

**RECEIVED**  
NOV 25 2002  
GEOSCIENCE ASSESSMENT  
OFFICE

2.24551

# ASSESSMENT REPORT

ON  
MAPPING, SITE CLEARANCE AND TRENCHING ON THE  
ROCK BROOK RESOURCES CORPORATION CLAIMS LOCATED IN THE  
SPENCE AND CROFT TOWNSHIPS, PARRY SOUND  
SOUTHERN ONTARIO – DIVISION 90

CLIENT NO. 393190  
ROCK BROOK RESOURCES CORPORATION  
MINING CLAIM NO, SO1193096 - SPENCE TOWNSHIP

AND

CLIENT NO. 393190  
ROCK BROOK RESOURCES CORPORATION  
MINING CLAIMS NO'S SO1193097 TO SO1193099 – SPENCE AND CROFT  
TOWNSHIPS

AND

CLIENT NO. 400519  
1500448 ONTARIO CORPORATION  
MINING CLAIM NO S01193100 – SPENCE TOWNSHIP

**N 45° 34'**  
**W 079° 42'**

SUBMITTED BY: - AQUIN & ASSOCIATES INC.  
Don Baxter P.ENG  
Cynthia E. Le Sueur- Aquin B.Sc. ENG

NOVEMBER 18, 2002



31E12SE2005 2.24551

SPENCE

010

## TABLE OF CONTENTS

	PAGE
1.0 INTRODUCTION	4
1.10 LOCATION AND ACCESS	4
1.20 CLAIM AREAS	5
1.30 CLIMATE	5
1.40 HISTORY	6
1.50 SCOPE OF PRESENT ASSESSMENT WORK PROGRAM	6
1.51 CLAIM SO 1193096 – FIELD WORK	11
1.60 GPS UNIT	12
1.70 RECOMMENDATIONS	12
1.80 CONCLUSIONS	12
 2.0 GEOLOGY	 14
2.10 REGIONAL GEOLOGY	14
2.20 LITHOLOGY OF THE GRENVILLE PROVINCE	14
2.30 PROPERTY GEOLOGY	15
 3.0 CALCITE	 16
3.10 PHYSICAL CHARACTERISTICS OF CALCITE.	16
3.20 PROCESSING OF GROUND CALCIUM CARBONATE (GCC) AND PRECIPITATED CALCIUM CARBONATE (PCC).	17
3.30 MARKETING OF CALCITE	18
3.31 GROUND CALCIUM CARBONATE	18
3.32 PRECIPITATED CALCIUM CARBONATE	18
3.40 END USES FOR PRECIPITATED CALCIUM CARBONATE USES OF CALCITE.	19
3.50 GRADING OF CALCIUM CARBONATE	21
3.60 PRICING ON RAW CALCIUM CARBONATES	22
3.70 OTHER CALCITE PRODUCERS IN NORTH AMERICA	22
3.80 INDEPENDENT MARKET STUDIES ON CALCIUM CARBONATE INDUSTRY	23
 4.0 REFERENCES	 24
 5.0 REPORT SUBMISSION STATEMENT	 25
 6.0 MAP (See back pocket of document).	 

### LIST OF ILLUSTRATIONS

FIGURE ONE	MAP OF PROPERTY LOCATION	4
FIGURE TWO	CALCITE PIT	6
FIGURE THREE	SOUTH WALL OF THE CALCITE PIT SHOWING THE CONTACT WITH THE QUARZONGENIC GNEISS	6



## TABLE OF CONTENTS (CONT.)

		PAGE
FIGURE FOUR	VIEW LOOKING SOUTH TOWARDS THE CALCITE PIT WITH THE ½ INCH ¼ INCH FRACTION DUMP MATERIAL IN THE FOREGROUND	7
FIGURE FIVE	¼ INCH TO MINUS ¼ INCH FRACTION MATERIAL	7
FIGURE SIX	½ INCH TO ¼ INCH FRACTION MATERIAL	7
FIGURE SEVEN	2.5 INCH TO ½ INCH FRACTION MATERIAL	7
FIGURE EIGHT	DUMP CONTAINING ½ INCH ¼ INCH FRACTION MATERIAL.	7
FIGURE NINE	DUMP CONTAINING 2.5 INCH TO ½ INCH FRACTION MATERIAL	8
FIGURE TEN	DUMP CONTAINING ½ INCH ¼ INCH FRACTION MATERIAL	8
FIGURE ELEVEN	CALCITE ROCK NEXT TO PIT	8
FIGURE TWELVE	PIT EXCAVATED CALCITE ROCK SAMPLE	8
FIGURE THIRTEEN	EXCAVATED SAMPLE OF CALCITE FROM THE ROCK WITH BIOTITE	9
FIGURE FOURTEEN	CALCITE OUTCROP NORTH OF THE PIT	9
FIGURE FIFTEEN	STEEPLY DIPPING CALCITE CONTACT ON OUTCROP	10
FIGURE SIXTEEN	CALCITE OUTCROP	11
FIGURE SEVENTEEN	MAP IDENTIFYING CLAIM NUMBERS AND BOUNDARIES	13
FIGURE EIGHTEEN	LITHOLGY OF THE GRENVILLE PROVINCE	14
FIGURE NINETEEN	EXAMPLE OF TYPICAL GNEISSIC ROCK	15
FIGURE TWENTY	CALCITE/LIMESTONE	17



## 1.0 INTRODUCTION

The properties and claims, which are the subject of this assessment report, is owned and held by Rock Brock Resources of which Mr. Frank Heran is sole proprietor.

### 1.10 LOCATION AND ACCESS

The claims site lies 64 kilometres North of Huntsville and west of the Town of Burks Falls, south of Highway 124 to Parry Sound. The claims contiguous properties owned by Rock Brock Resources lie in the Spence Township of the District of Parry Sound – see Figure One – Property Location.

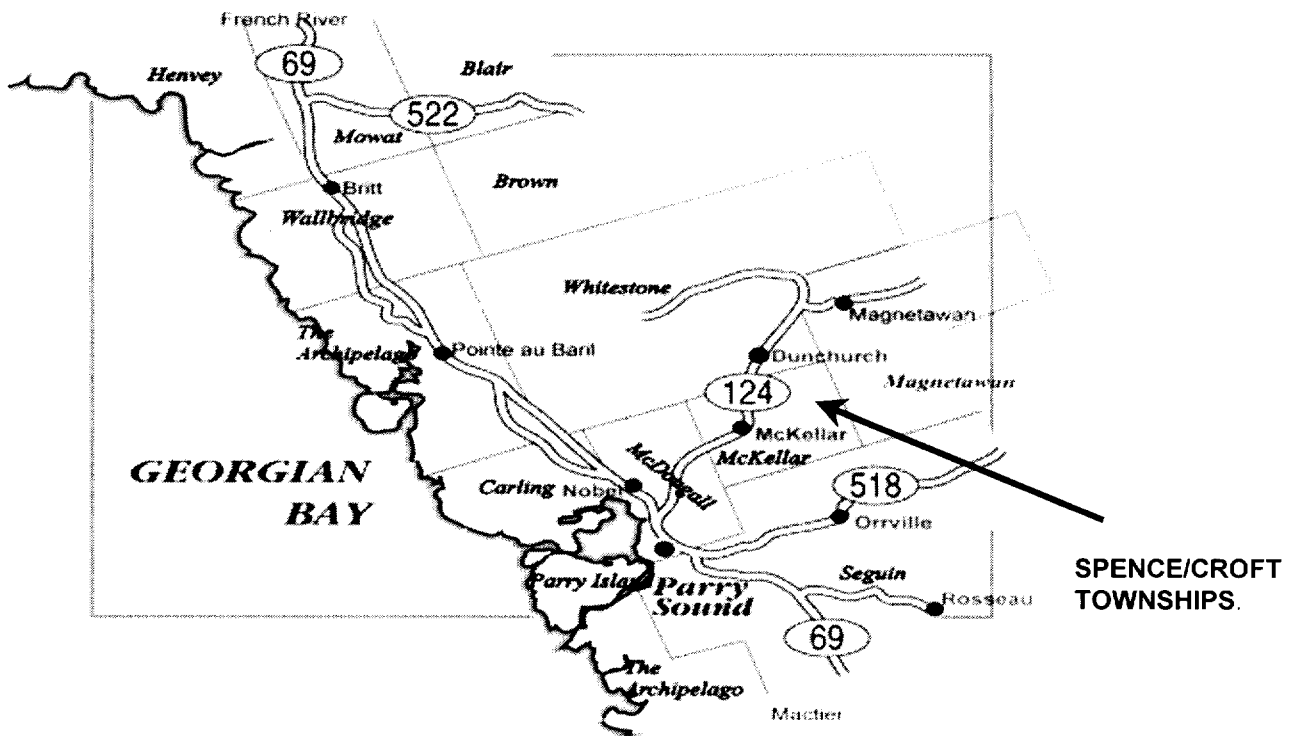


FIGURE ONE – LOCATION OF PROPERTY

## 1.20 CLAIM AREAS

Claim No.	Work Requirement - \$	Claim Holder	Township	Comment
1193097	\$ 400.00	Rock Brock Res.	Spence	Contiguous to claim 1193098 which abuts onto northwest corner of 1193097 Claim No.1193097 also abuts onto northwest corner of RBR1.
1193098	\$1,600.00	Rock Brock Res.	Croft	Contiguous to claim 1193097, which abuts onto northeast corner of 1193098 and northwest corner of 1193099. Claim No.1193098 also abuts onto the west boundary of RBR5 and north boundary of RBR2.
1193099	\$1,600.00	Rock Brock Res.	Spence	Contiguous to claim 1193098 and 1193100, RBR2 and RBR4
1193100	\$1,600.00	Rock Brock Res.	Spence	Contiguous to claim 1193099, RBR2 and RBR 4
RBR3	N/a	Rock Brock Res.	Spence	Contiguous to RBR4
1193096	\$400.00	Rock Brock Res.	Spence	Separate claim, non-contiguous to above claim group
<b>Total Requirement</b>	<b>\$5,600.00</b>			

## 1.30 CLIMATE

Until closing in 1986, Burks Falls was the closest Atmospheric Environment Service (AES) station with historical climatologic data. Typical climatological data for this station, from Atmospheric Environment Service, Environment Canada, Canadian Climate Normals, 1961 - 2000, are as follows:

- mean daily temperature is 3.7<sup>0</sup>C for the year, 17.4<sup>0</sup>C for July and -12.3<sup>0</sup>C for January, and,
- mean annual total precipitation at Burk's Falls is 1,110.8 mm with a mean average snowfall of 331.9 mm.

The higher elevations and prevailing westerly winds result in the area having lower temperatures and greater precipitation than much of Southern Ontario. For example, Toronto receives 689.3 mm of rain, 135 mm of snow, and 818.9 mm of total precipitation. Ottawa International Airport receives an average of 701.8 mm of rain, 221.5 mm of snow and about 910.5 mm of total precipitation (Canadian Climatic Normals 1961- 2000).



## 1.40 HISTORY

Very little information or history is known about this area or the claims. The area of focus and importance is that of the Calcite Pit located on Lot 18, Concession fourteen.

## 1.50 SCOPE OF PRESENT ASSESSMENT WORK PROGRAM

The Company decided to proceed with a bulk sampling of the known calcite occurrence in order to provide a supply for further testing and market sampling.

The overburden was stripped and approximately 20,000 tonnes of material from the pit was blasted, crushed and screened and split into three product sizes. The planned products of three-size fractions are 2.5 inch to ½ inch, ½ inch to ¼ inch and ¼ inch to minus ¼.

The purpose of the crushing exercise was based on preliminary market survey requirements, and for sending bulk samples to various prospective clients. Material also was to be sent for lab analysis, purity and product suitability. The expenditures from the drilling, blasting, crushing and screening of the 20,000-bulk sample, have been included in this assessment work allowance. The work was completed between May 2001 and July 2001. The equipment utilized for the bulk sample was typical for a project of this size. Bulldozer, rubber tired loader, excavator and trucks were utilized in stripping the area. Diesel hydraulic drills drilled 3" holes for the blasting operation.



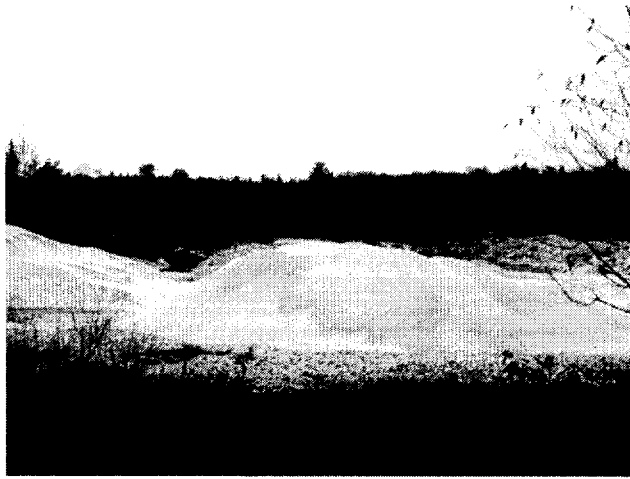
**FIGURE TWO – CALCITE PIT**



**FIGURE THREE – SOUTH WALL OF THE CALCITE PIT SHOWING THE CONTACT WITH THE QUARTZOFELDSPATHIC GNEISS ROCK**

The Calcite Pit (see Figure Two and three above) is now filled with water, which is a result of seepage, rain and snow. The level is more than likely at that of the water table in the area. Figure three shows the relative purity of the calcite zone in the south wall. As stated later in the document, the only visible impurity is that of mica biotite. It is difficult at this point to speculate on the on the width or the continuity of the zone. The zone appears to be steeply dipping North-south at 85 degrees.

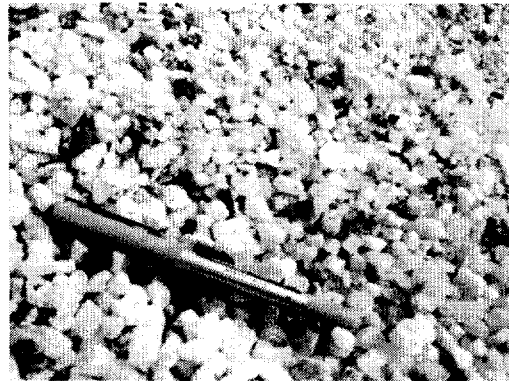




**FIGURE FOUR – VIEW LOOKING SOUTH TOWARDS THE CALCITE PIT WITH THE ½ INCH ¼ INCH FRACTION DUMP MATERIAL IN THE FOREGROUND**



**FIGURE FIVE - ¼ INCH TO MINUS ¼ INCH FRACTION MATERIAL**



**FIGURE SIX - ½ INCH TO ¼ INCH FRACTION MATERIAL**

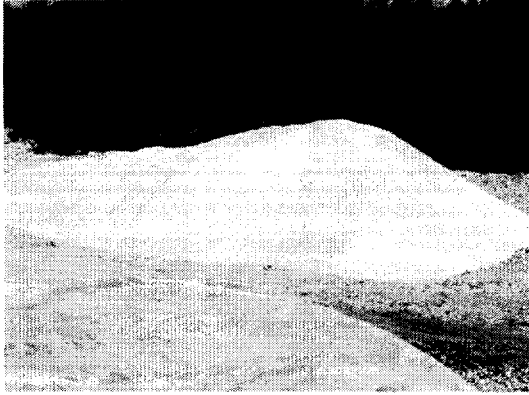


**FIGURE SEVEN- 2.5 INCH TO ½ INCH FRACTION MATERIAL**



**FIGURE EIGHT – DUMP CONTAINING ¼ INCH TO ¼ TO MINUS INCH FRACTION MATERIAL.**



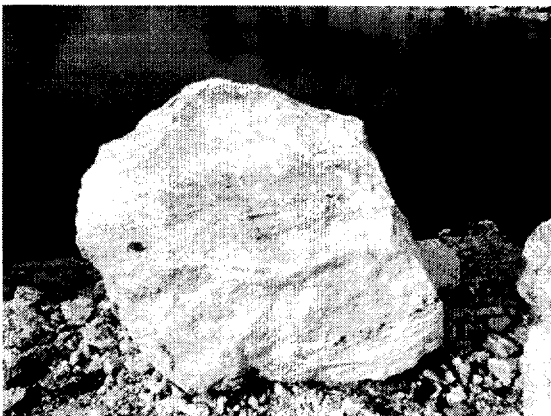


**FIGURE NINE – DUMP CONTAINING ½ INCH ¼ INCH FRACTION MATERIAL**

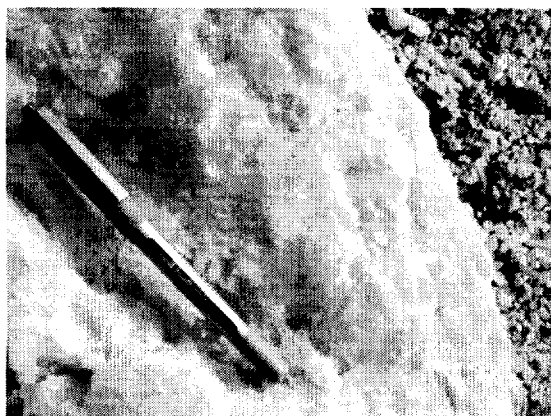


**FIGURE TEN – DUMP CONTAINING 2.5 INCH TO ½ INCH FRACTION MATERIAL.**

Further to the crushing and screening of this 20,000 tonnes of bulk sample, additional work on the property north of the pit was executed for this assessment program for the purposes of drafting a preliminary compilation drawing and establishing the pit location, access road, and calcite outcrops to the north of the pit by means of GPS and site reconnaissance. The aim of this exercise was to establish the foundation of work, which would serve as a stepping-stone for a work program for execution in the future, with the goal that each program would elevate the property status. Ultimately the calcite zone requires defining and a full understanding of the calcite potential in terms of outlining the reserve/resource capacity. Market definition will be greatly dependent on reserve/resource potential as well as the laboratory analyses of the calcite product. The authors identified outcrops of calcite upstrike of the current excavation. This would indicate a calcitic zone trending north south through the study area.



**FIGURE ELEVEN – CALCITE ROCK NEXT TO PIT**

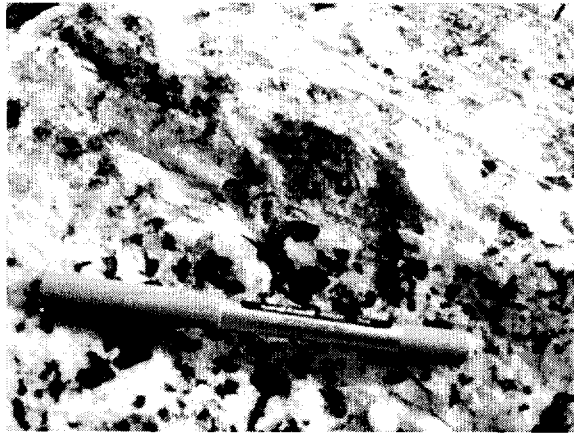


**FIGURE TWELVE – PIT EXCAVATED CALCITE ROCK SAMPLE**





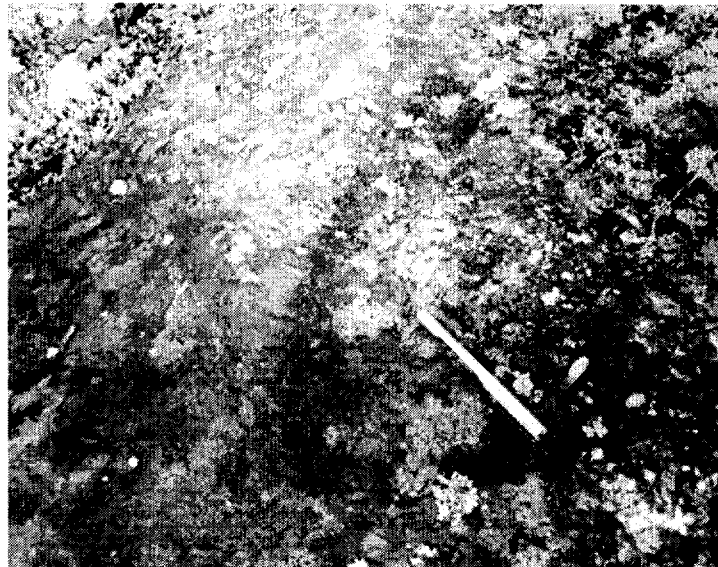
Figures eleven and twelve are examples of calcite rock excavated from the pit in 2001 in the blasting and crushing exercise. Visually the greater percentage of rock removed from the pit appears to be relatively pure in content.



**FIGURE THIRTEEN – EXCAVATED  
SAMPLE OF CALCITE FROM THE ROCK  
WITH BIOTITE**

Figure thirteen above is also a large sample of calcite from the pit. Biotite appears to be the most visible contaminant in a small portion of the material excavated from the pit. The sample appears to be a coarsely foliated texture in which the minerals have been segregated into discontinuous hands, each of which is dominated by one and possibly two minerals. These bands are variable and range in thickness.

GPS waypoint OC18 is a calcite outcrop north of the pit. The width of the outcrop zone was not determined as a result of excessive organic covering. Calcite was evident in the outcrop.



**FIGURE FOURTEEN – CALCITE OUTCROP  
NORTH OF THE PIT**

Figure fourteen (see GPS waypoint OC19) above, is an outcrop north of the pit. Contact of the calcite is seen with the gneissic rock. The estimated visible dimension of the calcite outcrop was 50 metres in width by 100 metres in length before disappearing under overburden and organic growth. The rust is a result of ferromagnesian metals such as mica biotite and muscovite as well as some sulphides such as pyrite.

GPS waypoint OC20 was a large piece of calcite. No outcrop was seen close to the calcite float, possibly because of overburden and organic growth.



**FIGURE FIFTEEN – STEEPLY DIPPING  
CALCITE CONTACT ON OUTCROP**

Figure fifteen shows the weathered calcite contact with the gneissic rock. The rock is steeply dipping north south at approximately +85degrees.



**FIGURE SIXTEEN – CALCITE OUTCROP**

Figure sixteen GPS waypoint OC21 located near Claim post waypoint CL092.

### **1.51 CLAIM SO 1193096 – FIELD WORK**

The Authors conducted fieldwork on SO1193096 located in Spence Township on October 28, 2002. The purpose of the fieldwork was to locate the claim, and conduct a reconnaissance to determine any continuance of calcite mineralization observed on the adjacent claim group described in this report. The Authors located the north boundary of the claim at approximately claim post #1. Although the claim post was not found, the Township boundary line between Spence and Croft was clearly marked. The authors located the boundary utilizing a Garmin GPS12 hand held unit. The unit tracks 12 satellites. The Authors chose the dates of the fieldwork to coincide with the lack of leaf cover to improve the accuracy of the instrument. The satellite resolution is accurate to within 5m, which is sufficient for the scope of the completed fieldwork.

The Authors traversed the property from north to south through low-lying swamp/bog terrain (see attached map). At a point approximately midway through the claim the authors encountered a ridgeline striking north south across the eastern edge of the claim. This is consistent with the strike of the calcitic zone striking parallel to the east on the adjacent claim group. The ridge consists of quartzofeldspathic gneiss, which is typical of the local geology. The ridge was traversed along the edge of the claim. The authors then traversed further south along the claim at a lower elevation. The terrain consisted of mixed bush with some obvious quartzofeldspathic outcrops, again, consistent with the local geology. The northeast corner of the claim rises in elevation above the swamp/bog, and consists of mixed bush, no notable outcrops were observed. As the calcite observed on the adjacent claim group is quite obvious in appearance, it is within the scope of this fieldwork to conclude that no calcite mineralization was observed on SO1193096.



## **1.60 GPS UNIT**

The Authors utilized a Garmin GPS 12 hand held unit to conduct the fieldwork described in this report. The unit is a differential-ready 12 parallel channel receiver. The unit continuously tracks and uses up to twelve satellites to compute position. The accuracy is within 1 to 5 metres, which is acceptable for the scope of this study.

The data was down loaded to a computer to organize the data recorded during the fieldwork. The attached map was completed utilizing Fugawi software.

The fieldwork was completed during October, as leaf cover is minimal to nil, therefore increasing the accuracy of the data collected.

## **1.70 RECOMMENDATIONS**

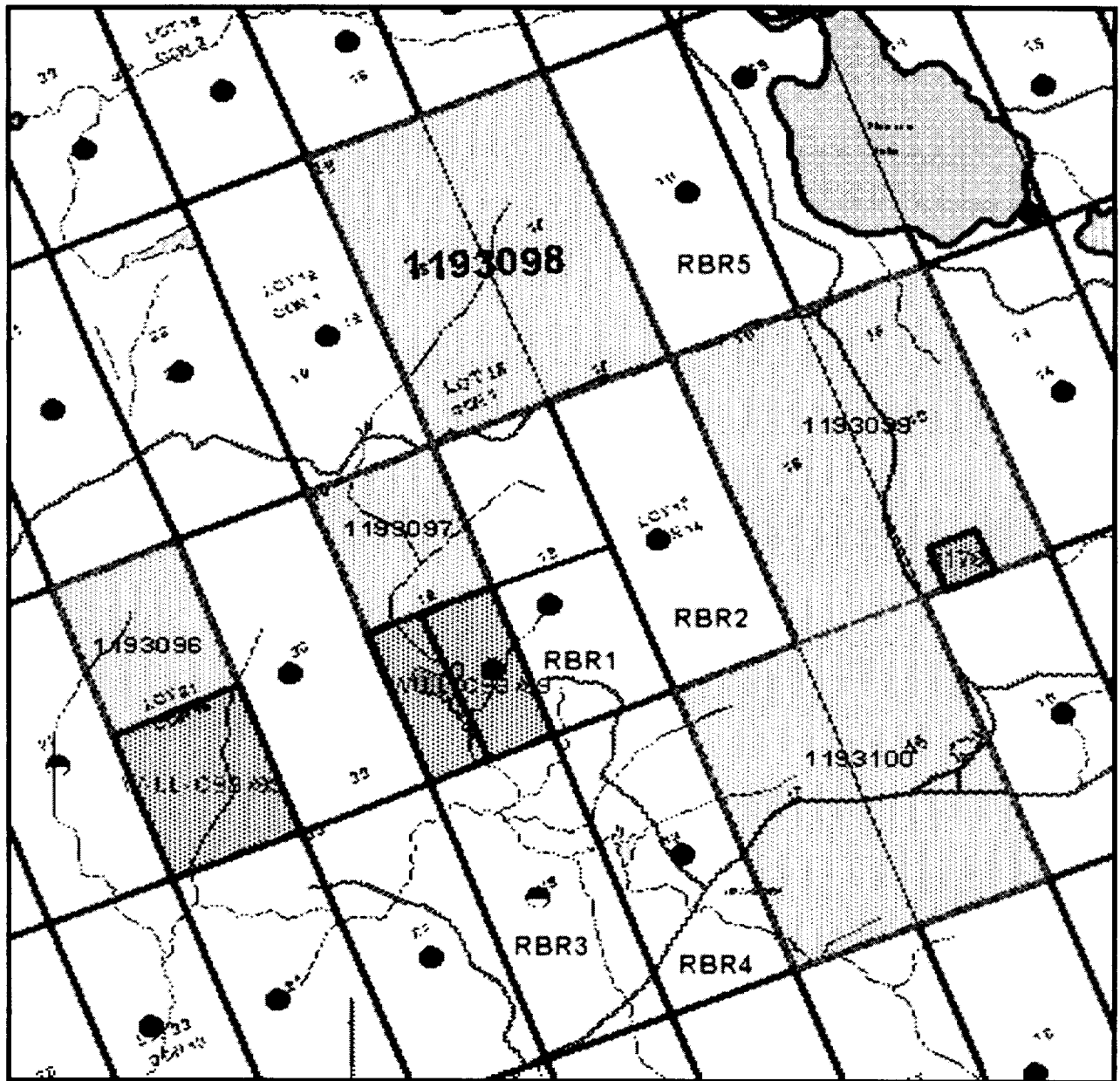
The authors recommend that future work on the property include the clearing of outcrops to the north, possibly by means of trenching to determine the width of the calcite zone as well as the continuity to both the north and south of the pit. We are also recommending a future drilling program to establish the depth and structure of the deposit. Information gathered on these programs to be added to the compilation drawing.

The basis of this program is of course to determine or calculate the availability of resources of this calcite prospect. Simultaneous to this exercise, it is essential to complete laboratory testwork in order to establish the targeted markets, as well as outline and begin preliminary approaches to prospective clients.

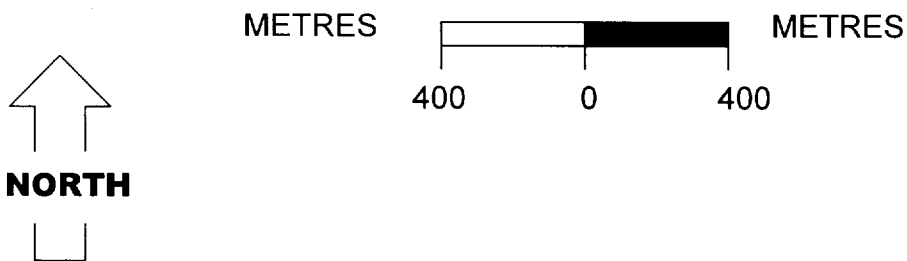
## **1.80 CONCLUSIONS**

It is evident that a calcitic deposit exists within the study area. The Authors have identified calcitic outcrops striking north south to the north of the bulk sample location. It is not within the scope of this report to draw any conclusions as to the size or potential of the calcite occurrence. Future work to define the market characteristics and potential of the calcite should precede any further exploration of the property. The data presented to date does not allow for any possible conclusions as to potential economic viability of the occurrence.





SPENCE/CROFT TOWNSHIP (M-0199)



**FIGURE SEVENTEEN – MAP IDENTIFYING CLAIM NUMBERS AND BOUNDARIES**



## 2.0 GEOLOGY

Rocks of the Sudbury - Parry Sound region belong to three structural provinces: the Superior Province (> 2.5 Ga); the Southern Province (1.86 Ga); and the Grenville Province (1.0 Ga).

### 2.10 REGIONAL GEOLOGY THE GRENVILLE PROVINCE

The Mid-Proterozoic-age Grenville Province is divided, from south to north, into the Central Metasedimentary Belt, the Central Gneiss Belt and the Grenville Front Tectonic Zone. The Central Metasedimentary Belt comprises volcanic and sedimentary units cut by various syntectonic, late tectonic and post-tectonic plutons. It can be subdivided into five terranes, each with unique combinations of volcanic and sedimentary units ranging in age from about 1.4 to 1.25 billion years old. Arc-derived volcanism and extensive areas of shallow-water platformal sediments, including marbles, characterize the belt. The Central Gneiss Belt has high-metamorphic-grade quartzofeldspathic gneisses, mainly of igneous origin, which are subdivided into several domains and terranes by major shear zones. The belt is composed of reworked Archean and Paleoproterozoic gneisses to the north, succeeded to the south by units that are 1.8 to 1.6, and 1.4 billion years old.

### 2.20 LITHOLOGY OF THE GRENVILLE PROVINCE

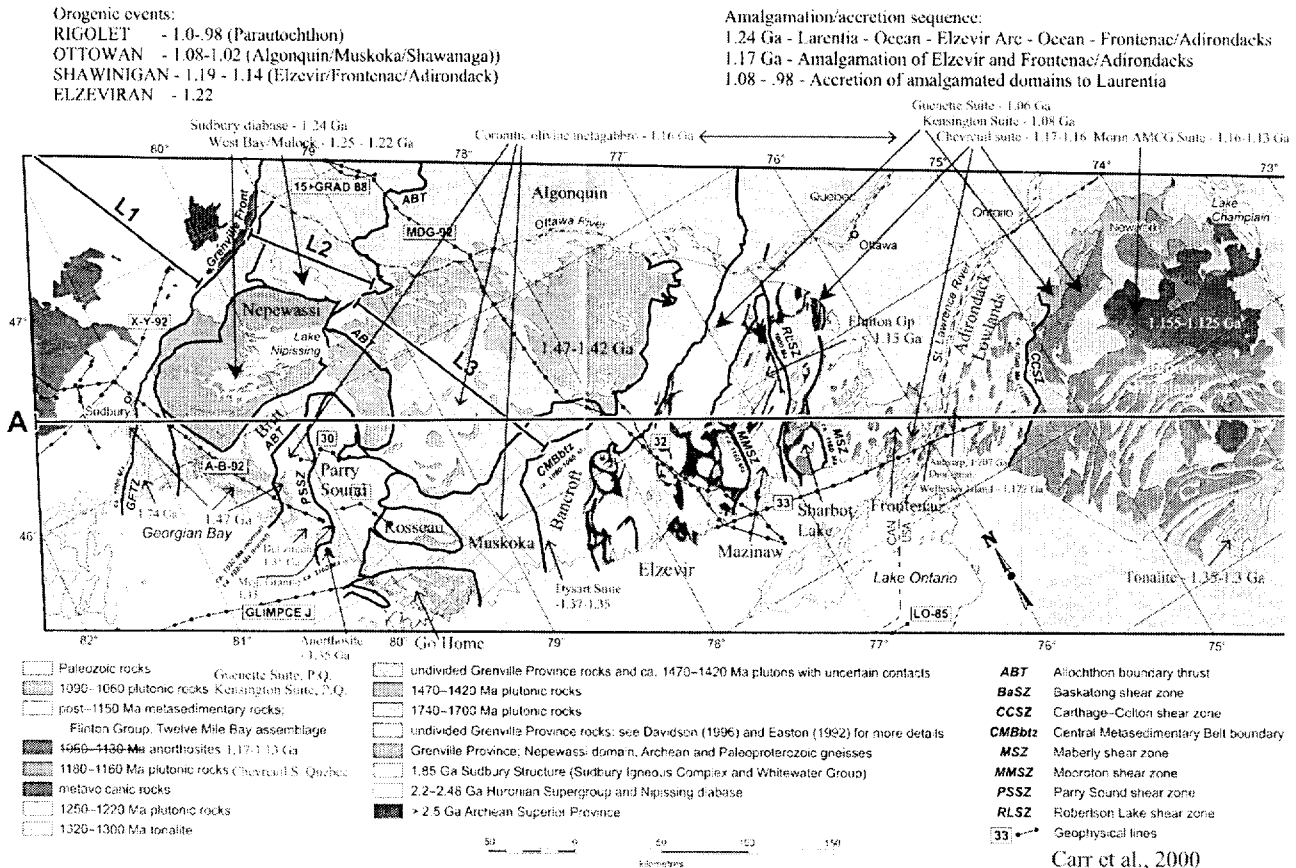


FIGURE EIGHTEEN – LITHOLOGY OF THE GRENVILLE PROVINCE



## 2.30 LOCAL GEOLOGY

The Grenville Front Tectonic Zone is a region of steeply dipping, highly tectonized rocks from midcrustal levels exposed in proximity to the Southern Province contact. The Grenville Province contains units from a spectrum of crustal depths ranging from mid-level to shallow. Mineral deposits range from syngenetic massive sulphide and carbonate hosted lead-zinc deposits to deeper crustal-level graphite and anorthosite-related mineralization. Because of the presence of carbonate bearing sedimentary rocks, volcanic country rocks and abundant late intrusions, the Grenville Province host a wide variety of industrial mineral deposits including wollastonite, talc, calcite, muscovite, kyanite, staurolite and garnet.

The calcite bearing units of the Central Gneiss Belt (CGB) range in composition and texture from quartzofeldspathic gneiss to quartz-biotite schists to semipelitic gneisses. The mineralogy of these units is similar with respect to the major constituents: quartz varies from 50% to 80%; (feldspar, predominantly plagioclase), biotite mica, sulphides such as pyrite, occasional pyrrhotite.

Heavy rust is seen in several of the outcrops on the property appears to be from the spotty presence of pyrite and ferromagnesian metals such as mica biotite and muscovite.

The overburden in the area is a thin veneer of soils and grass, generally no more than a few centimeters to possibly over a half metre.

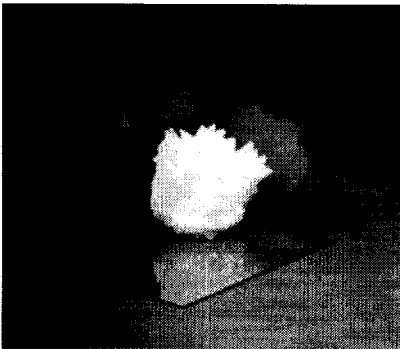
Calcite mined and crushed from the pit in 2001, appears to be pure with approximately 5-10% impurities, mainly biotite mica.



**FIGURE NINETEEN – EXAMPLE OF  
TYPICAL GNEISSIC ROCK**

### 3.0 CALCITE

Calcite gets its name from "*chalix*" the Greek word for lime, which is a most common mineral. It is one of the most common minerals on the face of the Earth, comprising about 4% by weight of the Earth's crust and is formed in many different geological environments. Calcite can form rocks of considerable mass and constitutes a significant part of all three major rock classification types. It forms oolitic, fossiliferous and massive limestones in sedimentary environments and even serves as the cements for many sandstones and shales. Limestone becomes marble from the heat and pressure of metamorphic events. Calcite is even a major component in the igneous rock called carbonatite and forms the major portion of many hydrothermal veins. Some of these rock types are composed of better than 99% calcite.



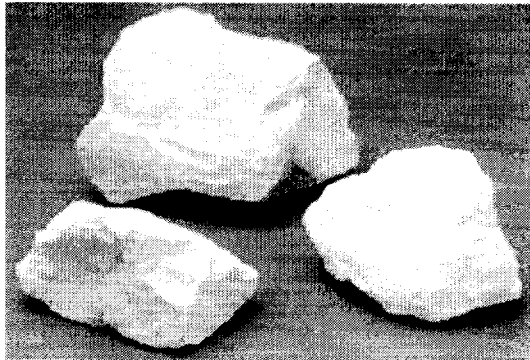
#### 3.10 PHYSICAL CHARACTERISTICS OF CALCITE:

- Chemistry: CaCO<sub>3</sub>, Calcium Carbonate
- Class: **Carbonates**
- Group: **Calcite**
- Uses: In cements and mortars, production of lime, limestone is used in the steel industry; glass industry, ornamental stone, chemical and optical uses and as mineral specimens.
- **Color** is extremely variable but generally white or colorless or with light shades of yellow, orange, blue, pink, red, brown, green, black and gray. Occasionally iridescent.
- **Luster** is vitreous to resinous to dull in massive forms.
- **Transparency:** Crystals are transparent to translucent.
- **Crystal System** is trigonal; bar 3 2/m.
- **Crystal Habits** are extremely variable with almost any trigonal form possible. Common among calcite crystals are the scalenohedron, rhombohedron, hexagonal prism, and pinacoid. Combinations of these and over three hundred other forms can make a multitude of crystal shapes, but always trigonal or pseudo-hexagonal. Twinning is often seen and results in crystals with blocky chevrons, right angled prisms, heart shapes or dipyrmidal shapes. A notch in the middle of a doubly terminated scalenohedron is a sure sign of a twinned crystal. Lamellar twinning also seen resulting in striated cleavage surfaces. Pseudomorphs after many minerals are known, but easily identified as calcite. Also massive, fibrous, concretionary, stalactitic, nodular, oolitic, stellate, dendritic, granular, layered, etc.
- **Cleavage** is perfect in three directions, forming rhombohedrons.
- **Fracture** is conchoidal.
- **Hardness** is 3 (only on the basal pinacoidal faces, calcite has a hardness of less than 2.5 and can be scratched by a fingernail).
- **Specific Gravity** is approximately 2.7 (average).
- **Streak** is white.
- **Other Characteristics:** refractive indices of 1.49 and 1.66 causing a significant double refraction effect (when a clear crystal is placed on a single line, two lines can then be observed), effervesces easily with dilute acids and may be fluorescent, phosphorescent, thermoluminescence and triboluminescent.





- **Associated Minerals** are numerous but include these classic associations: fluorite, quartz, barite, sphalerite, galena, celestite, sulphur, gold, copper, emerald, apatite, biotite zeolites, several metal sulphides, other carbonates and borates and many other minerals.
- **Notable Occurrences** include USA, Germany, Brazil, Canada, Mexico, England, India, Iceland, many African localities as well as others around the world with their own unique varieties.



**FIGURE TWENTY** - Calcium Carbonate is the chemical name associated with high purity limestones and marbles, and specifically relates to the mineral calcite ( $\text{CaCO}_3$ ). Limestone is found extensively on all continents and is mined or quarried from deposits that range in age from Precambrian to Holocene. (*Franklin Limestone Company*)

### 3.20 PROCESSING OF GROUND CALCIUM CARBONATE (GCC) AND PRECIPITATED CALCIUM CARBONATE (PCC)

The production of GCC (and of dolomite, which is very similar) starts with its extraction. Identifying the right ore-body in terms of composition, homogeneity, etc. is essential to the whole production process that will follow; a pure calcium carbonate source needs to be identified.

Generally, the processing includes washing, sorting of undesirable by-minerals, grinding, size classification of particles and possibly drying. Depending on the circumstances and intended uses, the order and necessity of those different steps vary. At the outlet of the process, the material is delivered in bags or in bulk (trains, boats, trucks) when dry, or as bulk container from slurries.

The production of Precipitated Calcium Carbonate (PCC) is often associated to some bulk chemical processes: the Solvay Method or the Caustic Soda production. It can also be produced through a recarbonizing process.

Depending on the physico-chemical conditions of precipitation, the crystallisation of the product can be modulated. This allows to template the characteristics of crystals to the intended use. There are three main crystal morphologies: Calcite, Aragonite, and Vaterite. Within each morphology, several crystal forms are possible.

In all cases, a source of  $\text{CaCO}_3$  is required. The recarbonising process is increasing in importance, notably in paper production. Through this process, PCC is synthesised on the basis of lime and  $\text{CO}_2$ . The  $\text{CO}_2$  is recovered from the lime production or from the paper process. The PCC plant is thus developed as a satellite to e.g. the paper mill; recovering the  $\text{CO}_2$  it produces and delivering directly the PCC suitable to the paper production.



### 3.30 MARKETING OF CALCITE

Calcium carbonate is regarded as one of the essential building blocks of commerce along with iron ore, salt, sulfur, petroleum, and coal. Geologically, calcium carbonate is derived from a variety of sources, mainly limestone, chalk, or marble, and to a lesser extent carbonatite, vein calcite, travertine, shells, aragonite sand, or dolomite. In addition to the thousand and other uses are beyond the scope of this paper, ground calcium carbonate (GCC) is used as a filler and extender and/or white pigment in a host of products. Depending on the physical characteristics, some may be used as a relatively crude and cheap filler in asphalt, carpet backing, joint cement and the like; better quality and finer ground calcium carbonate is an intermediate grade filler used in putty, caulks, and sealants; and high-quality and bright material yields fine and ultra fine grades used as a pigment/filler in paper, paint, plastics, printing ink, cosmetics, and rubber. Over the past ten years precipitated calcium carbonate or PCC has evolved into a major player in the filler/white pigment market.

### 3.31 GROUND CALCIUM CARBONATE

World ground calcium carbonate (GCC) also called Natural Calcium Carbonate (NCC), capacity has grown rapidly over the last 20 years and is now estimated to exceed 50Mt for all grades. This total includes fine-grained products, which are used as fillers in paper, plastics and paint, and coarser grades used in applications such as carpet backing, cultured marble and landscaping. Expansion in production capacity has been driven by increased demand for fine-grained GCC in papermaking. Over the last twenty years the use of all mineral pigments in paper has grown at 5.3%pa, but GCC in paper has grown at 12%pa. The GCC industry is characterized by concentration of production in the hands of a few companies. Ten companies control 75% of the world's processing capacity and just one company, Omya, operates more than 50 plants in nearly 30 countries and accounts for 40% of global capacity. Currently the majority of production capacity is located in Western Europe and North America, but the rate of capacity increase is greatest in Asia. There are now at least 140 GCC plants in China, where consumption of GCC in paper has increased from 42,000t in 1995 to at least 700,000t in 2002. (*Roskill Reports on Metals and Minerals*)

GCC is widely used as filler in PVC and polyethylene. Grades have been developed for use in LLDPE to produce a breathable film, which has potential for widespread application in the health care and diaper market. Wet ground and dry ground GCC are the most widely used mineral pigments in the paint industry.

### 3.32 PRECIPITATED CALCIUM CARBONATE

World precipitated calcium carbonate (PCC) production capacity now stands at an estimated 6.2Mtpy to 6.7Mtpy, a fourfold increase since 1991. Most of the increased capacity has been built in the form of PCC satellite plants located near to, or at, the point of consumption, usually a paper mill. Since the first was built in 1986, they have grown to account for around 64% of world PCC capacity. The remaining capacity is accounted for by merchant plants, which manufacture PCC for sale to a variety of industries. Almost three-quarters of world's consumption is by the paper industry: it accounts for an estimated 85% of consumption in America and 78% in Western Europe. In recent years paper has become the largest market for PCC in Asia and now accounts for nearly 50% of demand.



### 3.40 END USES FOR PRECIPITATED CALCIUM CARBONATE

**PAPER** - (Pulping, bleaching, stock preparation, sheet forming, finishing, paper filling, paper coating.)

Although calcium carbonate has sales of approximately 400 000 t per year in North America as a coater and filler, it does encounter problems in its chemical reactivity in an acidic environment. Many paper producers use an acidic process, which discounts the use of calcium carbonate. However, increased paper consumption and resource limitations may be underlying a trend for producers to switch to alkaline paper systems.

In Europe, calcium carbonate is the filler of choice in the paper industry. Consumption of ground calcium carbonate in Western Europe has more than doubled in the past ten years replacing much of the other filler/coater minerals such as kaolin and talc. (*Market Trends and Developments in Extender and Filler Minerals – Kline Group*)

Market requirements for the calcium carbonate are very stringent and the filler, coated and extender have to be of the highest grade. Ultra fine grinding (~2 µm), high brightness and very low magnesium and silica contents are essential for paper grade carbonate.

Precipitated calcium carbonate has taken a substantial piece of the North American market from the ground equivalent. In recent years many plants with outside help began producing their own precipitated calcium carbonate. Pfizer Inc. of New York, New York, has been setting up satellite plants at the paper plant sites to calcine and reform coal limestone using carbon dioxide gas. Precipitated CaCO<sub>3</sub> is the processing is perfected, can be superior to ground in particle size range, purity and brightness.

Some alkaline paper producers, depending upon the proximity of the calcium carbonate supplier, may still choose to use kaolin filler, if delivery costs are cheaper. Ultra fine carbonate costs almost the same as the kaolin fillers.

Ten paper producers using the alkaline system were identified on the eastern seaboard from Maine south to Maryland. There appears to be only one in Eastern and Central Canada, Fraser Inc., Thorold, Ontario. In Maine, out of nearly 40 paper mills, only 2 are currently using the alkaline process. (*Nova Scotia Department of Natural Resources Mineral Resources Branch Economic Geology and Market Trends and Developments in Extender and Filler Minerals – Kline Group*)

#### **RUBBER**

The rubber industry as well as the carpet industry is the fifth largest consumers of extender and filler minerals in North America. Although consumption figures are high, the industry also uses a greater quantity of nonmineral fillers in the manufacturing processes.

Other less used mineral fillers include calcium carbonate, talc, mica and barite. Minor applications for a wide variety of minerals can be found, but problems occur when the different minerals are bonded with the rubber compounds. Other additives and bonding agents are required, reducing the desirability of many minerals. (*Nova Scotia Department of Natural Resources Mineral Resources Branch Economic Geology*)

#### **CARPET BACKING.**

Carpet backing is the largest volume industrial application for calcium carbonate in North America. It is an industry that in 1985 consumed a total of \$19.1 million or 615 000 t of calcium carbonate (*C. H. Kline and Associates, 1986*). Calcium carbonate is used in significant amounts as filler because it ideally fits the requirements of having a low binder



demand, low cost, abundance and can be added in large portions to the foam backing without critically increasing the viscosity.

Four other mineral fillers, barite, kaolin, talc and silica, have minor applications in the carpet backing industry, but their consumption does not approach the levels of consumption of calcium carbonate.

Specifications for filler grade calcium carbonate for carpet backing are much less stringent than they are for other industrial applications. High brightness values are not essential, coarser grades can be used and chemical purity is not a necessity. These factors contribute to its lower cost.

In application, the filler mineral is combined with a rubber latex system and applied directly to the underside of the carpet. Curing in the ovens and trimming completes the manufacturing process.

In most applications, two coatings of backing are applied; these vary in filler concentrations from <200 parts calcium carbonate and 100 parts dry latex up to 650+ parts calcium carbonate to 100 parts dry latex. (*Nova Scotia Department of Natural Resources Mineral Resources Branch Economic Geology*)

## **PAINTS AND COATINGS**

Paint is an agglomeration of resins, solvents, fillers and pigments. The resins such as vinyl and acrylics are the backbone of the paint and give the product its own unique properties. The solvents account for approximately half of the total volume of the paint. Solvents generally evaporate when the paint is applied and act only as a medium into which all of the resins, pigments and fillers can be mixed. Kerosene and varsol are two of the more popular solvents.

Fillers or inerts main purpose is to add support to the film structure of the paint. In an average 4litre can of paint the filler supplies weighing 1.8 kg, approximately one-half of that weight. Calcium carbonate, talc and kaolin are the most commonly used filler materials, but usually more than 3 or 4 different fillers are used in a mixture of paint. The term extender is also applied here since the mineral can act to extend the properties of the paint, i.e. flatness, resistance to abrasion.

Calcium Carbonate increases viscosity, lowers cost, acts as a flattening agent (rough grind size), adds solids, provides brightness (fine grind size) and opacity. Limiting factor is its reactive nature to acidic environments. (*Nova Scotia Department of Natural Resources Mineral Resources Branch Economic Geology*)

Matchless Paint Inc. is the largest paint manufacturer east of Toronto. Annual production figures are unavailable, but the company contributes to a large nation wide market. Matchless uses approximately 0.34 million kg per year of filler minerals in their manufacturing. Calcium carbonate is consumed at a rate of approximately 136 080 kg per year. It is added to nearly all paints from flat to glossy mainly because of its controlled particle size distribution. Four different product lines of calcium carbonate are used at Matchless.

Matchless Inc. is one of many manufacturing paint companies in Toronto. There is 17 other major paint manufacturers located in Ontario, which include: Para Paints, Sherwin Williams, home Hardware and Benjamin Moore. (*The Canadian Paint and Coatings Association [CPCA]*).



## PHARMACEUTICALS AND COSMETICS

Calcium carbonate (PCC) is an excellent source of calcium.

There are many companies that make a directly compressible calcium carbonate that provides the consistent quality required for pharmaceutical use.

Calcium is a primary ingredient in nutraceutical supplements and pharmaceutical antacid tablets.

Calcium carbonate is found in everyday products such as bathroom cleaner, shoe polish, and toothpaste.

This material could be supplied with mean particle sizes ranging from 4 microns to 16 microns.

## PLASTICS - Fillers in plastics

Calcium carbonate provides enhanced impact as compared to other mineral reinforcements. Calcium carbonate reinforced grades also offer excellent surface appearance and color properties.

The plastics industry is the largest consumer of ground calcium carbonate. It is the major engineered filler used in plastics with more than 55 percent of the total mineral consumption. The majority of the calcium carbonate is consumed in polyvinyl chloride (PVC), thermoset polyesters and polyolefins. Calcium carbonate is widely used in the plastics industry for a variety of qualities: it has controlled whiteness, it improves impact strength, it aids in processing and acts as a heat sink in exothermic curing systems. It also reduces costs by replacing expensive plastic resins. Calcium carbonate-containing plastics are commonly found in shower stalls, commercial and residential floor tiles, bathroom sinks, pipe and conduits. *(Nova Scotia Department of Natural Resources Mineral Resources Branch Economic Geology and The Plastics Group)*

## CAULKS AND SEALANTS

The caulks and sealants industry is another major market for calcium carbonate. Calcium carbonate is the major portion of the minerals used in these products. *(Nova Scotia Department of Natural Resources Mineral Resources Branch Economic Geology)*

## AGRICULTURE AND ENVIRONMENT

As a natural product itself, calcium carbonate is well suited to environmental applications. Large amounts of calcium carbonate are being used to help protect the environment and this is increasing year on year. It is used in the liming of forests and lakes, to counter the effects of acid rain, as well as in the treatment of flue gases and drinking water.

### 3.50 GRADING OF CALCIUM CARBONATE

Limestone and its metamorphosed equivalent marble are North America's major source of calcium carbonate and also two of the earth's most common mineral commodities.

In terms of total consumption, ground calcium carbonate is the second most important mineral in the filler industry. This can be attributed to its widespread availability, low beneficiation cost, high brightness (brightness is a measure of the total percentage of light



reflected from a sample in comparison with a theoretical (100%) or physical standard), low abrasiveness, functional particle shape and low overall production cost. Because of the abundance of limestone and marble deposits in the world, purity, tonnage and accessibility to market are some of the determining factors in deciding whether or not a deposit has economic potential in the filler industry.

Desirable grades vary depending upon end use. In the paper industry, standards require a high brightness reading in the range of 95%+, a CaCO<sub>3</sub> content of approximately 98% and a mean particle size in the range of 1 µm. Ground calcium carbonate to be used in the carpet backing industry, however, does not require such a high brightness reading (approximately 90%) a CaCO<sub>3</sub> content only in the 94% range and a mean particle size in the 20-30 µm range. For obvious reasons prices vary greatly depending upon end use because of increased or decreased beneficiation costs.

### 3.60 PRICING ON RAW CALCIUM CARBONATES

Many companies involved in the business are privately held and are reluctant to reveal data about their production and sales, however, in the Executive Summary of the **Huge Calcium Carbonate Mine** located in S.E. Idaho. This is a proven high quality calcium deposit located near several major market areas. Drilling tests show the existence of more than **200 million tons of high quality calcium** and **another 1 billion tons of industrial quality calcium** in this deposit.

This deposit has virtually no overburden and lies next to a state highway and electric power with a railroad nearby. With approximately 3,000 acres of BLM land under mining claims and 200 acres of deeded ground this mine is ready to go into production.

The selling price of the raw calcium carbonate ranges from \$12/ton - \$40/ton for **industrial use**, \$500 per ton in bulk, and up to \$18,000/ton in capsule form.  
([www.goldandsilvermining.com](http://www.goldandsilvermining.com))

### 3.70 OTHER CALCITE PRODUCERS IN NORTH AMERICA

**Canada:** Imasco; Omya (Canada) Inc; Havelock Lime; Les Calcites du Nord;

**Mexico:** AT SA; Estens; Grupo Ind. Avalos Rubio; Imerys de Mexico; Inmin; Molinas de Norte; Omya Mexico SA de CV; Orfo SA de CV; Secadora Industrial SA; Zacarias Grupo Industrial;

**USA:** Franklin Industrial Minerals; Global Stone Corp; Huber Engineered Materials; Great Lakes Calcium Corporation; H&S Whiting; Imerys USA Inc; Omya North America Inc; Polar Minerals; Specialty Minerals; Thomasville Lime Medusa Corporation; Vulcan Materials Co.



### 3.80 INDEPENDENT MARKET STUDIES ON CALCIUM CARBONATE INDUSRY

The following companies have completed Independent and Syndicated Market Studies:-

1. Definitive report on the global ground calcium carbonate industry, its markets and its future. (*Roskill Information Services - London UK*)
2. Extender and Filler Minerals North America, 1998-2000 (*Kline Group, New Jersey, USA*)
3. The Global Outlook for Extender and Filler Minerals in Paper – Volume II - 2001 - Western Europe. (*C H Kline Group, New Jersey, USA*).
4. The Outlook for Industrial and Consumer Minerals for Performance Minerals – Volume II – Europe 2001 – 2006. (*C H Kline Group, New Jersey, USA*).
5. The Global Outlook for Extender and Filler Minerals in Paper, 2000-2002 (*C H Kline Group, New Jersey, USA*).
6. A study of filler and extender minerals in Nova Scotia was also initiated under the Mineral Development Agreement in the fall of 1986- completed by Bob MacDonald, Gordon Adams, Gordon Dickie, Garth Prime, Sandy Anderson and in particular John Fowler, Industrial Minerals Section, Nova Scotia Department of Mines and Energy (NSDME).



#### 4.0 REFERENCES:

1. Mineral Galleries on Calcite – Mineral Internet Company specializing on minerals. - [www.mineral.galleries.com](http://www.mineral.galleries.com)
2. IMA (<http://www.ima-eu.org/en/about.htm> ) is an umbrella organization which brings together a number of European associations specific to individual minerals i.e. Calcium Carbonate.
3. The Canadian Paint and Coatings Association (CPCA).
4. Nova Scotia Department of Natural Resources Mineral Resources Branch Economic Geology.
5. Pricing and Calcium Carbonate Deposit located in Idaho – USA – [www.goldandsilvermining.com](http://www.goldandsilvermining.com)
6. Roskill Reports on Metals and Minerals – Calcium Carbonate.
7. Kline & Company, Inc. - International Business Consulting Firm.
8. Franklin Limestone Company. Crab Tree Orchard – Tennessee.
9. Metamorphism Of The Canadian Shield, Ontario, Canada-Proterozoic Metamorphic History - R. Michael Easton.
10. NSSGA (National Stone, Sand, and Gravel Association).
11. The Plastics Group – Woonsocket Rhode Island.

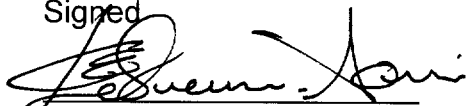




## 5.0 REPORT SUBMISSION STATEMENT

This report was completed by:

Signed

  
Cynthia Le Sueur – Aquin

  
Donald Baxter P. Eng



# ASSESSMENT REPORT

ON  
MAPPING, SITE CLEARANCE AND TRENCHING ON THE  
ROCK BROOK RESOURCES CORPORATION CLAIMS LOCATED IN THE  
SPENCE AND CROFT TOWNSHIPS, PARRY SOUND  
SOUTHERN ONTARIO – DIVISION 90

CLIENT NO. 393190  
ROCK BROOK RESOURCES CORPORATION  
MINING CLAIM NO, SO1193096 - SPENCE TOWNSHIP

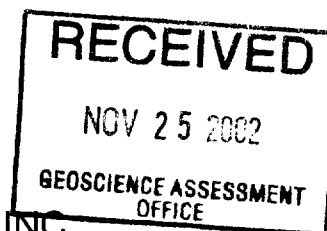
AND

CLIENT NO. 393190  
ROCK BROOK RESOURCES CORPORATION  
MINING CLAIMS NO'S SO1193097 TO SO1193099 – SPENCE AND CROFT  
TOWNSHIPS

AND

CLIENT NO. 400519  
1500448 ONTARIO CORPORATION  
MINING CLAIM NO S01193100 – SPENCE TOWNSHIP

**N 45° 34'**  
**W 079° 42'**



SUBMITTED BY: - AQUIN & ASSOCIATES INC.

Don Baxter P.ENG

Cynthia E. Le Sueur- Aquin B.Sc. ENG

NOVEMBER 18, 2002



31E12SE2005 2.24551

SPENCE

020

**AUTHORIZATION TO FILE ASSESSMENT ON BEHALF OF ROCK BROOK RESOURCES CORPORATION**

DUPLICATE

To: Aquin & Associates Inc.  
P.O. Box 5612  
Huntsville, Ontario  
P1H 2 L5  
ATTENTION: Mr. Don Baxter and Ms. Cynthia Le Sueur – Aquin

Re:

I, FRANK HERAN.....representative and Major Shareholder of Rock Brook Resources Corporation, hereby provide authorization to, and retain the services of Aquin & Associates Inc, namely Don Baxter and Cynthia Le Sueur – Aquin for the purposes of the execution of the required Assessment Work and report for claims numbers SO1193096 to SO1193098 located in the Spence/Croft Townships, Parry Sound Region.

Dated at Huntsville Ontario, on 21.10 2002

Signed  .....

Frank Heran and/or and on behalf of  
Rock Brook Resources Corporation

**AUTHORIZATION TO FILE ASSESSMENT ON BEHALF OF 1500448 ONTARIO CORPORATION**

DUPLICATE COPY

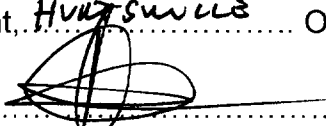
To: Aquin & Associates Inc.  
P.O. Box 5612  
Huntsville, Ontario  
P1H 2 L5

ATTENTION: Mr. Don Baxter and Ms. Cynthia Le Sueur – Aquin

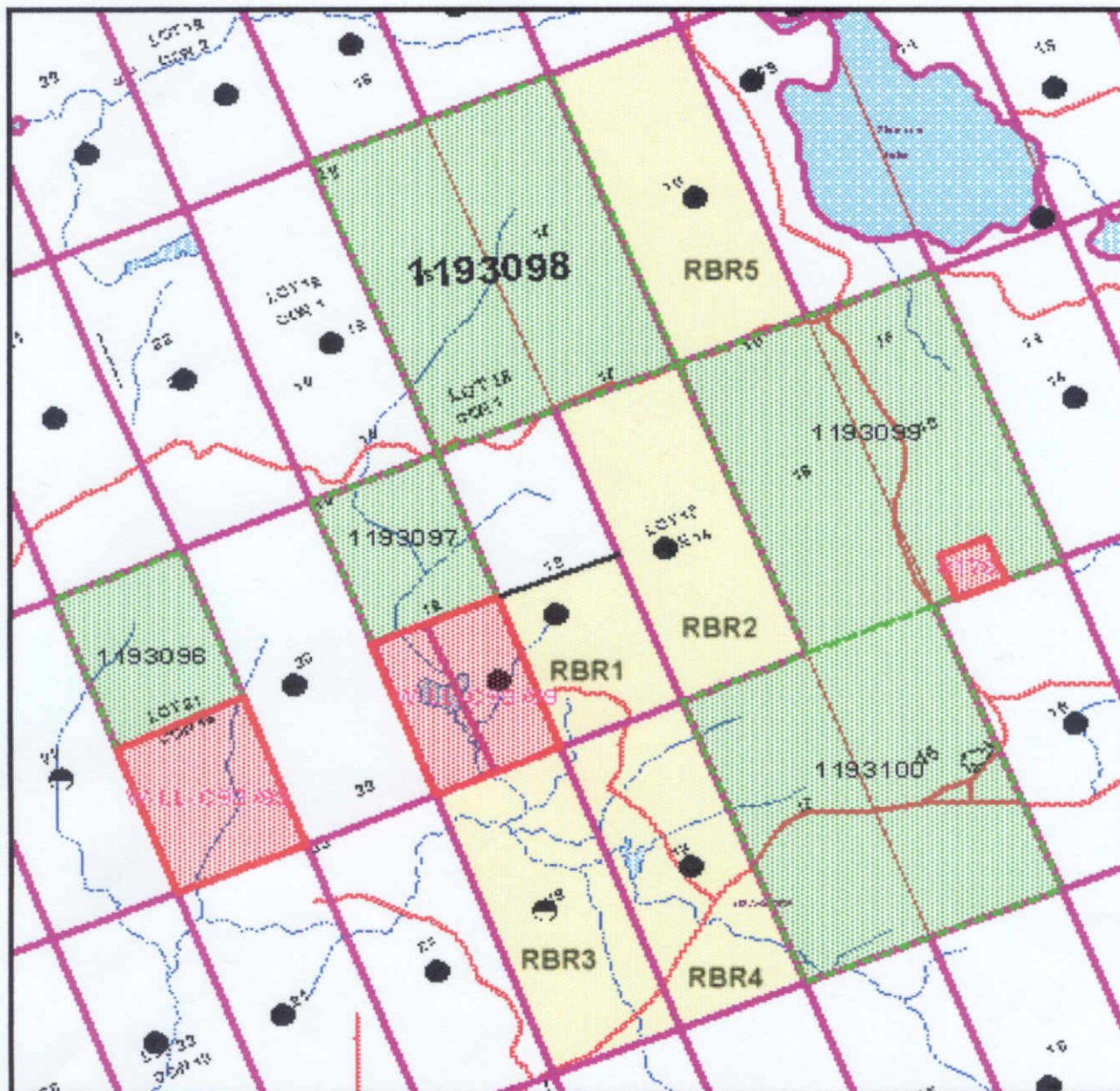
Re:

I, FRANK HERAN representative and Major Shareholder of 1500448 Ontario Corporation, hereby provide authorization to, and retain the services of Aquin & Associates Inc, namely Don Baxter and Cynthia Le Sueur – Aquin for the purposes of the execution of the required Assessment Work and report for claim number SO1193100 located in the Spence Townships, Parry Sound Region – Southern Ontario - Division 90.

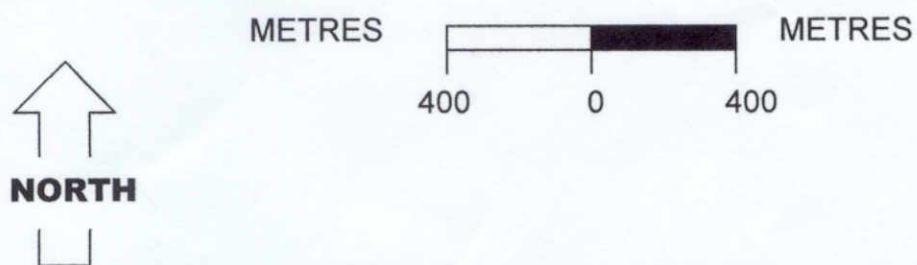
Dated at, Huntsville Ontario, on 21: NOV 2002

Signed  .....

Frank Heran and/or and on behalf of  
1500448 Ontario Corporation



SPENCE/CROFT TOWNSHIP (M-0199)



**FIGURE SEVENTEEN – MAP IDENTIFYING CLAIM NUMBERS AND BOUNDARIES**



**AQUIN & ASSOCIATES INC.**



**LEO ALARIE AND SONS LTD**  
 P.O. BOX 912  
 HIGHWAY 101 WEST  
 TIMMINS, ONTARIO  
 P4N-7H1

PHONE: 705-268-2106  
 FAX: 705-264-6885

**TO:** Rockbrook Resources  
 P. O. Box 329  
 Magnetawan, Ontario  
 P0A 1P0  
**ATTN:** Accounts Payable

**DATE:** July 19, 2001  
**YOUR ORDER NO:**  
**INVOICE NO:** 2001 G 163

**TERMS:** NET 1 1/2% PER MONTH AFTER 30 DAYS.

DATE	DESCRIPTION	REFERENCE	QTY.UNIT	PRICE	EXTENSION
	<b>RE: CALCITE CRUSHING AND SCREENING</b>				
	Mobilization		1 LS	7000.00	\$7,000.00
	Demobilization		1 LS	5000.00	\$5,000.00
	Drill and Blast Crush/Screen and Stockpile		19000 T	4.25	\$80,750.00
	Blasted Rock (Uncrushed)		3152 T	1.35	\$4,255.20
			<i>Credit will be used for this.</i>		
rockr01	<input type="checkbox"/>		<b>HC</b>	\$0.00	<b>SUB</b> \$97,005.20
07 20 01	<b>7% GST #R103052510</b>	<b>*= 8% PST TAXABLE ITEMS</b>	<b>PST</b>	\$0.00	<b>GST</b> \$6,790.36
<b>JOB NO: S2103 Mining and Crushing</b>					<b>Total \$103,795.56</b>



**LEO ALARIE AND SONS LTD**  
 P.O. BOX 912  
 HIGHWAY 101 WEST  
 TIMMINS, ONTARIO  
 P4N-7H1

PHONE: 705-268-2106  
 FAX: 705-264-6885

TO: Rockbrook Resources  
 P. O. Box 329  
 Magnetawan, Ontario  
 POA 1P0  
 ATTN: Joe Miller

DATE: June 13, 2001  
 YOUR ORDER NO:  
 INVOICE NO: 2001 F 137

TERMS: NET 18% PER ANNUM CHARGED ON ACCOUNTS OVER 30 DAYS

DATE	DESCRIPTION	REFERENCE	QTY.UNIT	PRICE	EXTENSION
	<b>RE: MINING &amp; CRUSHING</b>				
	To invoice for the supply of labour, equipment materials and supervision necessary to clean out old quarry workings, establish grade in pit bottom, clean and scale faces for drill and blast program, strip overburden on calcite deposit at Stardust Mine Site, as per attached.				
	<u>Labour</u>		1 LS	4775.00	\$4,775.00
	<u>Equipment</u>		1 LS	6288.25	\$6,288.25
	<u>Materials:</u> (Supply of Gasoline)		1 LS	H 16.50	\$16.50
	Room and Board		8 Days	65.00	\$520.00
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>FAXED</b>            JUN 20 2001            Page _____ of _____</p> </div>				
	Fax: 705-378-5123				
rockr01 <input type="checkbox"/>			<b>HC</b>	\$1.65	<b>SUB</b> \$11,601.40
06 20 01	<b>7% GST #R103052510</b>	<b>*= 8% PST TAXABLE ITEMS</b>	<b>PST</b>	\$0.00	<b>GST</b> \$812.10
<b>Total</b>					<b>\$12,413.50</b>
JOB NO: S2103 Mining and Crushing					



**LEO ALARIE AND SONS LTD**  
 P.O. BOX 912  
 HIGHWAY 101 WEST  
 TIMMINS, ONTARIO  
 P4N-7H1

PHONE: 705-268-2106  
 FAX: 705-264-6885

**TO:** Rockbrook Resources  
 P. O. Box 329  
 Magnetawan, Ontario  
 P0A 1P0

**ATTN:** Accounts Payable

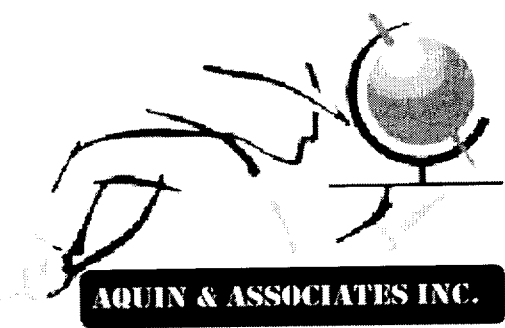
**DATE:** July 18, 2001  
**YOUR ORDER NO:**  
**INVOICE NO:** 2001 G 151

**TERMS:** NET 1 1/2% PER MONTH AFTER 30 DAYS.

DATE	DESCRIPTION	REFERENCE	QTY.UNIT	PRICE	EXTENSION
	<b>RE: EQUIPMENT RENTAL</b>				
6/12/01	Cat 966D RT Loader - # 2560	EWR27446	5.0 Hrs	65.00	\$325.00
	Loader Operator		5.0 Hrs	35.00	\$175.00
	Waste Rock from Blasted Volume		430.14 t	1.35	\$580.69
6/13/01	988B RT Loader - # 2840	EWR27447	2.0 Hrs	129.00	\$258.00
	Cat 966D RT Loader - # 2560		2.0 Hrs	65.00	\$130.00
	Loader Operators		4.0 Hrs	35.00	\$140.00
	Waste Rock from Blasted Volume		293.88 t	1.35	\$396.74
6/14/01	988B RT Loader - # 2840	EWR27448	4.5 Hrs	129.00	\$580.50
	Foreman - Shaun Scott (Operator)		4.5 Hrs	35.00	\$157.50
	Waste Rock from Blasted Volume		736.36 t	1.35	\$994.09
6/16/01	988B RT Loader - # 2840	EWR27449	1.0 Hrs	129.00	\$129.00
	Working Foreman - Paul Allen (Operator)		1.0 Hrs	35.00	\$35.00
	Waste Rock from Blasted Volume		70.68 t	1.35	\$95.42
6/17/01	988B RT Loader - # 2840	EWR27455	2.5 Hrs	129.00	\$322.50
	Cat 966D RT Loader - # 2560		1.0 Hrs	65.00	\$65.00
	Foreman - Shaun Scott (Operator)		2.5 Hrs	35.00	\$87.50
	Loader Operator		1.0 Hrs	35.00	\$35.00
	Waste Rock from Blasted Volume		393.9 t	1.35	\$531.77
6/18/01	Cat 966D RT Loader - # 2560	EWR27454	6.0 Hrs	65.00	\$390.00
	Loader Operator		6.0 Hrs	35.00	\$210.00
	Waste Rock from Blasted Volume		578.46 t	1.35	\$780.92
6/19/01	988B RT Loader - # 2840	EWR27453	1.5 Hrs	129.00	\$193.50
	Foreman - Shaun Scott (Operator)		1.5 Hrs	35.00	\$52.50
	Waste Rock from Blasted Volume		254.42 t	1.35	\$343.47
6/21/01	988B RT Loader - # 2840	EWR27452	1.5 Hrs	129.00	\$193.50
	Foreman - Shaun Scott (Operator)		1.5 Hrs	35.00	\$52.50
	Waste Rock from Blasted Volume		269.42 t	1.35	\$363.72
rockr01	<input type="checkbox"/>		<b>HC</b>	\$0.00	<b>SUB</b> \$7,618.82
07 19 01	<b>7% GST #R103052510</b>	<b>*= 8% PST TAXABLE ITEMS</b>	<b>PST</b>	\$0.00	<b>GST</b> \$533.32
<b>JOB NO: S2103 Mining and Crushing</b>				<b>Total</b>	<b>\$8,152.14</b>

(X)





P.O. BOX 5612, HUNTSVILLE, ONTARIO P1H 2L5  
 TEL: (705) 788-9186 FAX: (705) 788-9187  
 www.AquinAssoc.com strategies@AquinAssoc.com

**Invoice**

Invoice #: RBR1002 A&A-DB1  
 Invoice Date: 18th November 2002  
 Customer ID: 1500448 Ontario Corporation and  
 39190 – Rock Brook Resources Corporation

Bill To:

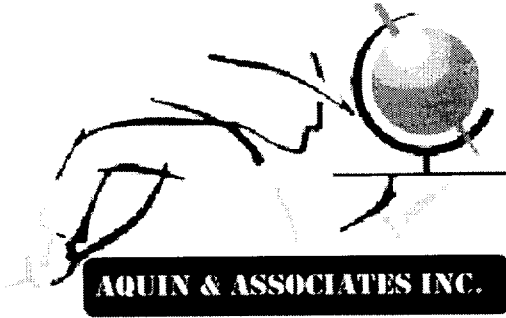
Frank Heran  
 Rock Brook Resources Corporation  
 17 Royal Drive  
 Barrie, Ontario  
 L4N 7S4

**CLAIM NUMBERS : SO 1193097- SO 1193100  
 SPENCE AND CROFT TOWNSHIPS**

Date 18 Nov 2002							
---------------------	--	--	--	--	--	--	--

Claim No:	Description	Days	Phase	Total
SO1193097 -	Field Work on SO1193097 - SO1193100 AND	4 days	One	\$1,900.00
SO1193100	RBR1 & RBR2			
SO1193097 -	Report writing, compilation and generation of map	3 days	Five	\$1,125.00
SO1193100				
Subtotal				\$3,025.00
Tax				\$ 211.75
Balance Due				\$3,236.75

GST # 872092226RT0001



P.O. BOX 5612, HUNTSVILLE, ONTARIO P1H 2L5  
 TEL: (705) 788-9186 FAX: (705) 788-9187  
 www.AquinAssoc.com strategies@AquinAssoc.com

**Invoice**

Invoice #: RBR1001 A&A-DB1  
 Invoice Date: 18th November 2002  
 Customer ID: 393190— Rock Brook Resources Corporation

**Bill To:**

Frank Heran  
 Rock Brook Resources Corporation  
 17 Royal Drive  
 Barrie, Ontario  
 L4N 7S4

**CLAIM NUMBER : SO 1193096— SPENCE TOWNSHIP**

Date							
18 Nov 2002							

Claim No:	Description	Days	Phase	Total
S01193096	Field Work on S01193096	1 day	One	\$475.00
S01193096	Report writing and map compilation production	0.5 days	Five	\$187.50

GST # 872092226RT0001

Subtotal	\$662.50
Tax	\$46.38
Balance Due	\$708.87

3



Maple Grove, R.R. 2, Foley # 11,  
 Parry Sound, Ontario P2A 2W8  
 Phone: (705) 378-5156 • Fax: (705) 378-5157

---

To,  
 Rock Brook Resources Inc.  
 Box #329 Magnetawan  
 Ont. POA IPO

Date Sept 30 2001

INVOICE

Call on the following customers to promote Aggregate samples 1/2" to 1/4" calcite in 50# bags.

- 1) Res Pre- Cast in Innisfill Twp. On. Aug 23 2001. Samples left with Prod. Mgr.
- 2) Architectural Pre-cast Systems, Sept 17 2001. New Market. On. Samples left with Plant Eng.

Return travel to Parry Sound in item(1) above = 225 Km@ 35 cents /Km. Total travel and meeting = 3.5 hrs @ \$65/hr Sub total \$306.25.

Return travel to Parry Sound in item(2) above 300 Km, @35 cents /Km. Total travel and meeting 4.5 hrs@\$65/hr Subtotal \$381.25

Amount	\$687.50
GST	48.13
<b>TOTAL</b>	<b>\$735.63</b>

Due when rendered.

2.2455 1

# ALS Chemex

Aurion Laboratory Services Ltd.  
 Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave. North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221

To: MINERAL RESEARCH CANADA INC.

1 INDUSTRIAL BLVD.  
 PARRY SOUND, ON  
 P2A 2W6

INVOICE NUMBER

I 0 0 3 4 3 4 2

## BILLING INFORMATION

Date : 01-DEC-2000

Project:

P.O. No.:

Account: KJE

Comments:

Billing: For analysis performed on  
 Certificate A0034342

Terms: Payment due on receipt of invoice  
 1.25% per month (15% per annum)  
 charged on overdue accounts

Please Remit Payments to:

**ALS CHEMEX**  
 212 Brooksbank Ave.,  
 North Vancouver, B.C.  
 Canada V7J 2C1

# OF SAMPLES	ANALYSED FOR CODE - DESCRIPTION	UNIT PRICE	SAMPLE PRICE	AMOUNT
1	249 - Zirconia ring approx 150 mesh	4.35		
	1316 - Silica 'wash' in pulverizer	1.25		
	A-413 XRF - Basic W.R.A.	22.50		
	2382 - CaCO3 % calc.	0.00	28.10	28.10
2	249 - Zirconia ring approx 150 mesh	4.35		
	1316 - Silica 'wash' in pulverizer	1.25		
	234 - 0-7 Kg splitting charge	1.05		
	A-413 XRF - Basic W.R.A.	22.50		
	325 - Fe tot %	50.00		
	451 - FeO %	11.25	91.20	182.40
Total Cost \$				210.50
(Reg# R100938885 ) GST \$				14.74
TOTAL PAYABLE (CDN) \$				225.24

ATTN: Martin Marcus

705-378-5123

ATTN: FRANK @ 705 722 0297

ITEM 1. ABOVE IS THE CALCITE SAMPLE FOR \$28.10

FRANK.  
THIS FAXED TO YOU  
AS HE CANNOT  
REACH YOU. HIS  
FAX IS NOT  
RESPONDING.

AUGUST 28, 2001.

MEMO TO RECORD CONTACT WITH DAVROL LABS.

I spoke this AM with Sal Fasullo of Davrol Labs concerning testing of Calcite product in connection with our intent to sell the product to Architectural Precast Systems and Res Precast Inc., as well as to the industry in general. Sal was very accommodating and stated that He was quite familiar with the typical product and they had done considerable work for APS. He assured me that if our product passed the specific tests he normally performed, we could sell the product with confidence to the Architectural Prestressed Concrete Industry. He will fax to me today a copy of the applicable ASTM Standards we must meet.

Sampling of our product can be done by ourselves according to this procedure-

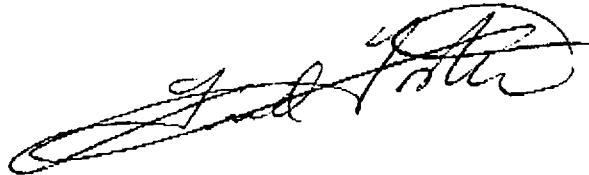
Start at the top of the stockpile and take small samples every 3 to 4 feet gradually descending the pile until we reach the bottom and we have accumulated the equivalent of two 50 lb. bags. He did not specify that we mix the two together to obtain a uniform mix. I assume he will do this if necessary as part of his laboratory procedures.

Work will begin as soon as the samples are delivered to the lab. Depending on the testing program we specify (I gave him Marcus's name as our contact on this matter) results should be available in 3 1/2 weeks. I stated we would make every effort to have the samples in his possession by Friday Aug 31, 2001.

A copy of the ASTM Standards and an order of magnitude cost estimate should be faxed to me today.

Location data:

Davrol Labs,  
2051 Williams Parkway,  
Units 20/21,  
Brampton, Ontario,  
L6S 5T4.  
Phone: 905-792-7792.



13



# ERIEZ OF CANADA LIMITED

200 ADMIRAL BOULEVARD, MISSISSAUGA, ONT., CANADA L5T 2N6  
Tel. (905) 795-0444 Fax: (905) 795-0450

Date	Page
Oct 22, 2001	1
Invoice Number	
5628	

GST No. R101675841

## INVOICE

Sold to: SUNROC INDUSTRIES INC  
7485 PATTERSON SIDE RD  
CALEDON EAST, ONT L0N 1E0

Ship To: SUNROC INDUSTRIES INC  
7485 PATTERSON SIDE RD  
CALEDON EAST, ONT L0N 1E0

Order No.	Order Date	Customer No.	Representative	PO Number	Terms
10501	Oct 19, 2001	E/IH02	MES	01-253.01	NET 30 DAYS

Shipped	Item Number	Description	Unit Price	UOM	Extended Price
	SER	TESTWORK ON SAMPLE			600.00
<b>2.2455 1</b>					

Subtotal	600.00
GST	42.00
Total amount in Canadian Dollars	642.00

WE RESERVE THE RIGHT TO CHARGE INTEREST AT  
2% PER MONTH ON OVERDUE ACCOUNTS

**ERIEZ**  
**RESEARCH AND**  
**DEVELOPMENT**



CALCIUM CARBONATE  
 FOR  
**HOLLIS**  
 MTR #01-504

Submitted By:

**Eriez**  
 2200 Asbury Road  
 Erie, PA 16506-1440  
 (814) 835-6000

John L. Palmer  
 Senior Research Technician

D.A. Norrgran  
 Manager, M&MP

October 10, 2001

Sample Log #10982

*TO FINE FOR  
 ELECTROSTATIC.  
 REQUIRES +150 MESH.  
 OR ~100 MICRON  
 THIS MATERIAL IS 10-20M1*

*F: 519-794-0198.  
 CELL: (519) 374-1714*

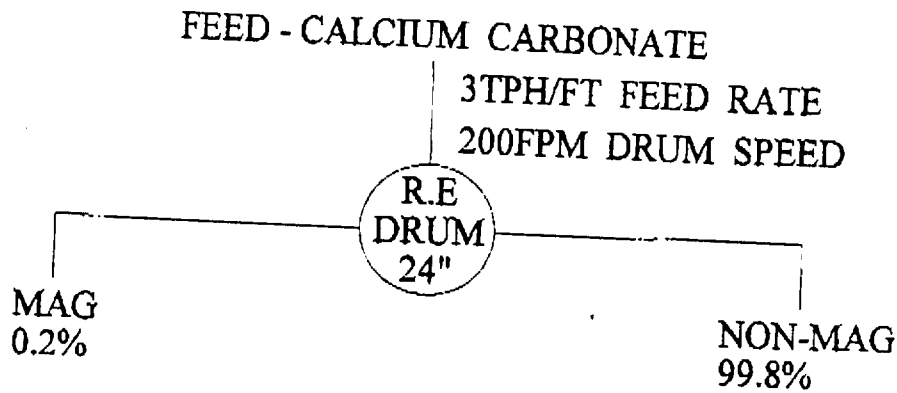
**SAMPLE PREPARATION**

The material was tested as received; no special preparation was necessary.

**EXPERIMENTAL**

*Equipment* - The testing was conducted using the 24" Rare Earth Drum.

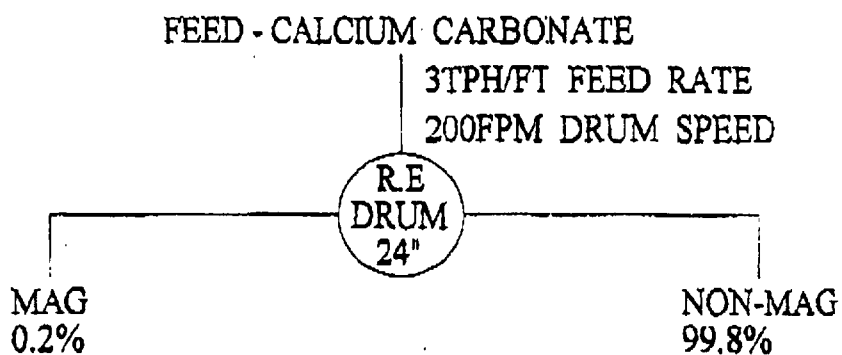
*Test Procedures* - The sample was a very fine calcium carbonate that contains fine iron of abrasion. A single-pass test was run on the 24" RE Drum at a feed rate of 3 tph/ft and a drum speed of 200 fpm. As fine as this material is, a test on the Dry Vibrating Magnetic Filter might give better results, but the DVMF is out on rental; therefore, no test could be run at this time. Some sample has been retained so that we could run a DVMF when it returns. The following flowsheet shows test procedures and results by weight.



**EVALUATION**

The customer's analysis will determine if we were able to meet their specifications.





ERIEZ MAGNETICS  
TEST FLOWSHEET  
FOR  
HOLLIS  
FIG# 1



Maple Grove, R.R. 2, Foley # 11,  
Parry Sound, Ontario P2A 2W8  
Phone: (705) 378-5156 • Fax: (705) 378-5157

To,  
Rock Brook Resources Inc.  
Box #329 Magnetawan  
Ont. POA 1PO

Date Oct 5, 2001

### INVOICE

Interim billing.

Contact and follow up with Flextile Ltd. in Etobicoke Ont., on the prospect of supplying ground calcium carbonate from Magnetawan. Obtain pertinent production requirements.

- 1) Evaluate required size distribution from current specifications of fillers in use. (OM-100P)
- 2) Examine and determine fine grinding requirements utilizing a Vibration Ball Mill.
- 3) Ascertain that size distribution is compatible with current material used in production and develop draft product spec sheet parameters.

Total time expended as of Sept 30, '01. — 36.75 hr @ \$65/hr = \$2388.75

GST \$167.21

TOTAL

\$2555.96.

Due when rendered

DRAFT: FOR DISCUSSION  
 REF FLEXILE.  
 F.F. ST.  
 J.M. F.H.

MAGMARB RESOURCES INC. ?

54 Stonegate Drive  
 Kitchner, Ont. Canada  
 Telephone : (519) 893 - 9560  
 Facsimile : (519) 893 - 6101

TDS-2011

MAGMAR 1 ?

TYPICAL PHYSICAL PROPERTIES

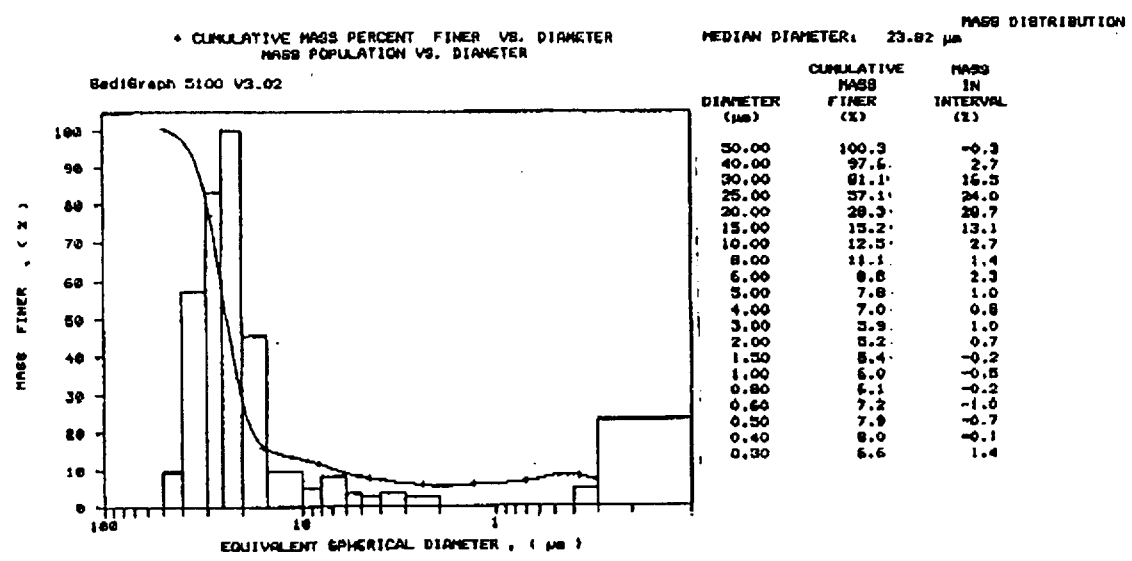
Specific Gravity 2.71  
 Moisture (115c) 0.03  
 Dry Brightness

TYPICAL CHEMICAL ANALYSIS

CaCO<sub>3</sub> (%) 95.0  
 MgCO<sub>3</sub> (%)  
 Acid Insolubles (%)

TYPICAL PARTICLE SIZE DISTRIBUTION CURVE

SEDIGRAPH



Products sold by MAGMARB RESOURCES INC. Will, on average, meet the specification set forth above, which is and shall be subject to confirmation by the purchaser prior to the use of the products by purchaser. MAGMARB RESOURCES INC. makes no warranty, guarantee or representation of any kind, express or implied, and specifically EXCLUDES without limitation any and all WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND MAKES NO WARRANTIES BEYOND THOSE CONTAINED HEREIN. If any of the products in any shipment do not conform to the representation contained herein, purchaser's sole remedy will be to provide written notice to MAGMARB RESOURCES INC. Of such non-conformance in product. Such notice shall be given in fourteen days (14) of product delivery to purchaser and MAGMARB RESOURCES INC at its option and if it determines the product does not conform, either promptly will replace the non-conforming product or will refund the purchase price paid for the non-conforming product. In no event shall MAGMARB RESOURCES INC, be liable for special, indirect or consequential damages nor shall MAGMARB RESOURCES INC be liable for damages of any kind arising from the presence or use of the products delivered, or whether used singly or in combination with other substances. MAGMARB RESOURCES INC, disclaims any liability arising from use of the products which may infringe upon patents applied for, pending or existing. No claim of any kind shall be greater than nor shall MAGMARB RESOURCES INC, in any event be liable for an amount in excess of the amount of the purchase price paid for the products in respect of which such claim is made.

**Product Comparison on Typical Samples**  
 April 12, 1999



PRODUCT:	SW-30 Lot 9081	SW-75 Lot 9049	CASCADE (WP) PRODUCT Lot 9079 "SW50"	OM-100P Lot 9102
CUMULATIVE PERCENT (%) RETAINED ON:				
# 325 MESH	24.79	79.76	50.77	92.11
# 200 MESH	3.85	58.74	33.41	71.59
# 140 MESH	1.27	43.58	22.43	54.50
# 100 MESH	0.37	25.62	10.75	34.66
# 70 MESH	0.10	10.28	2.55	16.60
# 50 MESH	0.01	2.27	0.37	4.76
# 40 MESH	0	0.02	0.04	0.03
# 30 MESH	---	0	0.01	0



# STEEP ROCK RESOURCES INC.

**Herbert H. Morino**  
Tile Production Superintendent

2020 University Street  
Suite 1255  
Montreal, Canada H3A 2A5  
Telephone: (514) 844-3425  
Facsimile: (514) 849-4057

Textile Ltd. ✓  
130th Street  
Brimley, Ontario  
M1W 3C1

Telephone: (416) 255-1111  
Extension: 224  
Fax: (416) 255-1729

TDS4-068

## SNOWHITE 21 (SW 15)

### Typical Physical Properties

Dry Brightness (RY)	94
Yellowness Index	2.0
Specific Gravity	2.71
Moisture (115c)	0.03

### Typical Particle Size

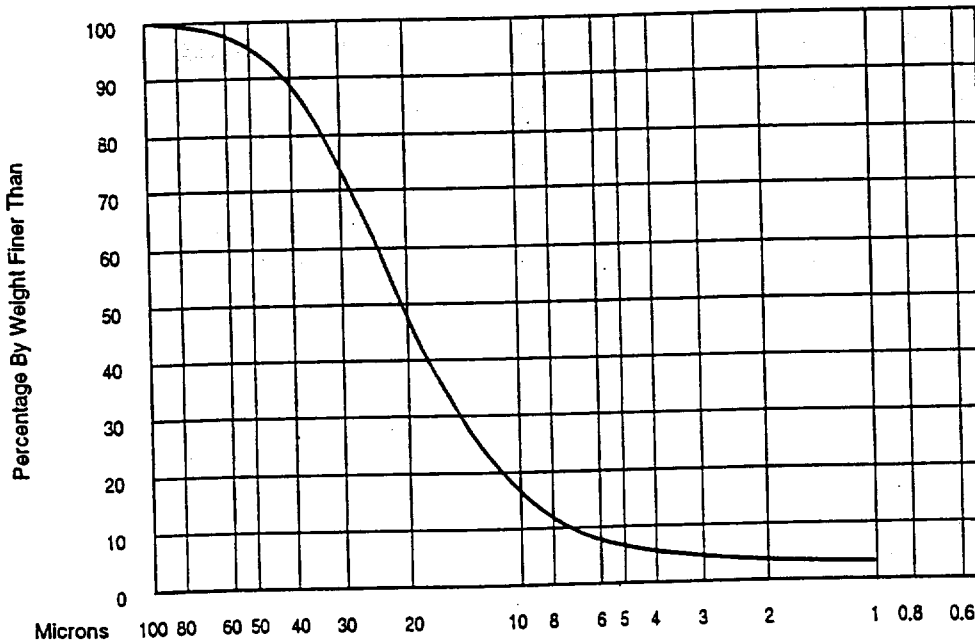
% Retained #325	5.0
*Mean Particle Size	21 microns

	(g / cc)	(lb / ft3)
Bulk Density (Loose)	1.0	65
Bulk Density (Packed)	1.5	95

### Typical Chemical Analysis

CaCO3 (%)	94.0
MgCO3 (%)	2.5
Acid Insolubles (%)	3.5

Typical Particle Size Distribution Curve  
\*(Cilas laser instrument)



Other than a representation that the products sold by STEEP ROCK RESOURCES INC. will, on the average, meet the criteria set forth above, which is and shall be subject to confirmation by the purchaser prior to the use of the products by purchaser, STEEP ROCK RESOURCES INC. makes no warranty, guaranty or representation of any kind, express or implied, and specifically EXCLUDES without limitation any and all WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND MAKES NO WARRANTIES BEYOND THOSE CONTAINED HEREIN. If any of the products in any shipment do not conform to the representation contained herein, purchaser's sole remedy will be to provide written notice to STEEP ROCK RESOURCES INC. of such non-conforming product. Such notice shall be given within fourteen (14) days of product delivery to purchaser and STEEP ROCK RESOURCES INC. at its option and if it determines the product does not conform, either promptly will replace the non-conforming product or will refund the purchase price paid for the non-conforming product. In no event shall STEEP ROCK RESOURCES INC. be liable for special, indirect or consequential damages nor shall STEEP ROCK RESOURCES INC. be liable for damages of any kind arising from the presence or use of the products delivered, whether used singly or in combination with other substances. STEEP ROCK RESOURCES INC. disclaims any liability arising from use of the products which may infringe upon patents applied for, pending or existing. No claim of any kind shall be greater than nor shall STEEP ROCK RESOURCES INC. in any event be liable for an amount in excess of the amount of the purchase price paid for the products in respect of which such claim is made.



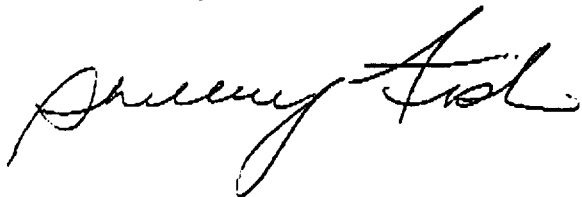
15

## SunRoc Industries

To whom it may concern

SunRoc Ind and Irving Hollis worked jointly with Frank Hearn (1500448 Limited) All bills pertaining to the development of the calcite materials have been paid in full and we are continuing to work together to develop a market for the product.

President Shelley Fisher



2.24551



**INVOICE**

Lakefield Research Limited  
 Box 4300, 185 Concession St.  
 Lakefield, Ont., Canada K0L 2H0  
 Telephone: (705) 652-2000  
 Fax: (705) 652-6365

No.: **M2263**

**September 19, 2001**

**TO:** (25) L Hollis Management Consultants Inc.  
 18 Strathern Avenue  
 Brampton, ON  
 Canada  
 L6T 4X7  
 Attn : American Exim Inc.  
 Reference : LR2102172

G.S.T. NUMBER 89921 6352RT

Project :  
 Lr. Ref : M15044-AUG01

Qty	Code	Description	\$ Unit	\$ Total
6	MPKG3	Petrography	170.00	1020.00
			<b>SUB TOTAL \$</b>	<b>1020.00</b>
			Analysis	1020.00
			GST 7 %	71.40
			<b>TOTAL \$</b>	<b>1091.40</b>

Chg #002 Oct 11-01

This invoice refers to preparation of 12 polished thin sections from six samples, mineralogical examination of the samples, and report preparation.

**2.2455**

\*\*\* Invoice in Canadian Funds unless stated otherwise \*\*\*

# Lakefield Research

**Mineralogical Services**

## **Mineralogical Examination of Six Carbonate Samples**

**submitted to  
American Exim Inc.**

**Project Managed by: Tassos Grammatikopoulos, Ph.D.**

**Submission Date: September 19, 2001**

**Project No.: AUG5044.R01**

**Note**

This report refers to the samples as received. The practice of this Company in issuing reports of this nature is to require the recipient not to publish the report or any part thereof without the written consent of Lakefield Research Limited.

Neither Lakefield Research Limited, nor its subcontractors, consultants, agents, officers, or employees shall be held responsible for any loss or damage resulting directly or indirectly from any default, negligence, error or omission. The liability of Lakefield Research Limited, if any, shall be limited in total to the invoiced value of this project.

**Lakefield Research Limited**

185 Concession St., Postal Bag 4300, Lakefield, ON, K0L 2H0, CANADA

Tel: (705) 652-2010 Fax: (705) 652-2122



American Exim Inc. Impurities in Carbonates  
LIMS: AUG5044.R01

Lakefield Research Limited  
Mineralogical Services

## Mineralogical Examination of Six Carbonate Samples

### 1. Summary

Six samples, referred to as Sample #1 to Sample #6, were submitted by **American Exim Inc.**, for mineralogical examination. The objective of the investigation was to determine the major impurities in the carbonate samples.

Two polished thin sections were prepared from each sample. The sections were cut in appropriate ways to reveal the majority of the impurities in the samples. Therefore, the volume % of the carbonates and mineral impurities is subjective. The sections were examined with an optical microscope at 50-500X magnification. Mineral composition was verified with a Scanning Electron Microscope (SEM) equipped with an X-ray Energy Dispersive Spectrometer (EDS). Representative photomicrographs of the impurities and the carbonate grains are shown in Figures 1-12.

#### 1.1. Mineralogical Results

The main mineral in the samples is carbonates. They typically form coarse-grained granoblastic textures. The main mineral impurities are given in Table 1, below.

**Table 1. Mineral impurities**

Sample ID	Mineral Impurities
Sample #1	Phlogopite, Quartz, Rutile, Serpentine, Graphite
Sample #2	Mica, Amphibole, Pyrrhotite, Pentlandite, Galena, Sphalerite, Titanite, Chalcopyrite, Ilmenite
Sample #3	Quartz, Alkali Feldspars, Phlogopite
Sample #4	Graphite, Phlogopite, Amphibole
Sample #5	Pyroxene, Amphibole, Feldspars, Quartz, Titanite, Mica, Pyrrhotite, Chalcopyrite
Sample #6	Mica (Phlogopite, Biotite), Amphibole, Quartz, Graphite

Samples #2 and #5 have most of the impurities. Sample #5 has mainly pyroxene, amphibole, feldspars and quartz, whereas Sample #2 has mainly mica. The other samples have minor amounts of impurities.

The mineral impurities vary in size and texture in the rocks. They occur granular, interstitial to carbonates and also as intergrowths and disseminated inclusions in them. Mineral impurities exhibiting granular textures with the carbonates would liberate well upon crushing, and could be removed easier than finer-grained inclusions in the carbonates. Mineral inclusions in carbonates cannot be removed unless the carbonate material is crushed to a very fine size (reflecting the size of the inclusions).

Forward: Winning Cheyenne Bitware --Good health and God bless

American Exim Inc. Impurities in Carbonates  
P.S. AUG5044 R01

---

Lakefield Research Limited  
Mineralogical Services

**Lakefield Research Limited**  
**September 19, 2001**

---

Tassos Grammatikopoulos, *M.Sc., Ph.D.*  
Senior Mineralogist

---

Bruce Jago, *Ph.D.*  
Manager, Mineralogical Services

*Technical Support by: Julie Southern, Sample Preparation*

American Exim Inc. Impurities in Carbonates  
SIS AUG5044 R01

Lakefield Research Limited  
Mineralogical Services

## 2. Introduction and Procedures

Six samples, referred to as Sample #1 to Sample #6 (Table 2), were submitted by American Exim Inc. for mineralogical examination. The objective of the investigation was to determine the major impurities in the carbonate samples.

Two polished thin sections were prepared from each sample (Table 2). The sections were examined with an optical microscope at 50-500X magnification. Mineral composition was verified with a Scanning Electron Microscope (SEM) equipped with an X-ray Energy Dispersive Spectrometer (EDS).

Table 2. List of examined sections

Sample ID	Polished Thin Sections
Sample #1	7841, 7842
Sample #2	7843, 7844
Sample #3	7845, 7846
Sample #4	7847, 7848
Sample #5	7849, 7850
Sample #6	7851, 7852

Representative photomicrographs of the samples are integrated with the text and are shown in Figures 1-12.

American Exim Inc. / Impurities in Carbonates  
 LIMS: AUG5044.R01

Lakefield Research Limited  
 Mineralogical Services

### 3. Mineralogical Observations

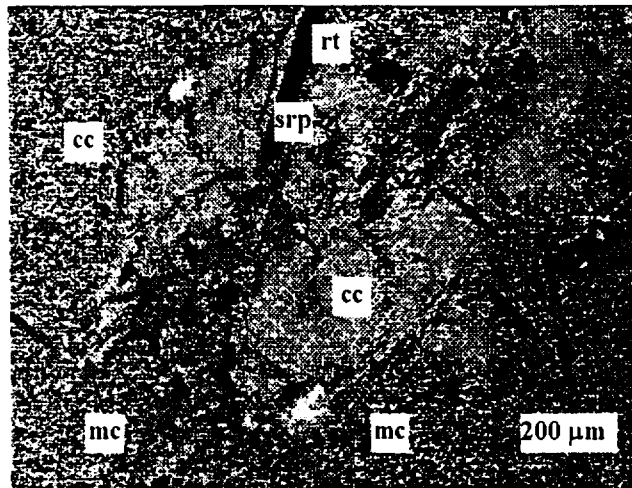
#### 3.1. Mineralogy

The results of mineralogical observations of the head sample are presented in the table below.

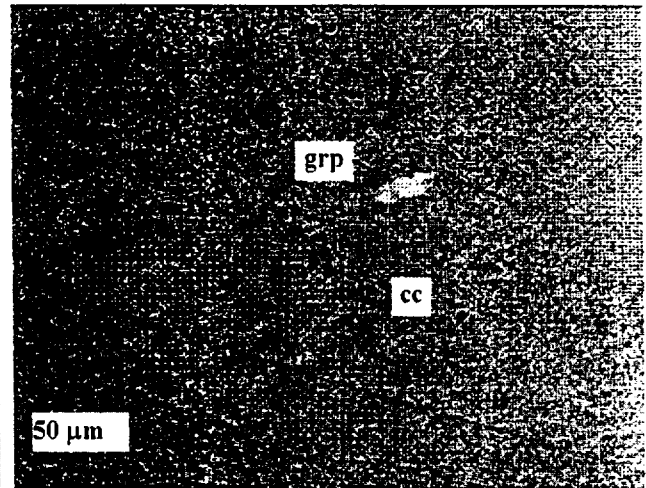
#### Sample #1

**Table 3. Mineralogical characteristics**

Mineral Assemblage	Grain Size	Comments
Carbonates (99 vol.%)	100µm – 4mm	<ul style="list-style-type: none"> <li>• Carbonates are typically coarse-grained and granoblastic.</li> <li>• They contain minor silicate inclusions.</li> <li>• Note that they locally contain abundant micron-sized inclusions.</li> </ul>
<i>Impurities</i>		
Phlogopite (<0.5 vol.%)	<1mm	<ul style="list-style-type: none"> <li>• Occurs as prismatic inclusions in carbonates.</li> </ul>
Quartz (<0.5 vol.%)	<400µm	<ul style="list-style-type: none"> <li>• Occurs as anhedral grains locked in carbonates.</li> </ul>
Rutile (<0.1 vol.%)	<30 µm	<ul style="list-style-type: none"> <li>• Occurs as anhedral inclusions in altered phlogopite and possibly serpentine (?).</li> <li>• Tentatively identified as serpentine.</li> </ul>
Serpentine (<0.1 vol.)		<ul style="list-style-type: none"> <li>• Prismatic grains, intergrown with phlogopite, and strongly replaced by clay-sized minerals.</li> </ul>
Graphite (<0.1%)	<10µm - 30µm	<ul style="list-style-type: none"> <li>• Graphite occurs as interstitial grains and inclusions in carbonates.</li> </ul>



**Figure 1.** Cross Polarized Transmitted Light (CPTL), 50X magnification. It illustrates carbonates hosting rutile (rt), mica (mc: prismatic grains) and tentatively identified serpentine (or talc) (srp: low interference colour) replaced by clay-sized minerals



**Figure 2.** Plane Polarized Reflected Light (PPRL), 200X magnification. It illustrates graphite (grp) occurring interstitial to calcite. Graphite is typically fine-grained in this sample.

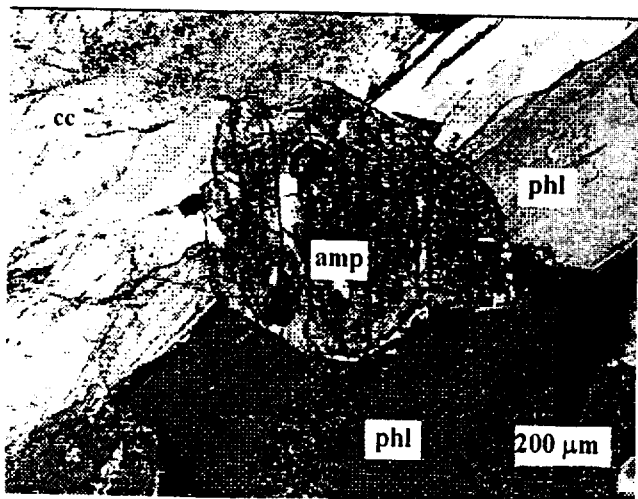
American Exim Inc. / Impurities in Carbonates  
 LIMS: AUG5044.R01

Lakefield Research Limited  
 Mineralogical Services

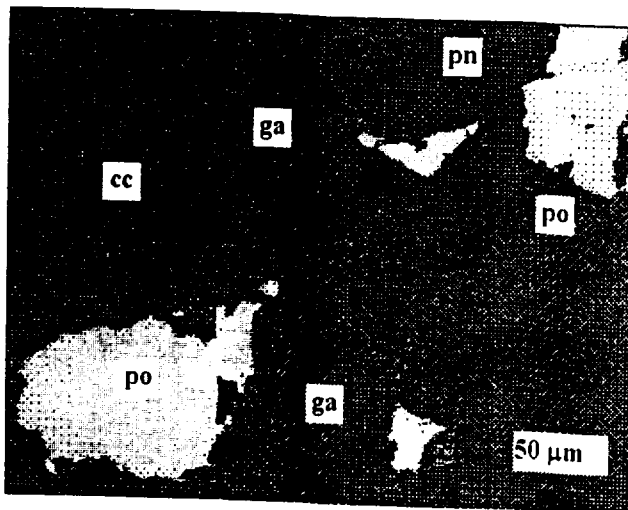
**Sample #2**

**Table 4. Mineralogical characteristics**

Mineral Assemblages Estimated Vol. %	Grain Size	Comments
Carbonates (83 vol.%)	100µm - 3mm	<ul style="list-style-type: none"> <li>Coarse-grained, granoblastic grains.</li> </ul>
<b>Impurities</b>		
Mica (15 vol.%)	<200µm - 4mm	<ul style="list-style-type: none"> <li>Mica includes both biotite and phlogopite (based on their optical properties).</li> <li>Mica is the major impurity in the sample.</li> <li>Tabular subhedral flakes, granular to other silicates and intergrown with tremolite.</li> <li>Forms mainly pockets surrounded by carbonates.</li> <li>Minor, dispersed inclusions in carbonates.</li> <li>Tentatively identified as tremolite.</li> </ul>
Amphibole (1 vol.%)	<100µm - 500µm	<ul style="list-style-type: none"> <li>Tabular and stubby grains.</li> <li>Surrounded by granular phlogopite.</li> <li>Minor, dispersed inclusions in carbonates.</li> </ul>
Pyrrhotite (<0.2 vol.%)	<10-100x50	<ul style="list-style-type: none"> <li>Occurs as anhedral grains, forming aggregates, typically locked in carbonates.</li> <li>Intergrown with chalcopyrite and pentlandite.</li> </ul>
Pentlandite (<0.2 vol.%)	<5-50x5µm	<ul style="list-style-type: none"> <li>Occurs as flames in, and attachments in, pyrrhotite.</li> </ul>
Galena (<0.2 vol.%)	<15µm	<ul style="list-style-type: none"> <li>Occurs as attachments on pyrrhotite.</li> </ul>
Sphalerite (<0.2 vol.%)	<40µm	<ul style="list-style-type: none"> <li>Occurs as attachments on chalcopyrite, interstitial to, and as inclusions in, calcite.</li> </ul>
Titanite (<0.2 vol.%)	<20µm-300µm	<ul style="list-style-type: none"> <li>Occurs interstitial to calcite, amphibole and phlogopite.</li> </ul>
Chalcopyrite (<0.2 vol.%)	<25µm	<ul style="list-style-type: none"> <li>Occurs as attachments on pyrrhotite.</li> </ul>
Ilmenite (<0.2 vol.%)	<60µm	<ul style="list-style-type: none"> <li>Occurs as minor stubby inclusions in carbonates.</li> </ul>



**Figure 3.** CPTL, 50X magnification. It illustrates carbonates, and phlogopite (phl) and amphibole (tremolite, amp) granular to calcite (cc). Mica and amphibole form aggregates and are dispersed throughout the sample.



**Figure 4.** PPRL, 200X magnification. It illustrates pyrrhotite (po), hosting pentlandite (pn) and having attachments of tentatively identified galena (ga) that occur granular to, and as inclusions in, carbonates

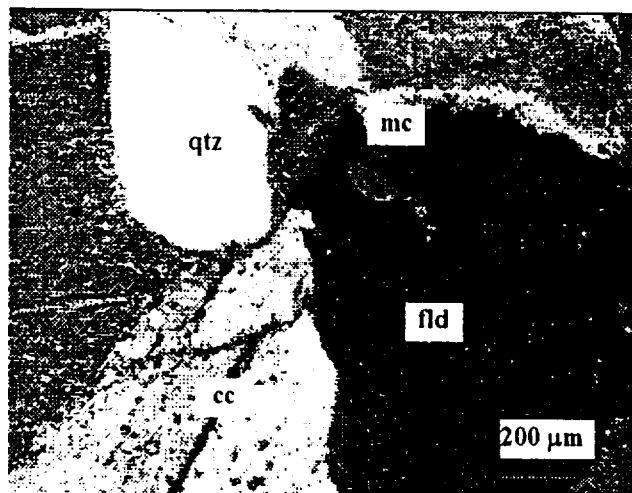
American Exim Inc. Impurities in Carbonates  
 LIMS: AUG5044.R01

Lakefield Research Limited  
 Mineralogical Services

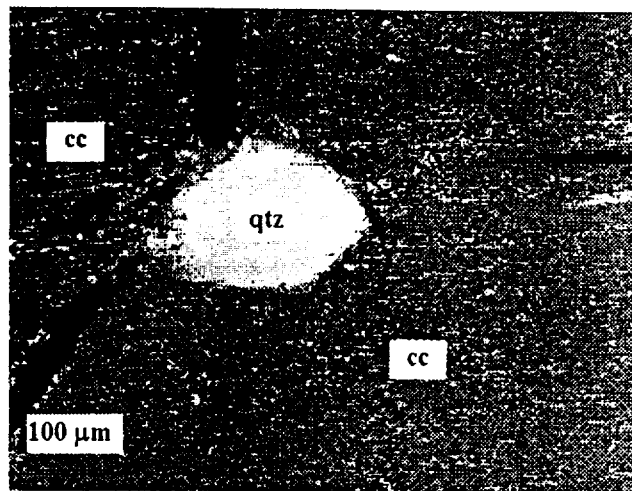
**Sample #3**

**Table 5. Mineralogical characteristics**

Mineral Assemblages Estimated Vol. %	Grain Size	Comments
Carbonates (98-99 vol.%)	<100 μm – 4 mm	<ul style="list-style-type: none"> <li>• Coarse-grained, granoblastic grains.</li> <li>• Contain micron-sized inclusions.</li> </ul>
<i>Impurities</i>		
Quartz (<0.5 vol.%)	<200μm – 700μm	• Occurs as subrounded inclusions in, and granular to, carbonates.
Alkali feldspars (<0.5 vol.%)	<800μm	• Occurs granular to calcite.
Phlogopite (<0.5 vol.%)	<100μm	• Occurs as minor attachments on quartz, and inclusions in quartz and feldspars.



**Figure 5.** CPTL, 50X magnification. It illustrates carbonates (cc), and feldspars (fld) and quartz (qtz) granular to calcite (cc). Fine-grained, scarce, mica (mc) occurs as inclusions in feldspars.



**Figure 6.** CPTL, 100X magnification. It illustrates a quartz grain interstitial to calcite grains. Minor amounts of quartz grains are disseminated throughout the sample.

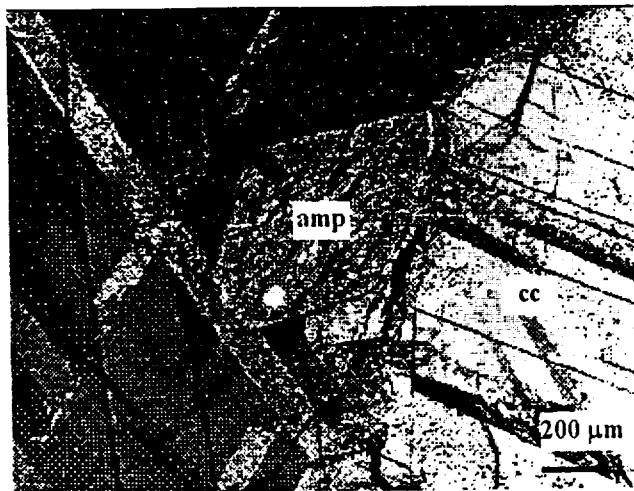
American Exim Inc. / Impurities in Carbonates  
 LMS\_AUG5044.R01

Lakefield Research Limited  
 Mineralogical Services

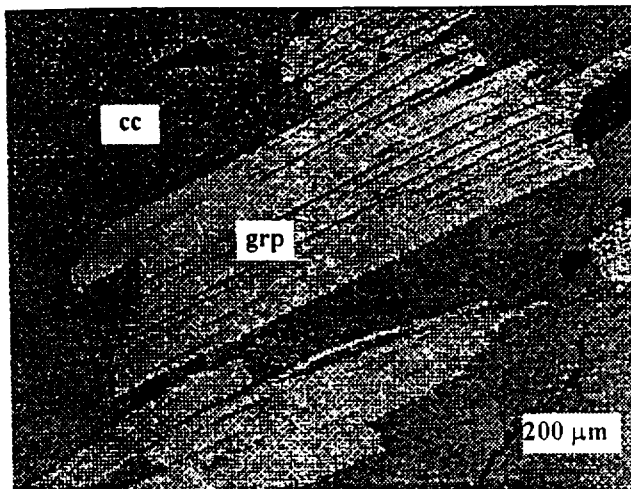
**Sample #4**

**Table 6. Mineralogical characteristics**

Mineral Assemblages	Grain Size	Comments
Carbonates (98-99 vol.%)	100 $\mu$ m – 4 mm	<ul style="list-style-type: none"> <li>Mainly granoblastic, coarse-grained particles.</li> <li>Carbonate grains may host very fine-grained graphite inclusions.</li> </ul>
<i>Impurities</i>		
Graphite ( $<0.5$ vol.%)	50 $\mu$ m – 2mm	<ul style="list-style-type: none"> <li>Graphite occurs as prismatic, tabular grains.</li> <li>They occur interstitial to carbonates.</li> <li>Tentatively identified as tremolite.</li> </ul>
Amphibole ( $<0.5$ vol.%)	$<500 \times 300 \mu$ m	<ul style="list-style-type: none"> <li>Occurs as stubby grains, partially enclosed and dispersed in the carbonates.</li> </ul>
Phlogopite ( $<0.5$ vol.%)	$<400 \times 200 \mu$ m	<ul style="list-style-type: none"> <li>Stubby subhedral flakes.</li> <li>Occurs as dispersed inclusions in carbonates.</li> </ul>



**Figure 7.** CPTL, 50X magnification. It illustrates scarce amphibole (amp), interstitial to calcite.

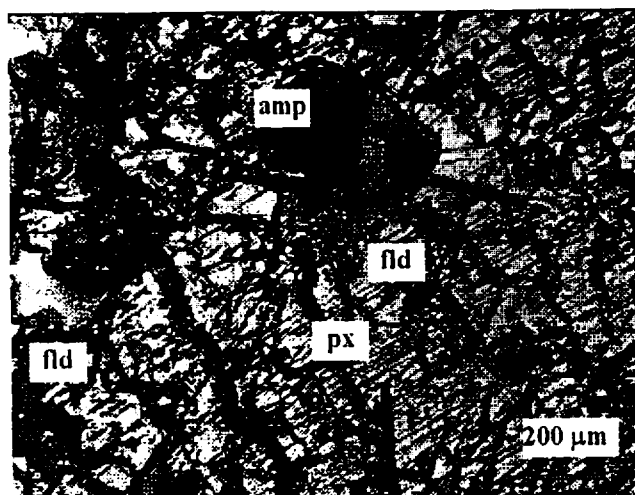


**Figure 8.** PPRL, 50X magnification. It illustrates graphite (grp) interstitial to, and as inclusions in, calcite.

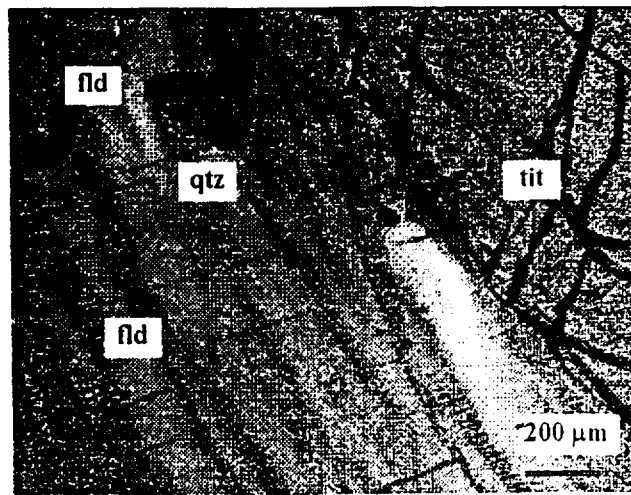
**Sample #5**

**Table 7. Mineralogical characteristics**

Mineral Assemblages	Grain Size	Comments
Carbonates (15 vol.%)	100µm-3 mm	• Coarse-grained, granoblastic grains.
<b>Impurities</b>		
Pyroxene (30 vol.%)	100µm - 1mm	• Pyroxene occurs as stubby grains forming aggregates with amphibole.
Amphibole (5 vol.%)	<100µm - 500µm	• Tabular and stubby grains. • Granular to pyroxene. • Green pleochroic.
Feldspars (30 vol.%)	~100µm - 1mm	• Feldspars include both alkali feldspar and plagioclase feldspars. • Typically subhedral grains, and granular to other silicates. • Fine-grained inclusions in carbonates.
Quartz (20 vol.%)	~100µm - 4mm	• Quartz occurs as anhedral grains, and granular to other silicates. • Fine-grained inclusions in carbonates and silicates.
Titanite (1 vol.%)	~100µm-2mm	• Subhedral grains, interstitial to feldspars and quartz. • It includes biotite, phlogopite and scarce muscovite.
Mica (2 vol.%)	<50µm - 500 µm	• Tabular subhedral flakes, granular to other silicates and intergrown with phlogopite. • Biotite exhibits a brown pleochroic colour.
Pyrrhotite (Fe <sub>1-x</sub> S) <0.1 vol.%)	<20µm - 120µm	• Subrounded grains, granular and inclusions in amphibole and pyroxene
Chalcopyrite (CuFeS <sub>2</sub> ) <0.1 vol.%)	<20 µm	• Fine-grained particles in fractures cutting silicate minerals.



**Figure 9.** CPTL. 50X magnification. It illustrates pyroxene (px) hosting amphibole (amp), feldspars (fld) and quartz (qtz).



**Figure 10.** CPTL. 50X magnification. It illustrates titanite (tit), alkali feldspars and plagioclase feldspars, and quartz.



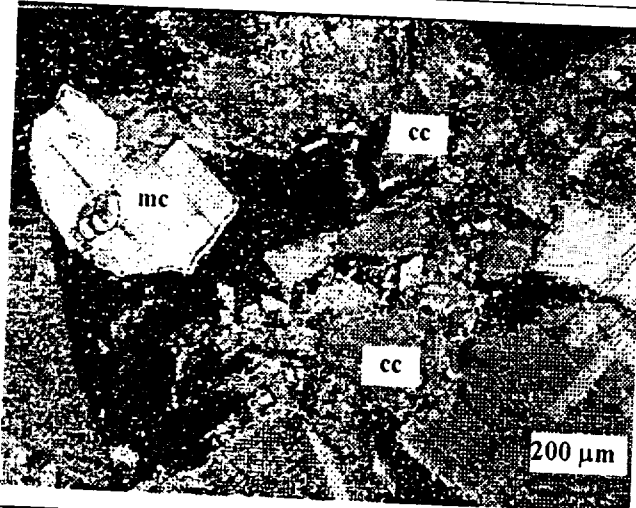
American Exim Inc. Impurities in Carbonates  
 LMS: AUG5044.R01

Lakefield Research Limited  
 Mineralogical Services

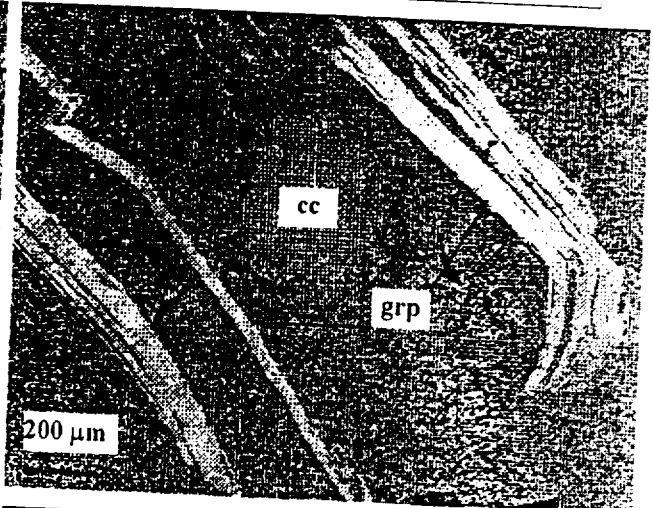
**Sample #6**

**Table 7. Mineralogical characteristics**

Mineral Assemblages	Grain Size	Comments
Carbonates (97 vol. %)	100µm-3mm	• Coarse-grained, granoblastic grains.
<b>Impurities</b>		
Mica (<0.5 vol. %)	<50µm - 1 mm	• Includes both phlogopite and minor biotite. • Tabular subhedral flakes, granular to carbonates.
Amphibole (<0.5 vol. %)	<50µm - 1 mm	• Tabular, stubby grains, granular to other carbonates.
Quartz (<0.5 vol. %)	<500µm	• Anhedral, liberated grains, and intergrowths with mica and carbonates.
Graphite (<0.5 vol. %)	<50µm - 1 mm	• Occurs as platy and tabular flakes, liberated and granular to carbonates.



**Figure 11.** CPTL, 50X magnification. It illustrates mica (mc) intergrown with calcite (cc), and free calcite.



**Figure 12.** PPRL, 50X magnification. It illustrates free graphite (grp) and calcite (cc).

(18)

# Cambridge materials testing limited

1177 Franklin Blvd.  
Cambridge, Ont. N1R 7W4  
Tel: (519) 821-8000 Fax: (519) 821-8082

INVOICE  
00044144

September 28, 2001

Page: 1

I10P

I. Hollis Management Consultants Inc.  
316621 Hwy. 6, R.R. #1  
CHATSWORTH, Ontario NOH 1G0  
Attention: ACCOUNTS PAYABLE

Entered	Description	Amount
Sep 6	P.O. Number: 01-253-02, Attention: Irvine Hollis TSL PROFESSIONAL SERVICES. Analysis of Calcium Carbonate. 288760-2001	\$ 270.00
	▶ TSL - Total Oxide Analysis	\$ 270.00
	▶ TSL - Plasma Scan/Spectrometric Analysis	\$ 540.00
	Subtotal:	\$ 37.80
	GST Registration Number R100740786:	\$ 577.80

Chq # 004  
Oct 11-01

2.2455 1

Chq mailed  
Oct 18. 01

TERMS: NET 30 DAYS (1% PER MONTH OR 18% PER ANNUM CHARGED ON OVERDUE ACCOUNTS)



**Cambridge**  
materials testing limited

**TSL Professional Service**

6991 Millcreek Drive, Unit 1  
Mississauga, Ontario L5N 6E  
Tel: (905) 812-3856 Fax: (905) 812-3886  
www.cambridgematerials.com

<b>Report For:</b>	I HOLLIS Management Consultants 316621 Hwy. 6, R.R. #1 CHATSWORTH, Ontario NOH 1G0 Phone: 519-794-2999 Email : ihollis@log.on.ca	<b>Laboratory #:</b>	288760-01
<b>Attention:</b>	Irvine Hollis	<b>Report Date:</b>	September 18, 2001
<b>Specimen:</b>	Calcium Carbonate	<b>Received Date:</b>	September 06, 2001
		<b>Customer P.O. #:</b>	01-253-02

**TEST REPORT**

**RE: ANALYSIS OF CALCIUM CARBONATE**

On September 6, 2001, TSL Professional Services received two samples of calcium carbonate to determine major and minor constituents.

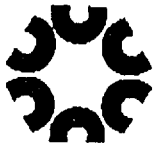
The submitted samples were identified as 1. "T-D Unscreened"  
2. "T-DS Screened"

The samples were analysed by Plasma Spectrometers and the results obtained are detailed in the attached ICAP Total Oxide Analysis and ICAP Plasma Scan reports.

This report is subject to the following terms and conditions: 1. This report relates only to the specimen provided and there is no representation or warranty that it applies to similar substances or materials or the bulk of which the specimen is a part. 2. The content of this report is for the information of the customer identified above only and it shall not be reprinted, published or disclosed to any other party except in full. Prior written consent from Cambridge Materials Testing Limited is required. 3. The name Cambridge Materials Testing Limited shall not be used in connection with the specimen reported on or any substance or materials similar to that specimen without the prior written consent of Cambridge Materials Testing Limited. 4. Neither Cambridge Materials Testing Limited nor any of its employees shall be responsible or held liable for any claims, loss or damages arising in consequence of reliance on this report or any default, error or omission in its preparation or the tests conducted. 5. Specimens are retained 3 months, test reports and test data are retained 10 years from date of final test report and then disposed of, unless instructed otherwise in writing.

**Cambridge Materials Testing Limited**

Per *Jamal Mansour* QUALITY ASSURANCE  
Per *M. Skarab* TECHNICIAN



**Cambridge**  
materials testing limited

**TSL Professional Services**

6991 Millcreek Drive, Unit 13,  
Mississauga, Ontario L5N 6B9  
Tel: (905) 812-3856 Fax: (905) 812-3866  
www.cambridgematerials.com

Laboratory #288760-01  
I Hollis Management Consultants

I.C.A.P. PLASMA SCAN  
(Aqua Regia Digestion)

All Results in PPM

<u>Element</u>	<u>"T-D Unscreened"</u>	<u>"T-DS Screened"</u>
Antimony (Sb)	<0.01	<0.01
Arsenic (As)	<0.01	<0.01
Barium (Ba)	10.84	10.33
Beryllium (Be)	0.33	0.35
Boron (B)	0.90	0.97
Cadmium (Cd)	<0.01	<0.01
Chromium (Cr)	0.57	0.71
Cobalt (Co)	0.10	<0.01
Copper (Cu)	3.24	7.38
Lead (Pb)	5.67	19.62
Manganese (Mn)	35.89	37.92
Molybdenum (Mo)	2.57	1.89
Nickel (Ni)	1.37	0.95
Phosphorus (P)	<0.01	<0.01
Potassium (K)	124.99	56.20
Selenium (Se)	<0.01	<0.01
Silver (Ag)	<0.01	<0.01
Sodium (Na)	64.46	58.92
Tin (Sn)	20.39	109.98
Titanium (Ti)	10.57	9.51
Vanadium (V)	<0.01	<0.01
Zirconium (Zr)	<0.01	<0.01
Whiteness Index (WI)	>90	>90



**Cambridge**  
materials testing limited

**TSL Professional Services**

6991 Millcreek Drive, Unit 13,  
Mississauga, Ontario L5N 6B9  
Tel: (905) 812-3856 Fax: (905) 812-3866  
www.cambridgematerials.com

Laboratory #287445-01  
I Hollis Management Consultants

**I.C.A.P. TOTAL OXIDE ANALYSIS**  
(Lithium MetaBorate Fusion)

Element as Oxide

<b>Major Constituents</b>			<u>"T-D Unscreened"</u>	<u>"T-DS Screened"</u>
Silica	(SiO <sub>2</sub> )	%	0.8	0.8
Aluminum	(Al <sub>2</sub> O <sub>3</sub> )	%	0.7	0.7
Iron	(Fe <sub>2</sub> O <sub>3</sub> )	%	0.2	0.3
Calcium	(CaO)	%	55.6	55.2
Magnesium	(MgO)	%	3.1	3.0
Sodium	(Na <sub>2</sub> O)	%	<0.1	<0.1
Potassium	(K <sub>2</sub> O)	%	<0.1	<0.1
Titanium	(TiO <sub>2</sub> )	%	<0.1	<0.1
Manganese	(MnO)	%	<0.1	<0.1
Phosphorus	(P <sub>2</sub> O <sub>5</sub> )	%	<0.1	<0.1

**Minor Constituents**

Barium	(Ba)	ppm	20	30
Strontium	(Sr)	ppm	770	730
Zirconium	(Zr)	ppm	<10	<10
Yttrium	(Y)	ppm	<10	<10
Scandium	(Sc)	ppm	<10	<10
Niobium	(Nb)	ppm	<30	<30
Beryllium	(Be)	ppm	<10	<10
Nickel	(Ni)	ppm	<10	<10
Chromium	(Cr)	ppm	<10	<10
Vanadium	(V)	ppm	<10	<10
Cobalt	(Co)	ppm	<10	<10
Zinc	(Zn)	ppm	20	230
LOI		%	39.09	39.47
TOTAL		%	99.59	99.47

Remarks

CaCO<sub>3</sub> 99.24% 98.52%



14

Jack Kriens  
90 Wasaga Sands Drive  
Wasaga Beach, Ontario  
L0L 2P0

Tel. 705 429-8021  
Fax: 705 429-6905

Sunroc Industries Inc.,  
7485 Patterson Side Road,  
Caledon East, Ontario  
L0N 1E0

November 1, 2001

INVOICE #SI-01

For Professional Consulting Services by J. Kriens  
on October 23, 2001.

REVIEWING SUNROC PROCESS FOR GRINDING CALCITE

4 Hours @ \$ 75.00

\$ 300.00

**2.24551**

Chq # 006.  
Dec 10-2001





Date: 2003-APR-10

GEOSCIENCE ASSESSMENT OFFICE  
933 RAMSEY LAKE ROAD, 6th FLOOR  
SUDBURY, ONTARIO  
P3E 6B5

ROCK BROOK RESOURCES CORP.  
17 ROYAL OAK DRIVE  
BARRIE, ONTARIO  
L4N 7S4 CANADA

Tel: (888) 415-9845  
Fax: (877) 670-1555

**Submission Number:** 2.24551  
**Transaction Number(s):** W0290.01773

Dear Sir or Madam

**Subject: Approval of Assessment Work**

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

The 45 days outlined in the Notice dated February 19, 2003 have passed. Assessment work credit has been approved as outlined on the attached Work Report Summary. The TOTAL VALUE of assessment credit that will be allowed, based on the information provided on April 02, 2003, is \$15,998.

If you have any question regarding this correspondence, please contact BRUCE GATES by email at [bruce.gates@ndm.gov.on.ca](mailto:bruce.gates@ndm.gov.on.ca) or by phone at (705) 670-5856.

Yours Sincerely,



Ron Gashinski  
Senior Manager, Mining Lands Section

**Cc:** Resident Geologist

Rock Brook Resources Corp.  
(Claim Holder)

1500448 Ontario Corp.  
(Claim Holder)

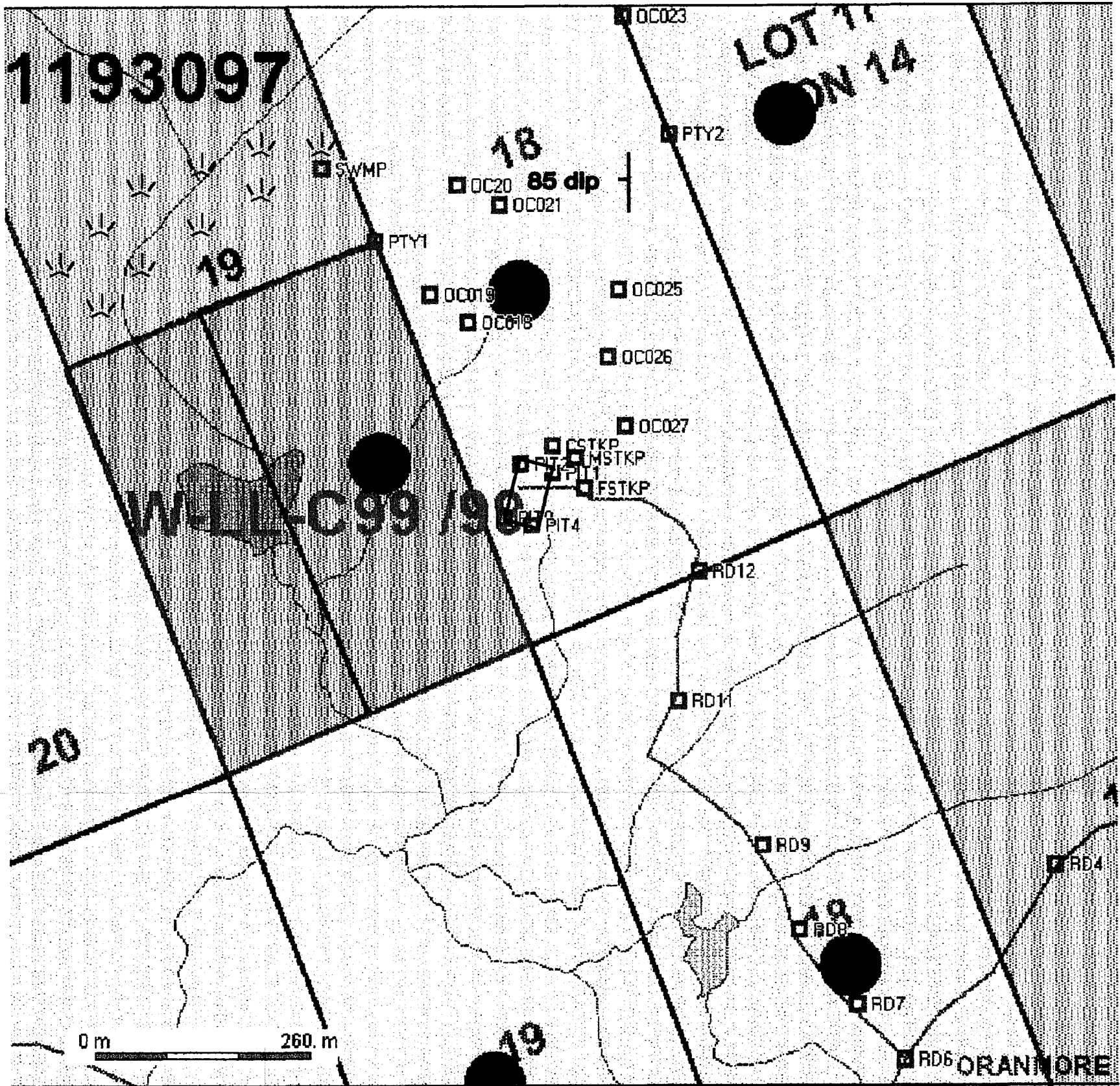
Assessment File Library

Rock Brook Resources Corp.  
(Assessment Office)

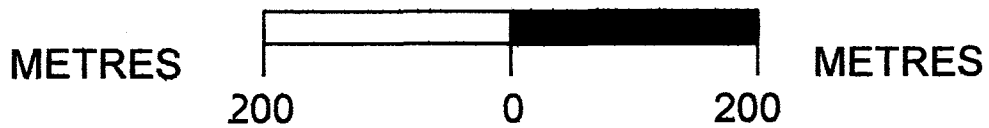
Frank Heran  
(Agent)







**ROCKBROOK RESOURCES CALCITE OCCURRENCE  
SPENCE TOWNSHIP**



- LEGEND**
- PIT -pit site
  - RD -road waypoints
  - CSTKP / MSTKP / FSTKP -coarse/medium/fine stockpiles
  - OC -outcrop waypoints
  - PTY -property claimposts
  - SWMP -swamp



**AQUIN & ASSOCIATES INC.**

