# Mattawa B & Discovery Hill Areas BULK SAMPLING & BENEFICIATION REPORT MATTAWAN TOWNSHIP AUGUST 23, 2007

## Prepared by:

Robert G. Komarechka, P.Geo. BEDROCK RESEARCH CORP. 545 Granite St. Sudbury, Ontario P3C 2P4



# **Bulk Sample and Beneficiation Report Mattawan Twp**

Contents		
INTRODUCT	TION	2
LOCATION	& ACCESS	2
MINING CL	AIMS EXAMINED	5
SUMMARY (	OF PREVIOUS EXPLORATION WORK	7
GEOLOGY		8
DESCRIPTIO	ON OF WORK UNDERTAKEN	8
INITIAL SI	ITE VISIT	8
	PARATION BLASTING, SAMPLING AND SHIPPING	
	IATION STUDY	
	N OF PROGRAM RESULTS	
CONCLUSIO	ON	16
RECOMMEN	NDATIONS	16
ACKNOWLE	EDGEMENT	17
BIBLIOGRA	NPHY	17
CERTIFICAT	TE	19
APPENDICE	ES	20
APPENDIX	X 1: FIELD VISIT REPORT	21
	X 2: BLAST REPORT	
APPENDIX	X 3: SUMMARY OF FIELD ACTIVITIES	23
APPENDIX	X 4: BENEFICIATION REPORT	24
<u>Maps</u>		
Map 1	Index Map	3
Map 2	Grid Locations	4
Map 3	Map Area Locations	
Map 4	Mattawa B Sampled Area	
Map 5	Mattawa B Sampled Area Detail	
Map 6	Discovery Hill Sampled Area	
Map 7	Discovery Hill Sampled Area Detail	
Tables		
Table 1	Mining Claims Examined	
Table 2	Blast Results	9
<u>Figures</u>		
Figure 1	Photo of Mattawa B Sample Site	14
Mattawan Tn. S	Sampling & Paneficiation Panert PMCTDG	8/28/07

# Blasting and Beneficiation Report – Mattawan Twp

#### INTRODUCTION

In October 2006, Bob Komarechka P.Geo. of Bedrock Research Corp., was contracted by BMCTBG to prepare the area of BMCTBG Canada Ltd.'s Mattawa property, specifically the Mattawa B and Discovery Hill Areas for examination for later bulk sampling. A field visit by a representative of BMCTBG and Bob Komarechka was undertaken to examine the site and determine the optimum sampling sites. The Mattawa B site was blasted at 3 representative areas while samples from the Discovery Hill site were collected from rubble previously ripped from a an existing face, stripped earlier. The rock samples collected were brought to a screening site setup where they were hand cobbled to -4" as screened and then sealed in 5 gallon plastic pails. The pails were then shrink wrapped on a pallet and shipped to Lake George in New York State then shipped to the Minerals Research Laboratory, College of Engineering, North Carolina State University. Further studies to determine the ease of beneficiation of commercial garnet abrasive products were then undertaken and a report prepared.

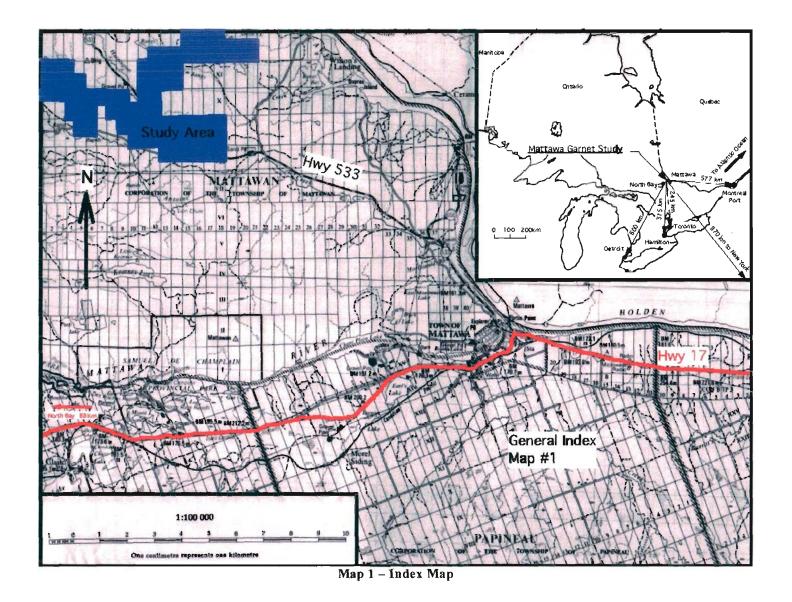
At the time of initiating this work BMCTBG's Mattawa property covered 28 unpatented claims totaling 67 units of 20 hectares each. Two bulk samples were collected. One over the Discovery Hill and the other over the Mattawa B areas (see Area Locations Map #3). The location of this work was tied to two separate grids cut at different times over these areas; these being the Mattawa B Grid and The Discovery Hill, a third grid was cut earlier by Hudson Bay Exploration and Development Company Limited - HBED (see Grid Locations Map #2). Maps 4, 5, 6 and 7 show the two locations of sampling.

This fieldwork was undertaken from October 10, 2006 to October 25, 2006. Further beneficiation work on the samples was followed up to the completion of this report on August 7, 2007. Compilation of data and report preparation was undertaken intermittently from August 10 to 23.

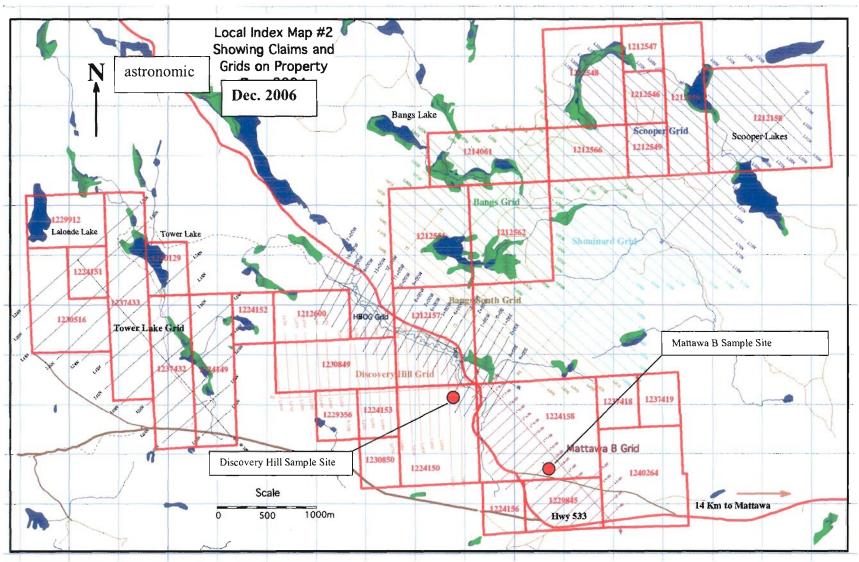
#### **LOCATION & ACCESS**

The Mattawa Property is located in northwestern Mattawan township bounded in the northeast by Smith Lake, the northwest by Lalonde Lake, the southwest by Harrington Creek. The general location is shown on the General Index map 1. The site is located within Sudbury Mining Recorders District centered at a latitude of 46°23' N and longitude of 78° 52'E. The locations of the sampling being located in UTM NAD83 co-ordinates at 664335mE and 5138310mN for the Mattawa B sample on claim 1224150 and 663184mE and 5139145mE for the Discovery Hill sample on claim 1224150. The area is located on the Mattawa NTS sheet 31L/7.

Access to the center of the area is obtained by taking highway 533 approximately 16 km north of the town of Mattawa. Highway 533 bisects the property with the Discovery Hill and Tower Lake Map sheets to the west and the Mattawa B sheet to the East. Numerous secondary roads and trails traverse the property.



Mattawan Tp. Sampling & Beneficiation Report 3



Map 2 - Grid & Sample Locations

#### MINING CLAIMS EXAMINED

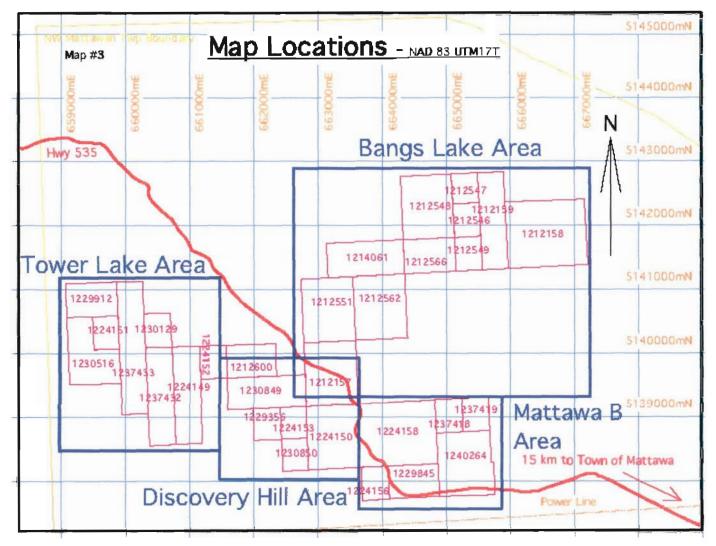
This work was performed on the two underlined map areas shown on the table below with the contiguous claims in the area. Subsequently expired claims are shown in yellow. Claims on which work was done are shown in green.

Table 1: Mining Claims Examined

Map Area	Grid Area	Claim #	Ownership	Area	No. of
			03/27/00	Hectares	Units
		S 1224149	BMCTBG	60	3
		S 1224151	<b>BMCTBG</b>	20	1
T	Tower Lake Grid	S 1229912	<b>BMCTBG</b>	40	2
Tower Lake Map Area		S 1230129	<b>BMCTBG</b>	20	1
Map Area		S 1230516	<b>BMCTBG</b>	60	3
		S 1237432	<b>BMCTBG</b>	60	3
		S 1237433	BMCTBG	80	4
		S 1212157	BMCTBG	80	4
		S 1212600	<b>BMCTBG</b>	40	2
		S 1224150	<b>BMCTBG</b>	80	4
Discovery	Discovery	S 1224152	<b>BMCTBG</b>	20	1
Hill Map Area	Hill Grid	S 1224153	<b>BMCTBG</b>	20	1
		S 1229356	<b>BMCTBG</b>	20	1
		S 1230849	<b>BMCTBG</b>	40	2
		S 1230850	<b>BMCTBG</b>	20	1
	Bangs S Grid	S 1212551	BMCTBG	80	4
	Bangs Grid	S 1212562	BMCTBG	80	4
		S 1214061	<b>BMCTBG</b>	60	3
		S 1212566	<b>BMCTBG</b>	40	2
	Scooper Grid	S 1212158	BMCTBG	120	6
Bangs Lk Map Area		S 1212159	<b>BMCTBG</b>	40	2
Claims not in		S 1212546	<b>BMCTBG</b>	20	1
this study		S 1212547	<b>BMCTBG</b>	20	1
		S 1212548	<b>BMCTBG</b>	80	4
		S 1212549	<b>BMCTBG</b>	20	1
	Schouinard E. Grid	S 1237418	BMCTBG	20	1
		S 1237419	<b>BMCTBG</b>	20	1
		S 1240264	<b>BMCTBG</b>	80	4
Mottown D	Mattawa	S 1224156	BMCTBG	20	1
Mattawa B Map Area	Grid	S 1224158	<b>BMCTBG</b>	120	6
		S 1229845	<b>BMCTBG</b>	40	2
3 Stripped	7 Grid Areas	28 Current		1320	67
Areas		Claims		На.	units

Note all the above claims are held 100% by BMCTBG Canada Ltd. of:

44 Chipman Hill 10<sup>th</sup> Floor St. John, New Brunswick Canada E2L 4S6



Map 3 – Area Locations

#### SUMMARY of PREVIOUS EXPLORATION WORK

The earliest work on this property consisted of numerous pits, trenches and a small adit, made with hand steel, constructed by persons unknown a few hundred meters south of the western edge of the Bangs Grid on claim 1224158. From conversations with local prospectors <sup>1</sup>, these trenches were made several decades ago in the pursuit of gold.

Government regional geological compilations were also done by Harding (1944) and Lumbers (1976), covering this area for basic bedrock geology, and Harrison (1971), for surficial geology.

The areas around the western edge of the Bangs Grid, Bangs South Grid, and the eastern edge of the Discovery Grid, was staked by Hudson's Bay Exploration and Development Co. Ltd. This occurred after having heard of anomalous gold values from an earlier stream geochemical survey (undertaken by Monopros looking for diamonds). An exploration program designed to target gold consisted primarily of a VLF-EM survey, percussion overburden drilling and three diamond drill holes (Davies, 1986; 1987). Further gold anomalies were encountered in overburden including 3 basal till samples exceeding 50 ppb Au, with a high of 345 ppb Au. Believing this gold to be placer and derived from distant sources, the claims were allowed to lapse. The diamond drilling on this program reported intersecting significant thicknesses of 'garnetiferous gneiss'. This core is currently stored at the outside Drill Core Library, near Kirkland Lake, Ontario.

In the fall of 1992 while prospecting for diamonds, the author, recognizing the eclogitic garnet, staked claim S1197395 and claim S1197394 just south of the western end of the Bangs South Grid. These claims consisted of one 2x3 unit (since expired and now restaked as claim S1224158) and claim S1197394, a 1x2 unit (now restaked as claim S1229845). During the summer of 1993 this author undertook a partial reconnaissance mapping of the various ultramafic rocks on the Mattawa B site and prepared several thin sections. Analysis determined the olivine by both thin section and XRD as of hortonolite composition. Some samples were assayed a hand cobbled eclogite sample of 800# was crushed and screened resulting in successful beneficiation (by panning) of the garnets. (This work was undertaken by Cambrian College supervised by this author). See OPAP report OP93-685 pg. 34-39 for more information on this.

A further program involving linecutting followed by a VLF, total and gradient magnetometer survey as well as thin section analysis, was undertaken during 1994. The geophysical surveys confirmed the lithological contacts observed and outlined. A very strong coincident high magnetic and conductive anomaly was located on this property. (See OPAP report OP94-302 Sec. 1 for more information on this work). Following this work a test of the -10 to +12 mesh unbeneficiated garnetiferrous rock was tested as a non-silica sandblast material with very favorable results. Total liberation of the garnets from the host rock was achieved below 12 mesh. A further evaluation of the mineral potential of the metatroctolite on the staked ground was undertaken in 1995. This evaluation consisted of the collection of numerous surface samples followed by whole rock and multi-element analysis. No significant metal values were obtained from this last study. See OPAP report OP95-269. (Komarechka 1994, 1995, 1996, 1997, Stoness, 1995).

A series of prospecting reports, line cutting and physical work reports of scrapings were conducted by the prospectors Guy Schouinard and Ron Montreuil over much of the study area (Shouinard 1997, 1998, 2000). The assessment reports for this work is located in the Sudbury Resident Geologist's files.

A point count and thin section study was conducted on garnet samples collected from the Discovery Hill Area and also from the area just south of the Bangs South Grid. At the same time a localized magnetometer survey was also undertaken in this area as well (High G Minerals Corporation, 1999, located in the Sudbury Resident Geologist's files).

A percussion drill program was undertaken on claim 1224158 on the Mattawa B property just south of the Bangs South Grid while held by High G Minerals Corporation. This program which included microscopic examination of the chip samples defined an extensive resource of garnetiferous eclogite grading 30% garnet (Komarechka 1999).

\_

<sup>&</sup>lt;sup>1</sup> Personal Communication with Guy Shouinard, local prospector and earlier adjacent claimholder

A magnetometer VLF survey was conducted over the east half of the Tower Lake Grid. (Komarechka 2000).

A magnetometer VLF survey was conducted over the Bangs Grid. (Laronde 2000)

A magnetometer VLF survey was undertaken over the west half of the Tower Lake Grid. (Komarechka 2000).

A magnetometer survey was conducted over the Discovery Hill Grid. (Laronde 2002).

Magnetometer VLF surveys were conducted over the Bangs South Grid, the Schouinard Grid and the Scooper Grid. (Shouinard, Montreuil 2002).

An extensive geological mapping program was conducted over the claims - excluding the Mattawa B claims, during the summer and fall of 2001 and later submitted as assessment work. (Komarechka 2002)

A stripping and trenching program was undertaken in 2004 in the areas of Mattawa B, Discovery Hill and Tower Lake Areas. (Komarechka 2005)

#### **GEOLOGY**

Regionally the study area occurs in the Grenville province within an E-W to N-S folded band of ortho and paragneisses of amphibole to granulite facies. Areas of intrusive gabbroic, ultramafic and eclogitic rocks also exist in the study area. A later structural overprint of the NNW trending Temiscaming rift structure occurs in the area.

Outcrop is locally common on the higher elevation and steeper areas while extensive overburden is prevalent in the lower elevations and flatter areas. Forest cover is primarily maples and beech with birch in the lower wetter areas. Pine and spruce also occur in the more rugged and unlogged areas. For detailed geology see the earlier geological report, Komarechka 2002.

Locally, in the area of the Discovery Hill sample, the rocks sampled consisted of a black finely crystalline garnetiferous amphibolite gneiss. In the area of the Mattawa B sample the rock consisted of an olive gray finely crystalline metaeclogite. Garnet content in both samples was about 30%. Maps 4, and 5 show the geology of the Mattawa B sample area, while maps 6 and 7 shows the geology of the Discovery Hill Area.

#### **DESCRIPTION OF WORK UNDERTAKEN**

Work on the bulk sampling and beneficiation program was undertaken over 3 periods of time consisting of:

- 1) a site visit followed by site preparation,
- 2) the blasting, sample collection and shipping and
- 3) the beneficiation.

#### Initial Site Visit

The initial site visit was undertaken on October 11, 2006 by the author, Bob Komarechka and Jeff KinblomAssistant Director of Operations of Barton Mines Company. The purpose of this visit was to confirm representative sites for undertaking bulk samples for further lab beneficiation tests and obtain approval for undertaking this work. A memo from Jeff Kinblom discussing the two sites visited with findings and recommendations is attached in Appendix 1.

#### Site Preparation, Blasting, Sample Collection and Shipping

Following the site visit, Guy Shouinard of Mattawa, a prospector familiar with the area, was contacted to undertake clearing of the blast site and the trails in the area. This work allowed for quad access to pick up samples from the Discover Hill sample site on claim 1224150 and enabled truck access for blasting at the Mattawa B site on claim 1224158. This work was done intermittently between October 15 and October 22, 2006.

On October 24, the author and supervisor of this work, Bob Komarechka, met the blaster, Bruce Fraser of Fraser Drill-Blast Management, at the Mattawa B site. Bruce proceeded to hook up the compressor and undertake hand drilling with a plugger for the blasting of three small areas along the toe of a cliff face to obtain a representative sample of freshly blasted material. While drilling was being undertaken, Guy Shouinard and his helper assisted loading 5 gallon pails in a trailer attached to a quad at the Discovery Hill Site. The samples from this site were collected from rocks that had been broken off the face of a recently stripped outcrop. These samples were hand cobbled with sledges so that they would fit within a 4" screen that was laid over each pail. On return to the area of Mattawa B we assisted the blaster with the guarding of the area prior to blasting. After the blast the material was again hand cobbled, screened and placed in sealed labeled 5 gallon pails and transported into town inside a locked truck. The blasting report for this work is given in Appendix 2 and table 2 of the blast results are shown below.

Table 2: Blast Results

Area	Claim #	Date of Work	Blasted Area	Length m	Width m	Depth m	Area m x m	Volume Blasted
Mattawa B	1224158	Oct. 24/07	Blast 1	1.3	0.8	1.1	1.04	1.16
	1224158	Oct. 24/07	Blast 2	1.3	0.8	1.1	1.04	1.16
	1224158	Oct. 24/07	Blast 3	1.3	0.8	1.1	1.04	1.16
Total	1 claim	1 day	3	3.9	2.4	3.3	3.12	3.5m³

The following day the sample pails were weighed and placed on a wooden pallet, shrink wrapped and left in a secure locked area at a local hardware store to be later picked up by truck. A total of 18 sample pails with samples weighing 1,383 pounds was shipped. A summary of this work can be found in Appendix 3.

The samples were shipped out by a commercial bonded trucking company to Glen Falls New York where they were checked out by staff at Barton Mines Company. At this time it was decided that due to the small grain size of the garnets from the Discovery Hill site, only the Mattawa B samples would be sent at this time for further beneficiation tests. The Mattawa B samples were then sent to Mr. Robert Carland. Director of the Minerals Research Laboratory, College of Engineering, North Carolina State University 180 Coxe Ave., Asheville, North Carolina 28801.

#### **Beneficiation Study**

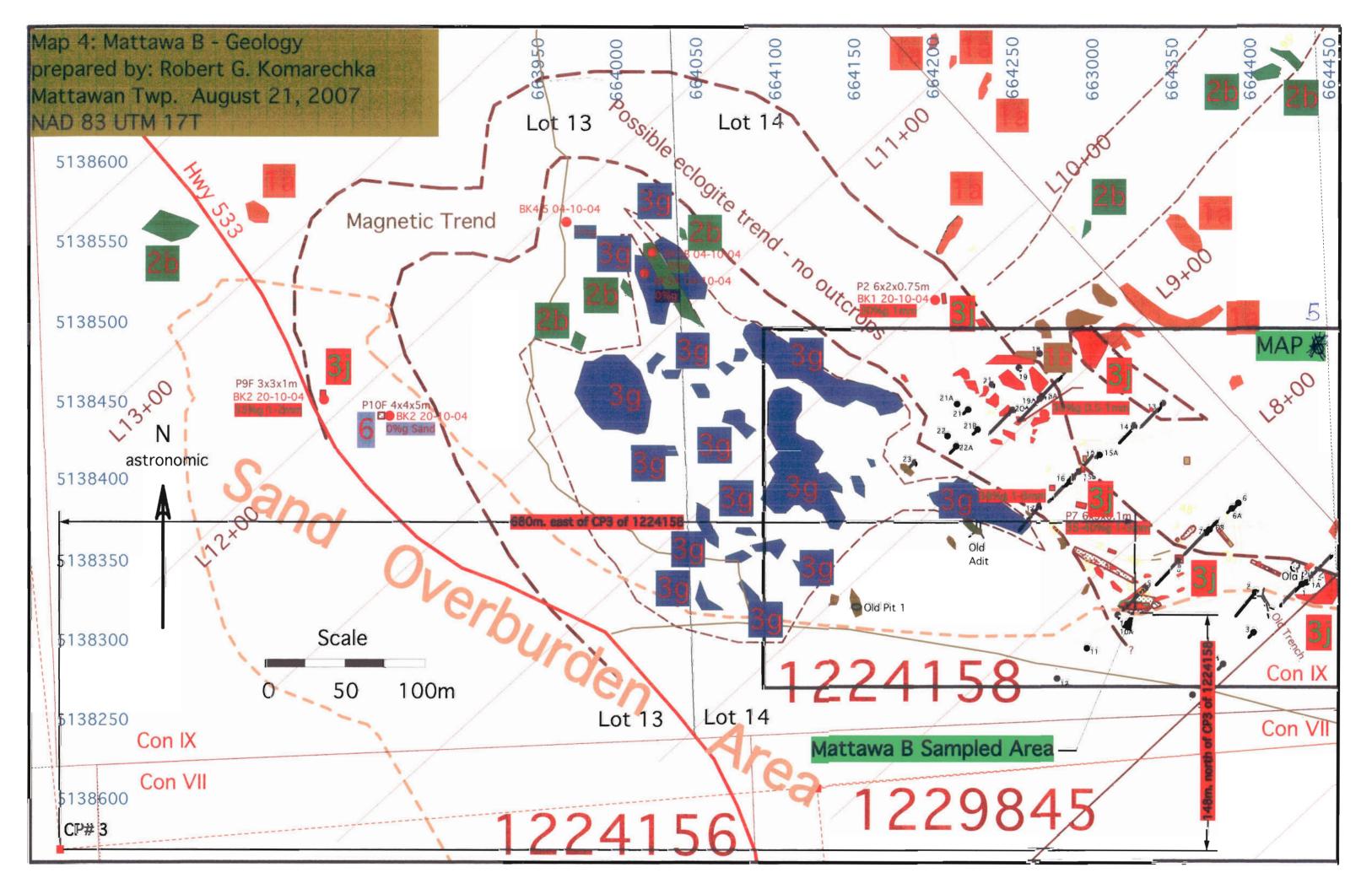
The beneficiation program undertaken on the Mattawa B sample consisted of:

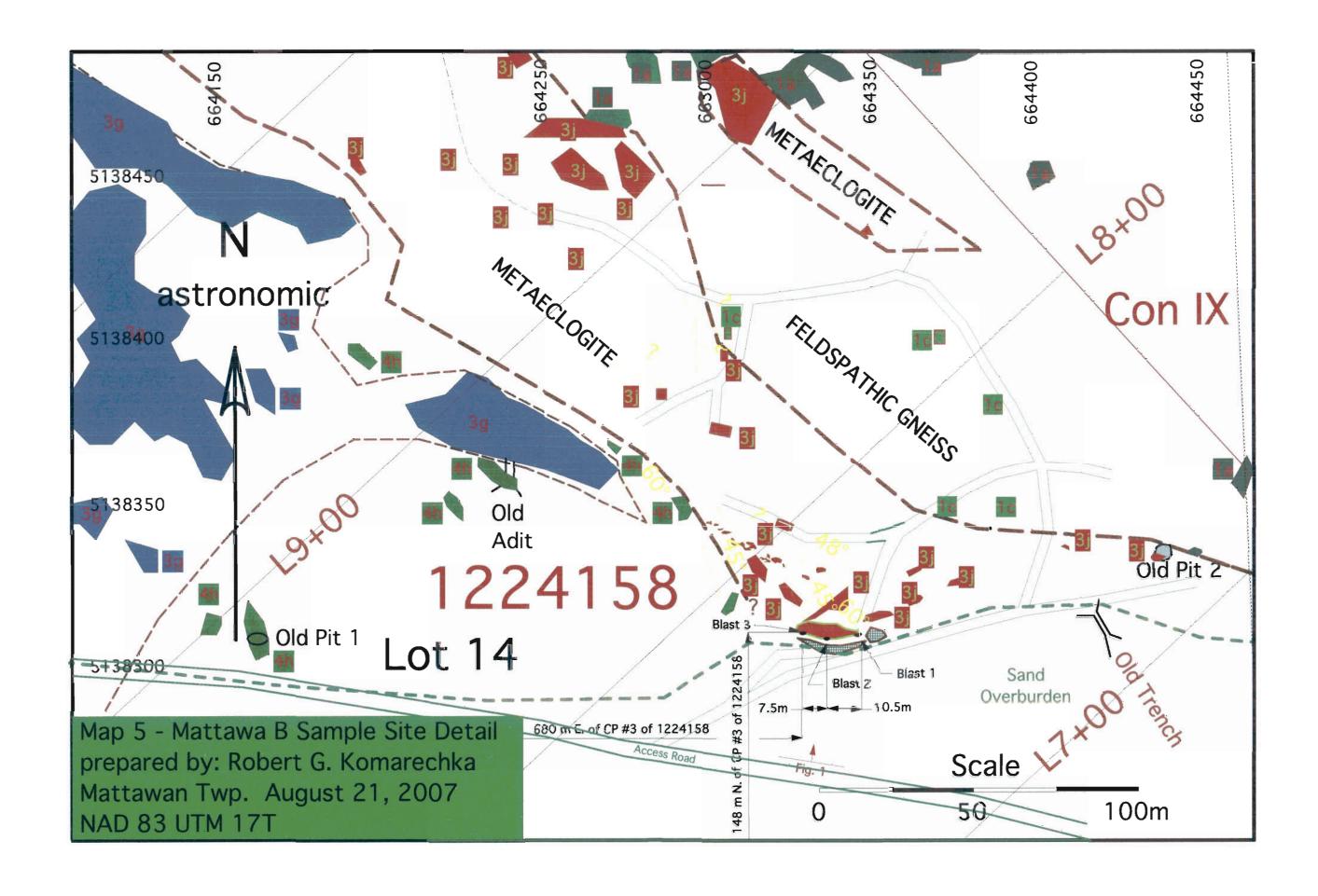
- 1) size reduction via a 6x12" jaw crusher followed by a roll crusher. Screening was undertaken into 3 size fractions followed by cone crushing of some fractions,
- 2) Gravity concentration via heavy liquid separation and shaking table and finally
- 3) Magnetic separation via high intensity and low intensity permanent magnets.

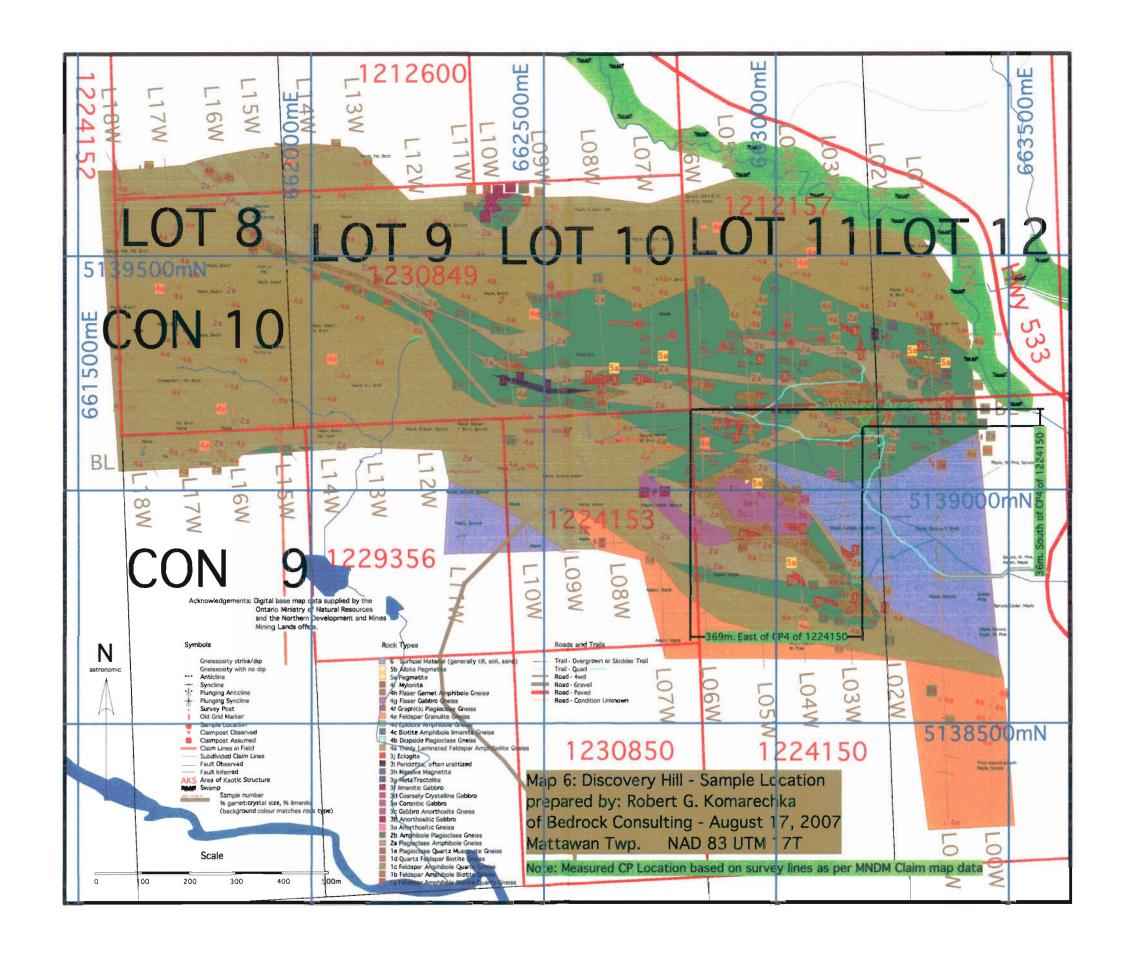
A further mineralogical examination was undertaken on sink and float gravity fractions by Dr. Jeffrey C. Reid of Forensic Minerals Research Laboratory and Dr. William Miller, Consulting Geologist. Dr. William Miller's work consisted of a chemical and mineral analysis of using plain light microscopy, polarizing light microscopy, powder X-ray diffraction (XRD) and scanning electron microscopy/energy dispersive spectrometry. Dr. Jeffrey C. Reid's work consisted of weighing, examination with stereozoom binocular microscopes with digital imagery, sample splitting with imaging and grain counting.

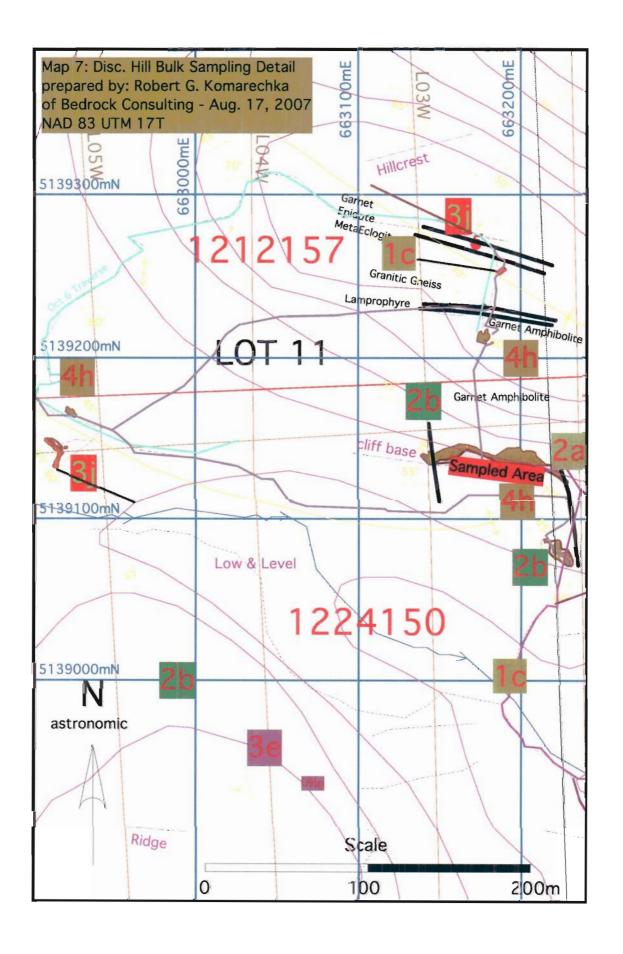
A concentrate product was also produced from the bulk sample and will be further tested and compared with existing products for various commercial applications.

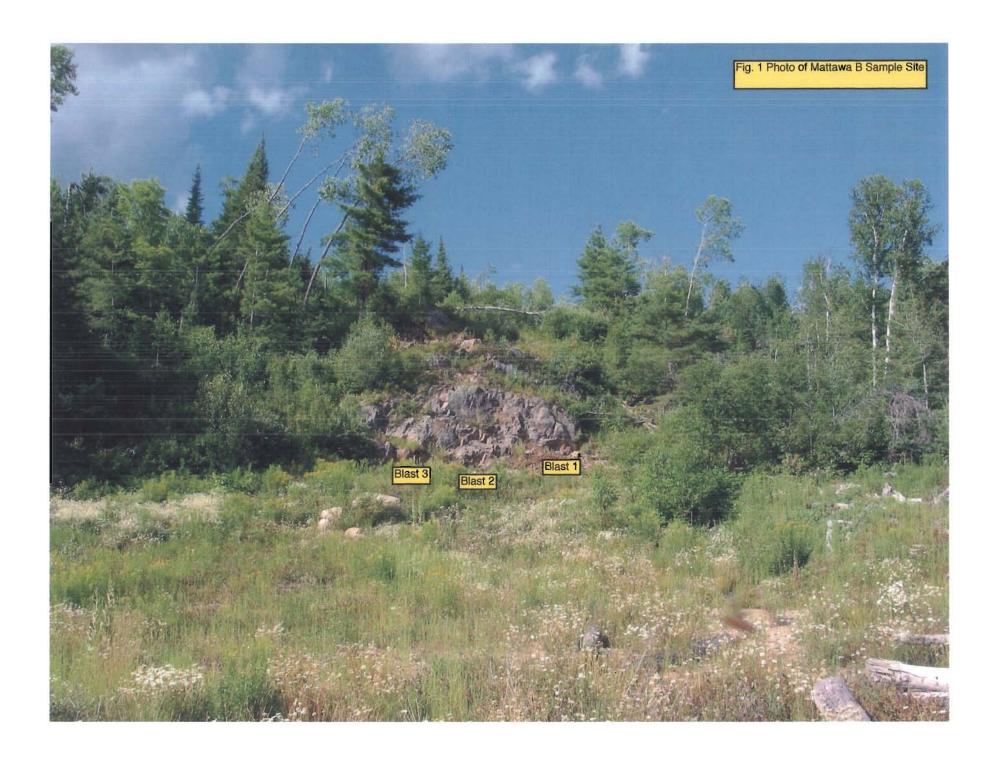
The details of this beneficiation work can be found in Appendix 4.











#### DISCUSSION of PROGRAM RESULTS

The field program was undertaken within budget and on time. The sample sites have had minimal environmental damage and can be considered as rehabilitated.

The samples arrived intact and have been analysed. The results of this analysis show that a concentrate can be produced from fresh blasted rock collected from the Mattawa B sample area. The concentrate produced using the gravity and magnetic separation methods in this program had limitations in that about 20% amphibole remained within the garnet concentrate. A suggested further floatation process for producing a higher garnet concentration was not undertaken.

Mineralogical analysis has revealed that the sample is composed of the following minerals: almandine garnet, hornblende (paragasite, tremolite, actinolite), albite, diopside (with a minor augite component), biotite (annite) and phlogopite. No quartz was noted.

The garnets, while being labelled as of almandine composition, are primarily of the pyralspite series, with the approximate composition of 54% almandine, 29% pyrope & 18% grossular or andradite.

#### **CONCLUSION**

A garnet concentrate was produced that contained a 20% fraction primarily of amphibole.

From the results of the mineralogical analysis the previous classification of the rock as a metaeclogite appears correct. The pyralspite garnets identified are also typical of those expected to be found within an eclogite. The presence of pyrope and grossularite end members may affect the performance of the garnet produced. Consequently, further application testing of the final concentrate product will be undertaken and compared with existing commercial products.

#### RECOMMENDATIONS

The following recommendations are proposed on the Mattawa Property as a follow up to this study:

- 1. An evaluation of the garnet amphibole concentrate produced should be undertaken to determine a more efficient method of removing the 20% amphibole present.
- Further testing of the final concentrate product and its comparison with existing commercial products should be undertaken to determine if the presence of pyrope and spessartine composition of the garnet will affect the performance of the garnet.

Should the amphibole prove amenable to separation and should the concentrate function as well as commercial products then consideration should be given to:

- 3. Beneficiation testing of the Discovery Hill sample.
- 4. Consideration for undertaking a larger bulk sample for establishing a commercial product.
- 5. A surveyed mapping, stripping and infill drill program should be undertaken to determine the reserves and further definition of those reserves at Mattawa B and possibly the Discovery Hill area for subsequent production.
- 6. Undertake surveying for a lease on the Mattawa B Area.
- 7. Obtain permitting for a large bulk sample should be submitted to the Ontario Ministry of Northern Development and Mines for both the Mattawa B area and possibly the Discovery Hill Area.
- 8. Zone A at Tower Lake should be mapped in further detail, locally stripped and possibly drilled. Consideration may then be given for a bulk sample.
- 9. The Bangs Lake Area which was not part of this study should be mapped out in further detail.
- 10. Claims with minimal potential should be dropped.

#### ACKNOWLEDGEMENT

The author would like to thank staff of Home Harware in Mattawa for their support in permitting the storage of samples at their yard and their assistance with their fork lift in loading the samples.

#### SELECTED BIBLIOGRAPHY

1. Anderson, P.

1984: Mattawan Township, District of Nipissing, Ontario Geological Survey, Geological Data Inventory Folio (GDIF) 138, 20 p. Plus maps.

2. Davidson, A.

1991: Metamorphism and Tectonic Setting of Gabbroic and Related Rocks in the Central Gneisss Belt, Grenville Province, Ontario, Field Trip A2: Guidebook, May 25-26, 1991, Geological Association of Canada, Mineralogical Association of Canada, Society of Economic Geologists, Joint Annual Meeting, Toronto, Ontario, Canada.

3. Davies, Ray

1986: Assessment Work Report, Diamond Drill Holes 1, 2, 3 Matawa Project, for Hudson Bay Exploration and Development Company Ltd.File Number S.858491, Sudbury District Resident Geologist's file Number Mattawan SP014.

4. Davies, R.,

1987: VLF electromagnetic survey, overburden drilling and sampling on the Mattawa Claims to 1987. Hudson Bay Exploration and Development Co. Ltd (Assessment Report SP015 Mattawan twp. – Sudbury District Resident Geologist's Office)

5. Davies, R.,

1986: Assessment work report Diamond Drill Holes 1,2,3, Mattawa Project. Hudson Bay Exploration and Development Co. Ltd. (Assessment Report SP014 Mattawan twp. – Sudbury District Resident Geologist's Office)

- 6. Easton, R.M.,
  - 1999: Geological setting of five garnet sample sites. Ontario Geological Survey, 6 p. (report in prep.)
- 7. Easton, R. M.,

1992: The Grenville Province, in Geology of Ontario, Chapter 19, Ontario Geological Survey, Special vol. 4, part 2, p. 713-904.

8. Grammatikopoulos T., and MacDonald, J.,

1999: Mineralogical, geochemical, electron microprobe examination and beneficiation of garnet-bearing rocks, Ontario, Canada. Lakefield Research Limited, (report in prep.)

- 9. Harding, W.D.,
  - 1944: Mattawan Orlig Area, District of Nipissing, Ontario, Ontario Department of Mines, Map no. 53d. (scale 1:63,360).
- 10. Harrison, J. E.,

1971: Quaternary geology of the North Bay – Mattawa Region. Geological Survey of Canada, Paper 71-26, 37 p. plus maps.

11. Ketchum, J.W.F. and Davidson A.,

1999, Crustal Architecture and Tectonic Assembly of the Central Gneissic Belt, Southwestern Grenville Province Canada – A new interpretation, Canadian Journal of Earth Sciences (in press – accepted)

12. Komarechka, Robert, G.

2005, Trenching Pitting and Stripping Report, Mattawa Township. Submitted on behalf of BMCTBG (Assessment Report Mattawan twp. – Sudbury District Resident Geologist's Office)

#### 13. Komarechka, Robert, G.

2002, Geological Report - Tower Lake, Discovery Hill and Bangs Lake Areas, Mattawa Township. Submitted on behalf of BMCTBG (Assessment Report Mattawan twp. - Sudbury District Resident Geologist's Office)

#### 14. Komarechka, Robert, G.

1999, Percussion Drilling Report of the Mattawa B Property. Submitted on behalf of Highwood Resources (Assessment Report SP011 Mattawan twp. – Sudbury District Resident Geologist's Office)

#### 15. Komarechka, Robert, G.,

1997, Report on Airborne Magnetometer Survey, prepared for Marum Resources Inc. and Ditem Exploration Inc., Antoine twp. And surrounding area. (Assessment Report SP001 Antoine twp. – Sudbury District Resident Geologist's Office, overlaps Mattawan Township).

#### 16. Komarechka, Robert, G.

1996: Final Report- Ontario Prospectors Assistance Plan, (OPAP) Grant #OP95-269 submitted to the Ontario Ministry of Northern Development and Mines. (Assessment Reports SP017 & SP018 Mattawan twp. – Sudbury District Resident Geologist's Office)

#### 17. Komarechka, Robert, G.

1995: Final Report OPAP Grant #OP94-302 submitted to the Ontario Ministry of Northern Development and Mines. Mag VLF Geophysical survey and petrographic data. (Assessment Reports SP017 & SP018 Mattawan twp. – Sudbury District Resident Geologist's Office)

#### 18. Komarechka, Robert, G.

1994: Final Report OPAP Grant #OP93-685 submitted to the Ontario Ministry of Northern Development and Mines. Beneficiation study. (Assessment Reports SP017 & SP018 Mattawan twp. – Sudbury District Resident Geologist's Office).

#### 19. Laronde, David

2001: Ground Geophysical Surveys, Magnetometer and VLF Surveys, Mattawan & Discovery Hill Grid Areas, for Barton Mines LLC. (Assessment Report SP023 Mattawan twp. – Sudbury District Resident Geologist's Office).

#### 20. Laronde, David

2000: Ground Geophysical Surveys, Magnetometer and VLF Surveys, Tower Lake West, for Barton Mines LLC. (Assessment Report SP021 Mattawan twp. – Sudbury District Resident Geologist's Office).

#### 21. Laronde, David

2000: Ground Geophysical Surveys, Magnetometer and VLF Surveys, Bangs Lake Grid, for Barton Mines LLC. (Assessment Report SP020 Mattawan twp. - Sudbury District Resident Geologist's Office).

#### 22. Laronde, David

2000: Ground Geophysical Surveys, Magnetometer and VLF Surveys, Tower Lake East, for Barton Mines LLC. (Assessment Report SP012 Mattawan twp. – Sudbury District Resident Geologist's Office).

#### 23. Lumbers, S.B.,

1976: Mattawa – Deep River Area (Western Half), District of Nipissing, Preliminary Map P-1196, Geological Series, Ontario Division of Mines (scale 1:63,360 or 1 inch = 1 mile).

#### 24. Moore, J. M., Davidson, A., and Baer, A. J.

1986: The Grenville Province, Geological Association of Canada, Special Paper 31.

#### 25. Shouinard, G.,

2001: Prospecting Report of the Bangs Lake Grid Area, (Assessment Report SP022 Mattawan twp. - Sudbury District Resident Geologist's Office)

- 26. Shouinard, G.,
  - 2001: Prospecting Report of the Tower Lake Grid Area, unpublished private files of B. Komarechka
- 27. Shouinard, G.,

1999: Prospecting Report of claims 1230850, 1212562, 1229356, (Assessment Reports SP008, Sp009 Mattawan twp. - Sudbury District Resident Geologist's Office).

- 28. Shouinard, G.,
  - 1998: Prospecting Report of Physical Work Scraping of Outcrops, Discovery Hill Area, (Assessment Report SP005 Mattawan twp. Sudbury District Resident Geologist's Office).
- 29. Shouinard, G., & Montreuil R.

1998: Prospecting Report claim 1212157, (Assessment Report SP003 Mattawan twp. – Sudbury District Resident Geologist's Office).

30. Shouinard, G., & Montreuil R.

1998: Prospecting Report of claims 1230849, 1214649, 1212157, (Assessment Report SP007 Mattawan twp. – Sudbury District Resident Geologist's Office).

31. Shouinard, G., & Montreuil R.

1998: Prospecting and Physical Report of claim 1212548, Scooper Lake Area, (Assessment Report SP004 Mattawan twp. – Sudbury District Resident Geologist's Office).

32. Shouinard, G., & Montreuil R.

1997: Prospecting Report claim 1212158, Scooper Lake – Smith Lake Area, (Assessment Report SP002 Mattawan twp. – Sudbury District Resident Geologist's Office).

33. Shouinard, G., & Montreuil R.

1997: Prospecting Report claim 1212159, (Assessment Report SP001 Mattawan twp. - Sudbury District Resident Geologist's Office).

34. Whiting, B.H.

2000: Field Examination, Sampling and Laboratory Testing on the Mattawan P Garnet Property, (Assessment Report SP010 Mattawan twp. - Sudbury District Resident Geologist's Office).

35. Whiting, B.H.

2000: Magnetometer & Geological Examination of the Discovery Hill Group on the Mattawan P Garnet Property, (Assessment Report SP019 Mattawan twp. – Sudbury District Resident Geologist's Office).

36. Winkler, Helmut G. F.

1979: Petrogenesis of Metamorphic Rocks 5<sup>th</sup> Ed., Springer-Verlag, New York.

#### **CERTIFICATE**

- I, Robert G. Komarechka, of the City of Sudbury, in the Province of Ontario hereby certify as follows:
- That I am a consulting geologist currently residing in Sudbury.
- That I am a graduate, B.Sc. Geology major, of Laurentian University of Sudbury, Ontario, a registered professional geologist in the Province of Alberta (APEGGA), affiliated with the Canadian Council of Professional Engineers, a fellow of the Canadian Gemmological Association, a registered professional Geologist with the Association of Professional Geoscientists of Ontario (APGO), a past member of the Geological Association of Canada and that I have been practicing my profession for twenty two years.
- That I had an interest in some of the properties at the time when this work was done and still do at the time of this report preparation.
- That this report is based on field observations collected over the months of October of 2006 and beneficiation tests undertaken in 2007 as well as consolidation of previous work and report preparation from October 2004 to March 2005.

Robert G. Komarechka P.Geo.

Dated at Sudbury, Ontario, this 23rd day of August, 2007.

## **APPENDICES**

APPENDIX 1
Mattawa Field Site Evaluation and Recommendations
iviatiawa Field Site Evaluation and Recommendations

## **Barton Mines Company**

# Memo

To: William Flint

From: J. R. Kinblom

CC: Robert Komarechka, T. Hunter, R. Jenks, R. Rapple,

Date: 8/17/07

Re: Mattawa Site Evaluation and Recommendations

On October 11, 2006, I accompanied Bob Komarechka on a site visit to the Mattawa claim properties in order to assess the following:

- Potential bulk sample locations.
- General accessability of the property.
- Local infrastructure.

Following is my summary of the site visit to the Mattawa-B and Discovery Hill properties on October 11, 2006:

#### **Findings & Recommendations**

#### Mattawa-B

In general, the outcrops in this area appeared quite homogeneous both in terms of ore grade (% garnet) and size distribution. Average grain size was observed to be +/- 1.0 mm with ore grading (visual estimate) at +/- 25-30%. The site was well drained and easily accessible by existing log roads. After traversing the site, it is my recommendation that additional bulk sampling be authorized. A series of vertical and/or inclined holes of 1-2 meters in length should be drilled along the predominant face located at BK2-04-10-04 and in proximity to the stripped area S1/S2. These holes may then be loaded and blasted to produce a minimum 1,000 lbs of representative bulk sample material. The bulk sample will need to be hand sorted and/or broken to a size of 100% minus 4". Approximately 500 lbs of the 4" minus should be packaged in 5-gallon plastic pails for shipment to the Mineral Research Laboratory (MRL) at North Carolina State University for further process evaluation and concentrating. MRL clean concentrate will be forwarded to Barton Mines for product performance testing. Further clearing, stripping, trenching or other site work is not warranted on Mattawa-B at this time.

1

#### Findings & Recommendations - (cont'd)

#### Discovery Hill

In general, the outcrops in this area consist of lower grade amphibolite (< 25% garnet) and contain finer grained garnet (< .5 mm). Numerous trees were downed across the access road, hampering our foot traverse of the area. The site was well drained with the exception of a low-lying wet area (standing/running water) in proximity to BK1-22-10-04. Our main focus was the outcrop located at S12 (base of cliff). This outcrop was mostly continuous along the cliff face and appeared to be contiguous to other outcrops further up the hillside, however this would need to be verified through additional drilling or trenching, not warranted at this time. There was also occasional quartz observed within small Pegmatite veins at different points across the face.

It is recommended that a second bulk sample be obtained from this area in order to perform preliminary process/product evaluations – particularly the size distribution of the concentrate. In order to collect the samples, the access road will need to be cleared of downed trees. A target of 400-500 lbs of representative grab samples will be collected from along the face of the cliff and packaged into 5-gallon pails for shipment to MRL. The same 100% minus 4" specification applies. The site was easily accessible by truck via existing highway and log roads.

#### **Timing**

Road cleaning and sample collection can proceed at any time. Processing of samples at MRL is tentatively slated for Mid-January or early February.

# APPENDIX 2 Blast Report

FRASER DRILL-BLAST	MANAGEMENT B	LAST REPORT
Date: Ochober 24/2006	Project: Maltawa G	arnet Bulk Sample
Time: 5.40 pm	Location: 14 km No	Mot MaHawa
Shot Number: 01	Blaster: Bruce Fra	ser
Weather: Cloudy 100	Wind Direction: North	= 10km/hr
Drill Pattern: 2' x 3'	Hole Size: 1 3/8"	
No. of Holes: 14	Hole Depths: 4-6	o Auginiaria (n. n. n. nego paradonis alama per
Sub Drill Depth:	Collar Height: 1-2	destablishment of the second o
Volume Calc: 14 y d 3	····	
Explosives Used  1. Powerd th 25x3005kg	Detouators Used 1. 7 m 25/500	
2kg	2	units
3kg	3	units
4kg	4	units
Total: 5 kg Percentage of AN %	Powder Factor;	
Loading Diagram (sketch of shot shot	wing drill holes, firing time, north	arrow)
<b>.</b>		
<b>V</b> —		→ N
X X X X X X X X X X X X X X X X X X X	, V-3	-
Y TAX - A X - A X - A X	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	

Blaster Signature: Bucce France

### **APPENDIX 3**

Mattawan Blasting & Bulk Sampling Program 2006-7 Summary of Field Activities

# Summary of Activities Mini-bulk Sample Collection Mattawa Garnets

Prepared by Bob Komarechka P.Geo. October 26, 2006

On October 24<sup>th</sup> and 25<sup>th</sup> 2006 Bedrock Research Corp. undertook sampling as requested by Jeff Kinblom of Barton Mines LLC following his site visit to the site on October 17<sup>th</sup> 2006.

Two areas were sampled: The Discovery Hill Area and the Mattawa B Area.

The Discovery Hill Area was sampled along an area previously stripped in 2004 along the south side of the hill. The area sampled was covered with 2" of snow and the samples collected from this area were generally from weathered rock fragments lying on the ground at the base of the stripping operations, stripped off the face. Samples were also collected from the hardrock face of the stripped area. Attempts were made to collect representative garnet bearing material. Samples of waste rock were not collected. These samples were collected in 5 gallon pails and transported from the site along a steep trail by the use of a small trailer attached to a quad to a sorting area where the samples were further broken with sledges to a -4" fraction. The screened samples were then labeled, sealed and weighed. A total of 8 white 5 gallon pails, labeled 1 to 8 were collected from the Discovery Hill Area weighing a total of 651 pounds.

The Mattawa B samples were sampled along the southernmost extension of the Mattawa B site near the gravel access road. The material from this site was procured from a series of three small blasts that occurred at the base of the cliff face. Material from these blasts was randomly collected, in some cases in the dark, broken and screened to -4" to fill a total of 10 white 5 gallon pails, being labeled 9 to 10. These pails were sealed and weighed. The total weight of the pails from the Mattawa B Area was 732 pounds.

The above work was assisted with two helpers and a registered blaster.

All the sealed pails were then transported to:

Wilson's Builders' Supplies (a Home Hardware Store) Highway 17 Mattawa Ontario P0H 1V0

Contact Persons: Jack Wilson or Danny at Tel (705) 744-5588, Fax (705) 744-5424 Email: <a href="wbs@efni.com">wbs@efni.com</a>

The pails were then placed on a 36" x 36" hardwood skid as two 9 pail layers and shrink wrapped. The shrink wrapped pallet was placed in their fenced and locked in lumber yard just outside the back of the building.

Further information on the samples are described in the table below.

Mattawa Mini-Bulk Sampling 2006 Pail						
Location	#	Contents	Weight (lbs)			
Discovery Hill	1	-4" Amphibolite	80			
Discovery Hill	2	-4" Amphibolite	75			
Discovery Hill	3	-4" Amphibolite	81			
Discovery Hill	4	-4" Amphibolite	82			
Discovery Hill	5	-4" Amphibolite	82			
Discovery Hill	6	-4" Amphibolite	83			
Discovery Hill	7	-4" Amphibolite	85			
Discovery Hill	8	-4" Amphibolite	. 83			
Mattawa B	9	-4" Meta-eclogite	70			
Mattawa B	10	-4" Meta-eclogite	74			
Mattawa B	11	-4" Meta-eclogite	85			
Mattawa B	12	-4" Meta-eclogite	74			
Mattawa B	13	-4" Meta-eclogite	75			
Mattawa B	14	-4" Meta-eclogite	71			
Mattawa B	15	-4" Meta-eclogite	69			
Mattawa B	16	-4" Meta-eclogite	71			
Mattawa B	17	-4" Meta-eclogite	71			
Mattawa B	18	-4" Meta-eclogite	72			
Total Disc. Hill	8	-4" Amphibolite	651			
Total Mat. B	10	-4" Meta-eclogite	732			
Total	18	-4" Rock	1383			

## **APPENDIX 4** Beneficiation Report