Signature]
Date: [Date]
### Statement of Costs for Assessment Credit

**État des coûts aux fins du crédit d’évaluation**

Mining Act/Loi sur les mines

2,152,82

---

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, Mining Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7284.

---

#### 1. Direct Costs/Coûts directs

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Amount</th>
<th>Total Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages/ Salaires</td>
<td>Field Supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervision on the terrain</td>
<td>1,940.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contractor's and Consultant's Fees</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>675.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,615.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplies Used</td>
<td>327.46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fournitures utilisées</td>
<td>46.97</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>65.86</td>
<td>442.10</td>
</tr>
</tbody>
</table>

**Total Direct Costs**

Total des coûts directs

3,117.10

---

#### 2. Indirect Costs/Coûts indirects

**Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work. 

**Note:** Les travaux de réhabilitation ne sont pas admisés en tant que travaux d'évaluation.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Amount</th>
<th>Total Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation/ Transport</td>
<td>Personnel/ Transport</td>
<td>318 km @ 30</td>
<td>95.40</td>
</tr>
<tr>
<td></td>
<td>Parking</td>
<td>1.88</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>97.28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Food and Lodging</td>
<td>Meals</td>
<td>88.45</td>
</tr>
<tr>
<td></td>
<td></td>
<td>185.73</td>
<td></td>
</tr>
</tbody>
</table>

**Sub Total of Indirect Costs**

Total des coûts indirects

4,142.83

---

**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 **Recorded Holder** I am authorized

(Recorded Holder, Agent, Position in Company)

to make this certification

---

**Filling 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:

<table>
<thead>
<tr>
<th>Total Value of Assessment Credit</th>
<th>Total Assessment Claimed</th>
</tr>
</thead>
<tbody>
<tr>
<td>x 0.50</td>
<td></td>
</tr>
</tbody>
</table>

**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.


<table>
<thead>
<tr>
<th>Value total of crédit d'évaluation</th>
<th>Evaluation total demanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>x 0.50</td>
<td></td>
</tr>
</tbody>
</table>

---

**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 **Titulaire enregistré** je suis autorisé

(Titulaire enregistré, représentant, poste occupé dans la compagnie)

to faire cette attestation.

---

**Signature**

**Date**
REQUIREMENTS OF GEOTECHNICAL SURVEYS FOR MINING CLAIMS

File No. 2.15282
Type of Survey: GEOC

Report of Work No.
W9490.00005

Township or Area: COPPER

Report

1. Typewritten, suitable for reproduction.
2. Table of Contents.
3. Identify mining claims and names and addresses of holders.
4. Location and means of access.
5. Key map showing claims in relation to topographic features, township boundaries, established survey lines.
6. Author's signature and date of completion.
7. Name of person(s) who supervised survey.
8. Dates during which survey work was performed.
9. Summary of exploration and development work performed on claims.
10. All assays and analyses with appropriate certificates.
12. Interpretation of anomalous values and recommendation for further exploration.
13. List of references or bibliography.

Maps

1. Scale between 1:10 and 1:3000 (or in the case of a regional survey, between 1:500 and 1:350,000, utilizing a graphic or box scale).
2. North arrow indicating whether bearing is astronomic or magnetic.
3. Shows lakes, rivers and other notable topographic features including railways, roads, trails, powerlines, and buildings.
4. Shows claim posts and boundary lines, township boundary lines, lot and concession lines, grid lines, traverse lines.
5. Survey stations and markers in relation to topographic features.
6. Claim numbers of all claims covered by the survey.
7. Printed name of author of accompanying report.

1 claim - 2 units
7.58 ac. x 2
- 14 ac. flood $800
- 2 days haying $800
1600
20% 320
1920

1.5 c. 7-8
1870
REQUIREMENTS OF GEOLOGICAL SURVEY REPORTS AND MAPS

File No. W15282
Report of Work No. W9490.00005
Township or Area C увер

REPORTS

1. Contain a table of rock types, lithologies and formations with their descriptions and illustrated on any accompanying maps and illustrations.
2. Describe the regional geology.
3. Give descriptions of significant geological structures.
4. Identify the character, attitudes and dimensions of any veins, mineralisation and alteration found during the survey.
5. Identify the sources of geological data contained in the report if obtained from sources other than the survey being reported.

MAPS

1. Contain a table of rock types, lithologies and formations, with a descriptive list of the symbols used.
2. Show outcrop designated by a letter or number corresponding to the rock type, lithologies and formations.
3. Show the character of the overburden including boulder, clay, gravel or sand, and the distribution of swamp, muskeg and forest cover areas along all lines traversed, particularly where no outcrop is found and identified.
4. Show all observed and interpreted folds, schistosity, actual and indicated faults, attitudes of flows and stratified rocks, including strikes and dips, and the direction in which they face, locations and attitudes of actual and interpreted contacts and other structural features.
5. Show zones of shearing, alteration or mineralisation and veins.
6. Show the location of trenches, test pits, shafts and adits.
7. Show the location, direction and dip of drill holes.
Black Lake Property: Claims SO1151134
Preparation: (2 days)
Field: Sept. 1, 9, 1993 (2 days)
Drafting: Sept. 29, 30, Oct. 1, 4-7, 22, Nov. 26-29, Dec. 7, 8, 1993 (6½ days)
Reporting: Sept. 20-24, 27, Nov. 1, Dec. 16-24, 26-29, 1993 (2 days)

Burnt Lake Property: Claims SO1191211
Preparation: (2½ days)
Field: Sept. 8, 1993 (1 days)
Drafting: Sept. 29, 30, Oct. 1, 4-7, 22, Nov. 30, Dec. 1, 2, 8, 1993 (4½ days)
Reporting: Sept. 20-24, 27, Nov. 1, Dec. 16-24, 26-29, 1993 (3½ days)

Dillon Road Property: Claims SO1191215.
Preparation: (3 days)
Field: Sept. 17, 18, 1993 (2 days)
Drafting: Sept. 29, 30, Oct. 1, 4-7, 22, Dec. 3, 4, 9, 1993 (4 days)
Reporting: Sept. 20-24, 27, Nov. 1, Dec. 16-24, 26-30, 1993 (2½ days)

Grundy Lake Property: Claims SO1151137, 1151138.
Preparation: (3 days)
Field: July 17, 20, Sept. 14, 15, 1993 (3½ days)
Drafting: Sept. 29, 30, Oct. 1, 4-7, 19, 22, 24, 27, 1993 (4 days)
PROPERTY

The Burnt Lake property comprises approximately 100 acres and is more particularly described in TABLE 1 (Figure 2).

Assessment will be filed for the current work on the claims, and it is anticipated, as a result, that sufficient credits should be available to keep the entire claim group in good standing for some five years from the date of submission.

TABLE 1: BURNT LAKE PROPERTY

<table>
<thead>
<tr>
<th>Claim No</th>
<th>Township</th>
<th>Lot</th>
<th>Conc.</th>
<th>Area</th>
<th>Recording Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1191211</td>
<td>Conger</td>
<td>N/2</td>
<td>7&amp;8</td>
<td>VIII</td>
<td>100 ac</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mar. 29, 1993</td>
</tr>
</tbody>
</table>

Scale: 1:20,000

Figure 2: Property Map
June 21, 1994

James R. Trusler
143 Temperance Street
Aurora, Ontario
L4G 2R5

Dear Mr. Trusler:

RE: Approval of Notice of Reduction issued on mining claim 1191211 in Conger Township.

The assessment work credits as outlined in the notice of reduction dated April 11, 1994 have been approved as of May 26, 1994. Please see the attached assessment credit form.

If you require additional information please contact Dale Messenger at 670-5858.

Yours sincerely,

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

Enclosures:
June 21, 1994

Mining Recorder
Ministry of Northern Development
and Mines
Sudbury

Dear Mr. Denomme:

RE: Approval of Notice of Reduction issued for assessment work reported on mining claim 1191211 in Conger Township.

The assessment work credits as outlined in the Notice of Reduction dated April 11, 1994 have been approved as of May 26, 1994. Please see the attached assessment work credit form.

If you require additional information please contact Dale Messenger at 670-5858.

Yours sincerely,

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

cc Assessment Files Office
Sudbury

cc Res Geo
Sudbury
ASSessment work credit form

File number: 2.15282
Date: May 26, 1994
Transaction number: W9490.00005

Recorded holder: James Trusler
Township: Conger
Client number: 203403

Level of Assessment Credit to be approved $3,208.00

<table>
<thead>
<tr>
<th>Claim number</th>
<th>Value of assessment work done on this claim</th>
<th>Value applied to this claim</th>
<th>Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1191211</td>
<td>$3208.00</td>
<td>$3200.00</td>
<td>$8.00</td>
</tr>
</tbody>
</table>
April 11, 1994

James R. Trusler
143 Temperance Street
Aurora, Ontario
L4G 2R5

Dear Sir:

SUBJECT: NOTICE OF REDUCTION, SUBSECTION 6(3) MINING ACT REGULATIONS.

An examination of your Work Report indicates that the requirements of the Mining Act Regulations have not been fully met. This notice will outline the reduction in the Assessment Credits for your submission.

Note that the 90 day deemed approval provisions, Sub Section 6(5) of the Mining Act Regulations, are no longer in effect for this Work Report.

This work will be approved as Outlined in the attached Assessment Work Credit form, on MAY 26, 1994, which is 45 days from the date of this notice.

Please note that the Mining Lands Branch cannot issue extensions on this 45 day period.

REDUCTION OF WORK

The Minister may reject or reduce Assessment Work for a number of reasons, as outlined in subsection 6(2) of the Mining Act Regulations. This work is being reduced under the following subsection:

- subsection 6(2)(e): the cost claimed for assessment work credit exceeds the industry standard for similar work.
After reviewing the 8 Geological submissions for work done in the Parry Sound area we have determined that the costs claimed for assessment credit are excessive. We are therefore reducing the assessment credit allowed for these submissions.

We are taking this action because in many instances the information (text, legends) contained in the reports is identical. This we feel would have substantially reduced your preparation, drafting and report writing time.

Burnt Lake Property

Total assessment credit claimed in these categories: $3075.00

Total assessment credit allowed:

Preparation reduced from 2.5 to 1.75 days @ $400.00/day = $700.00
Drafting reduced from 4.5 to 3.2 days @ $150.00/day = $480.00
Report writing reduced from 3.5 to 2.5 days @ $400.00/day = $1000.00
Direct Costs
Preparation, Drafting, Report writing - $2180.00
Field Work- $400.00
Supplies - $442.10
Total value of Assessment Credit allowed: $3207.83

EFFECT ON MINING CLAIMS

The enclosed Assessment Work Credit Form outlines the work credits which will be reduced, and the claims on which the reduction will occur.

OPTIONS, REDUCTION OF WORK

If the anniversary date for the claims has not passed, a number of options are available. Contact the Mining Recorder to discuss these options.
If you have questions regarding this matter or any other assessment work related queries, please contact Dale Messenger at (705) 670-5858.

Yours sincerely,

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

Enclosures:
cc: Mining Recorder
    Sudbury, Ontario
**ASSESSMENT WORK CREDIT FORM**

FILE NUMBER: 2.15282  
TRANSACTION NUMBER: W9490.00005  
AREA: Conger  
DATE: April 5, 1994  
RECORDED HOLDER: James R. Trusler  
CLIENT NUMBER: 203403

Total Assessment Credit claimed: $4103.00

Level of Assessment Credit to be approved in 45 days from the date of this notice: $3208.00

<table>
<thead>
<tr>
<th>CLAIM NUMBER</th>
<th>VALUE OF ASSESSMENT WORK DONE ON THIS CLAIM</th>
<th>VALUE APPLIED TO THIS CLAIM</th>
<th>VALUE ASSIGNED FROM THIS CLAIM</th>
<th>RESERVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1191211</td>
<td>$3208.00</td>
<td>$3200.00</td>
<td>$8.00</td>
<td></td>
</tr>
</tbody>
</table>
March 9, 1994

James R. Trusler
143 Temperance Street
Aurora, Ontario
L4G 2R5

Dear Sir:

RE: GEOLOGICAL SURVEYS SUBMITTED FOR ASSESSMENT WORK ON MINING CLAIMS 1151137 ET AL. IN THE PARRY SOUND AREA.

With respect to the above mentioned, Geological submissions and the Report of Work-Statement of Cost Forms attached to same.

In order that we may verify expenses for supplies used in the Direct Costs Section of the Statement of Costs Form, please forward to this office receipts for the expenditures of field consumables, maps and photos, film and batteries and stationary and miscellaneous supplies.

In order to assist us in providing prompt service, please provide the said receipts within 30 days (April 8, 1994) of the date of this letter.

If you have any questions concerning this matter or any other assessment work related queries, please contact Dale Messenger at (705) 670-5858.

Yours sincerely,

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

Enclosures:

cc: Recording Office
Toronto, Ontario