



# OTD Exploration Services Inc.

## TECHNICAL REPORT

### Johan Beetz Feldspar Project

Mining Claims 2432487 and 2432488

Johan-Beetz/Iles & Islets de Mingan 03 township

Quebec NTS 12L07

Prepared for

### Walmer Capital Corp.

22 Coulson Ave.

Toronto Ontario

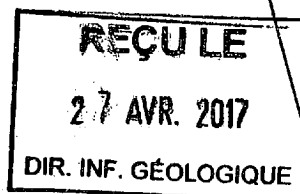
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Prepared By:

**Bill McGuinty P. Geo.**

July 15<sup>th</sup>, 2016

**GM 70006**



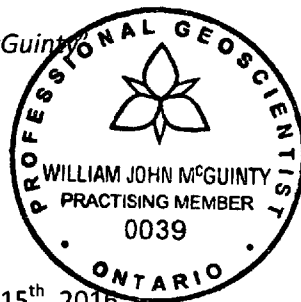
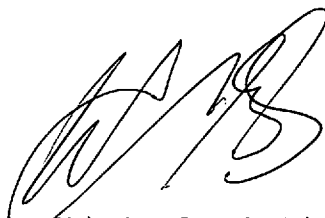
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**1. DATE AND SIGNATURE PAGE**

The effective date of this Technical Report, titled "Technical Report, Johan Beetz Feldspar Project, Mining Claims 2432487 and 2432488, Johan-Beetz/Iles & Islets de Mingan 03 township Quebec", is June 26<sup>th</sup>, 2016.

This report was prepared and signed by the following author and dated July 15<sup>th</sup>, 2016.

(Signed and Sealed) "William McGuinty"



Dated at Pickering, Ontario, July 15<sup>th</sup>, 2016

William McGuinty P.Geol.

**2. CERTIFICATE OF AUTHOR**

I, William J. McGuinty, P. Geo., do hereby certify that:

1. I reside at 682 Hillview Cres. Pickering, Ontario Canada, L1W 2R7
2. I am president of OTD Exploration Services Inc. a private company and during the site visit for this Report, I was Vice president Operations for Globex Mining Enterprises Inc.
3. I received a Bachelor of Science degree from the University of Ottawa, Ontario in 1983.
4. I am a registered member in good standing of the Association of Professional Geoscientists of Ontario, reg. no. 0039, the Association of Professional Engineers and Geoscientists of Saskatchewan, reg. no. 10838 and have a temporary registration with the Ordre des Géologues du Québec, reg. no. 1962.
5. I have worked as a geologist in Canada and Latin America since 1981
6. I visited the Johan Beetz Feldspar property in May, 2016
7. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
8. I am the qualified person responsible for preparation of the technical report entitled:

Technical Report on the Johan Beetz Feldspar Property

Mining Claims 2432487 and 2432488,

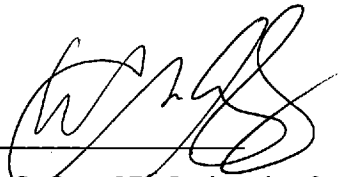
Baie Johan Beetz, Quebec NTS 12L/07

Effective Date: June 26<sup>th</sup>, 2016

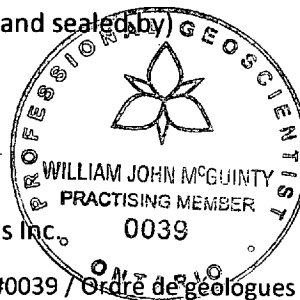
I personally prepared and am responsible for all sections of the Technical Report

9. I am independent of Walmer Capital Corp. in applying all of the tests in section 1.5 of NI 43-101.
10. I have read NI 43-101. I have written all sections of the Technical Report for which I am responsible and they have been prepared in compliance with that instrument.
11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, all sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 15<sup>th</sup> day of July 2016 (Original signed and sealed by)



W.J. McGuinty., P. Geo. OTD Exploration Services Inc.



Association of Professional Geoscientists of Ontario #0039 / Ordre des géologues du Québec (Temp.) #1962

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## 1. SUMMARY

William McGuinty P.Geo., President of OTD Exploration Services Inc. ("OTD") has been engaged by Mr. J. Richardson, President and Chief Financial Officer of Walmer to prepare a Technical Report for a feldspar prospect (herein referred to as the Johan Beetz Feldspar project) east of the village of Baie Johan Beetz, Quebec. The property is owned by Globex Mining Enterprises Inc. ("Globex").

Industrial scale and quality feldspar has been known to occur in pegmatites in the Baie Johan Beetz area for a century. In the 1950's Spar-Mica Ltd. constructed an electromagnetic separation plant at Baie Johan Beetz. The plant was shut down in 1959 after three years of operation. No exploration or technical evaluation has occurred on the Johan Beetz Feldspar since 1996. Globex and Walmer have not initiated exploration on the property but have compiled publicly available historic exploration reports and geological information.

The property is located near Hwy 138, which connects the town of Johan Beetz to the towns of Havre St. Pierre, 60 km to the west and the village of Natashquan, an Innu nation community, approximately 80 km to the east. A tertiary road extends for 3 km north to south from Hwy 138 to the Gulf of Saint Lawrence coastline where the former producing Spar Mica feldspar mine is located. The property's two mining claims are located in Range 5 Lot 28 in Johan Beetz township/Îles et Îslets de Mingan 03, Duplessis County, Quebec (NTS 12L/07).

A site visit and personal inspection of the Johan Beetz Feldspar Property was conducted between May 24<sup>th</sup> and May 27<sup>th</sup>, 2016 by William McGuinty. Drill holes and trench locations from prior exploration at the site were identified and all quarries reportedly used as feed source for the historic feldspar operation were visited. Eight (8) samples were collected from exploration trenches and quarries for comparison with reported feldspar analyses from previous work.

Results obtained from analysis of 8 samples taken from the Johan Beetz site in May, 2016 show good correlation to results presented in historic work at the property. Comparing the limited results to historic averages and a concentrate sample #15658 indicates that processing at the Spar Mica concentration plant was effective in concentrating feldspar product. Further detailed testing of pegmatites may improve the selectivity and identification of high grade feldspar ores and the best concentration of feldspar mineral.

The Johan Beetz Feldspar project offers an accessible and significant exposure of feldspathic pegmatite to consider for re-development as a feldspar producer.

A two year exploration budget of \$1,050,000 in 2 phases comprised of \$450,000 in the first year and \$600,000 in the second year is proposed for the initial assessment of the Johan Beetz Feldspar deposit by Walmer. A comprehensive drilling program and detailed geological and mineralogical study of the property's feldspar endowment and initial metallurgical test work is recommended. Drilling and surficial sampling in the initial program should deliver adequate volumes of sample materials to enable the completion of the proposed Phase One metallurgical testing and for follow-up optimization studies in advance of industrial scale or feasibility scale evaluation.

## 2. INTRODUCTION

### GENERAL

Walmer Capital Corp. ("Walmer") is a junior exploration company incorporated in Alberta which is quoted on the NEX exchange in Canada under the symbol WAL.H. The corporation's offices are located at 22 Coulson Ave., Toronto, Ontario, M4V 1Y5.

William McGuinty P.Geo., President of OTD Exploration Services Inc. ("OTD") has been engaged by Mr. J. Richardson, President and Chief Financial Officer of Walmer to prepare a Technical Report for a feldspar prospect (herein referred to as the Johan Beetz Feldspar project) east of the village of Baie Johan Beetz, Quebec. The property is owned by Globex Mining Enterprises Inc. ("Globex").

About 21.5 million tonnes of feldspar were estimated to have been produced globally in 2014, mostly by three countries: Italy (4.7 Mt), Turkey (5.0 Mt), and China (2.1 Mt). The world feldspar trade is estimated to be between \$US1.6 and \$1.8 Billion.

Feldspar is a common raw material used in glassmaking, ceramics, and to some extent as a filler and extender in paint, plastics, and rubber. In glassmaking, alumina from feldspar improves product hardness, durability, and resistance to chemical corrosion. In ceramics, the alkalis in feldspar; calcium, potassium and sodium oxides act as a flux, lowering the melting temperature of a mixture. Fluxes enhance melting at an early stage in the firing process, forming a glassy matrix that bonds the other components of the system together, thereby reducing process energy costs.

More recently its application in solar cell panel fabrication has become a growing market for alkali feldspar products.

The Johan Beetz Feldspar project is a former producer of feldspar with considerable geological inventory of feldspar mineral. Walmer wishes to evaluate the potential for the property to be re-developed.

As a recent acquirer of the property, Globex has completed no work on the claims prior to its proposed acquisition by Walmer.

### TERMS OF REFERENCE

Walmer has directed the OTD to prepare a Technical Report summarizing all relevant technical and scientific material regarding Johan Beetz Feldspar and provide an opinion regarding mineral and development potential of the property and opportunities in the feldspar market. Walmer has also requested a recommendation for a work program and budget to further evaluate the feldspar potential at Johan Beetz.

The author understands this report will support Walmer's corporate activities related to acquisition of the Property from Globex and be used in support of seeking financial resources for exploration and development of the Johan Beetz Feldspar deposit.

### SOURCE OF INFORMATION

Information used to prepare this Technical Report was principally obtained from public files available through the Quebec Ministère de l'énergie et des ressources naturelles ("MERN") and consists of publicly available exploration reports by mining companies filed with MERN and geoscientific

publications produced by MERN itself. Additionally, information was obtained electronically from other public sources including Government of Quebec, Government of Canada, municipal and scientific websites.

Relevant reports and information used in the preparation of this report can be found in the report and more fully described in the References section.

#### SITE VISIT

A site visit and personal inspection of the Johan Beetz Feldspar Property was conducted between May 24<sup>th</sup> and May 27<sup>th</sup>, 2016 by William McGuinty. The visit included an evaluation of the access to the property and nearby services. Drill holes and trench locations from prior exploration at the site were identified and all quarries reportedly used as feed source for the historic feldspar operation were visited. Eight (8) samples were collected from exploration trenches and quarries for comparison with reported feldspar analyses from previous work. The existing unused tide water docking facility and former plant site were also visited.

No physical information, core or samples are known to be, or were seen to be, stored on the property and industrial infrastructure from an operation in the 1950's is considered unusable without detailed engineering studies.

A detailed trip report is provided in Appendix I. Geochemical analyses from sampling during the field visit are presented in Appendix II

### **3. RELIANCE ON OTHER EXPERTS**

While Mr. McGuinty is responsible for the content of this report, guidance was taken from an internal opportunity report prepared for Globex by James M. Proudfoot P. Eng. and Peter Godbehere B. Sc. and William McGuinty in December 2015. Messrs. Proudfoot and Godbehere provided useful insight into the markets (summarized in section 20) and metallurgy of feldspar, respectively. Additionally certain maps included in the report were prepared by Globex staff under supervision of Mr. McGuinty.

### **4. PROPERTY DESCRIPTION AND LOCATION**

The Johan Beetz feldspar property consists of 2 mining claims registered as Claim No. 2432487, comprising 52 hectares (ha) and Claim No. 2432488, comprising 29.5 ha. The claims were registered in the name of Globex Mining Enterprises on August 21<sup>st</sup> 2015. The first renewal requirement for these claims is August 20<sup>th</sup>, 2017. The claims comprise a portion of the Mining Concession #434 granted to Spar Mica in 1956.

Two additional claims have been staked by Globex in 2016, these claims are immediately adjacent on the east with Claim 2432487 and immediately adjacent on the west with Claim 2432488. At the effective date of this report these claims had not be registered by MERN. A claim map showing these claims is located in Appendix V.

The claims are both in Range 5 Lot 28 in Johan Beetz township/Iles et Islets de Mingan 03, Duplessis County, Quebec. The National Topographic System map sheet reference for the property area is NTS

12L/07. The claims are located directly on the north shore (Cote Nord) of the Gulf of St. Lawrence, 2.5 kilometres (km) east of the village of Johan Beetz (pop. 86).

The UTM center of the property is Zone 20 U 516493E / 5571105N and the approximate geographic center is 50° 17' 45" north latitude; 62° 45' 54" west longitude.



Figure 1: Regional Location Map – Johan Beetz Feldspar Property  
(source [www.educationcanada.com](http://www.educationcanada.com))

## 5. ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

### ACCESS TO THE PROPERTY

Access to the property is by Hwy 138, which connects the town of Johan Beetz to the towns of Havre St. Pierre, 60 km to the west and Sept Iles, 280 km west and to the village of Natashquan, an Innu nation community, approximately 80 km to the east. A tertiary road named Rue du nord (locally known as the 'Sentier du Mica') extends for 3 km north to south from Hwy 138 to the Gulf of Saint Lawrence coastline at the point where the old Spar Mica feldspar mine's wharf is located.

Scheduled air service is available from major centres to Havre St. Pierre, Sept Isles and Natashquan. Ferry service is also available to Havre St. Pierre and Natashquan from Sept Iles between April and January.

Havre St. Pierre (pop. 3,400 in 2011) is the loading port for the Quebec Iron & Titanium's (QIT) Lac Allard open mining pit operation located 40 km north by railroad.

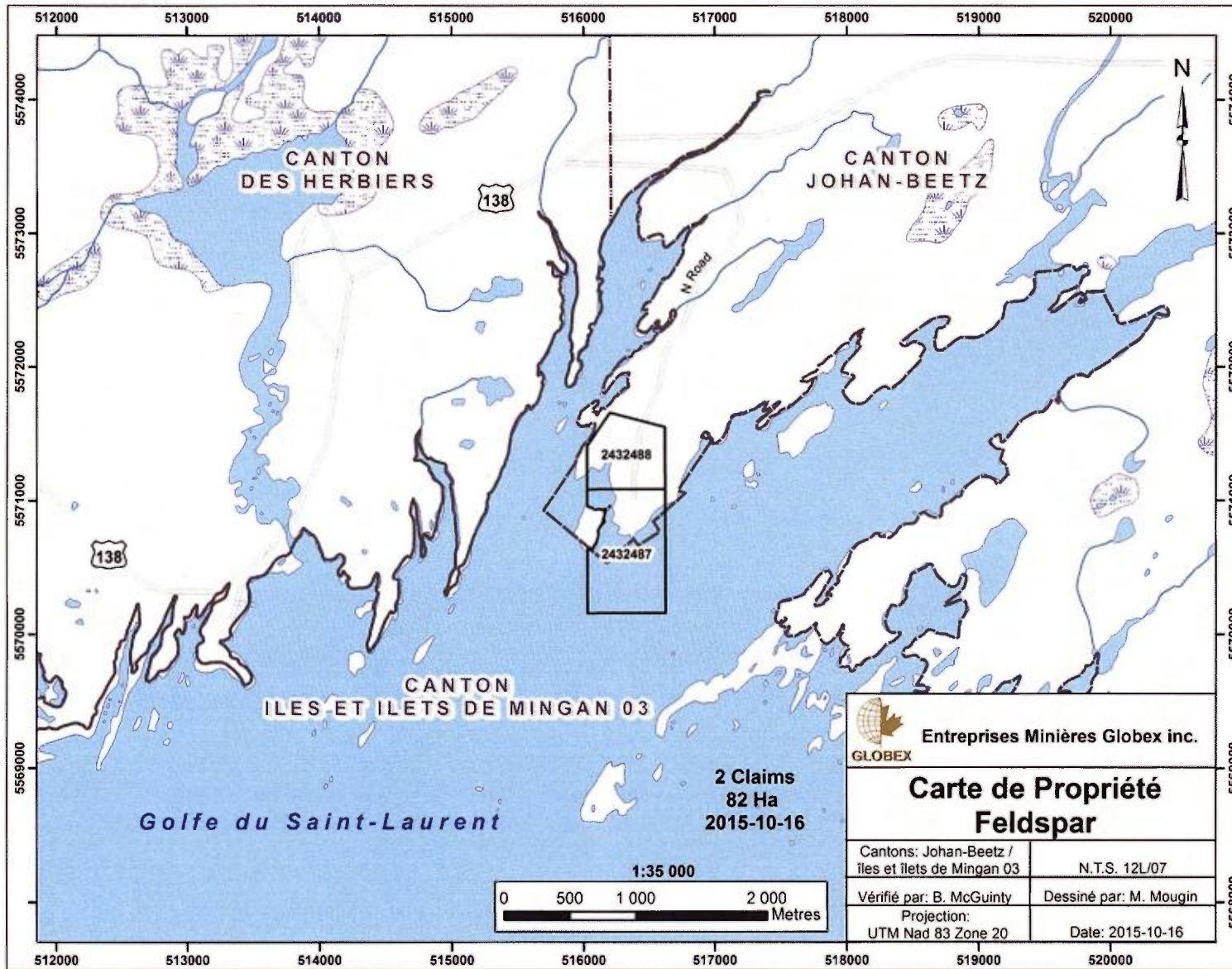


Figure 2: Claim Map – Johan Beetz Feldspar Property



Figure 3: Photo image of Johan Beetz Feldspar Property

CLIMATE

The climate is typical of the north shore of the Gulf of St. Lawrence where winters are generally long, cold and snowy with windy conditions. Proximity to the coast also creates wet summers. Monthly temperature averages range from -15.5 °C in January to 14.6 °C in July. Total precipitation averages approximately 1,057 mm occurring mostly as rain in the spring and summer months, and as snow in the winter seasons.

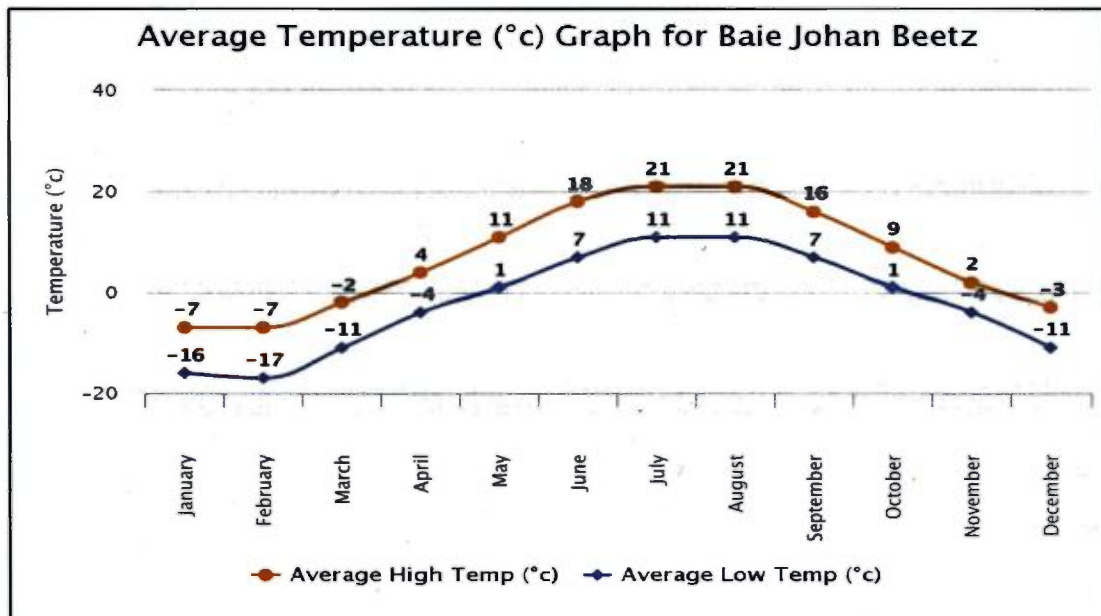


Figure 4: Annual Average Temperature - Baie Johan Beetz, Canada (Ref.: [www.worldweatheronline.com](http://www.worldweatheronline.com))

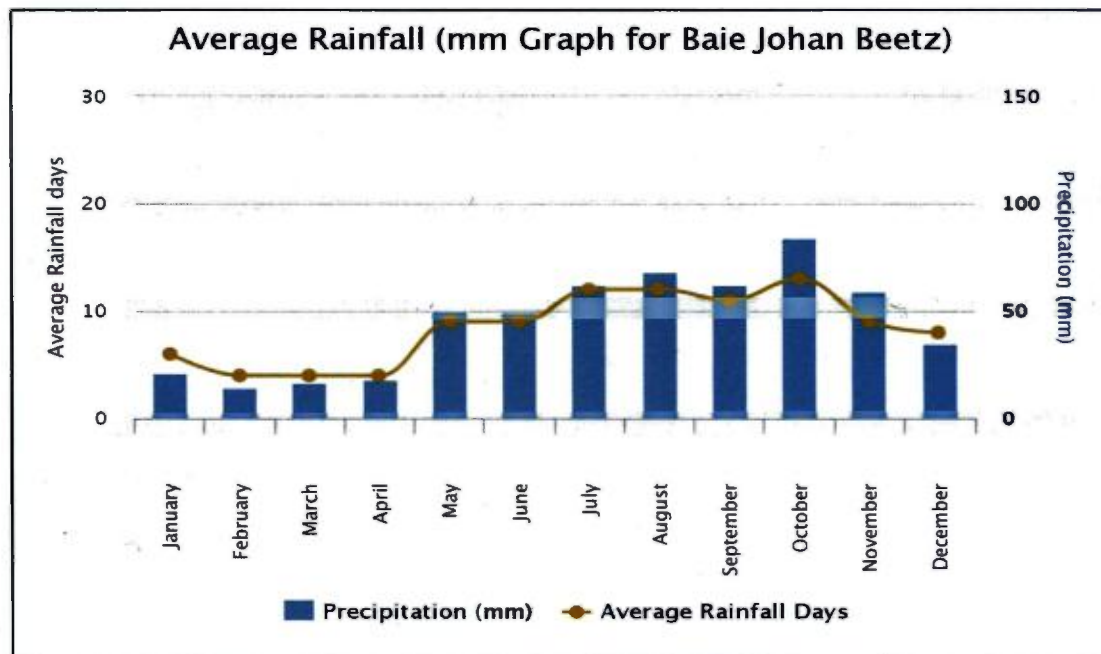


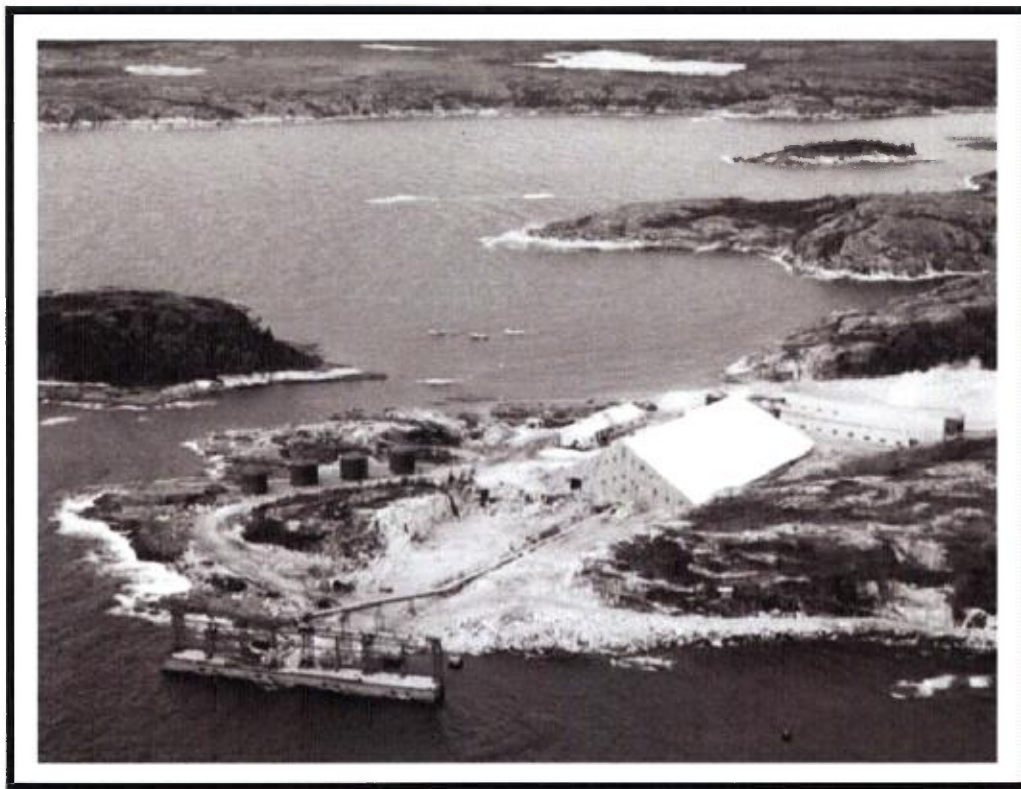
Figure 5: Annual Average Rainfall - Baie Johan Beetz, Canada (Ref.: [www.worldweatheronline.com](http://www.worldweatheronline.com))

## INFRASTRUCTURE AND LOCAL RESOURCES

Some infrastructure from a previous mineral operation, Spar Mica Ltd. remains on the Johan Beetz Feldspar property. Spar-Mica Ltd. operated in the 1950's. The concrete pads of the mill, storage and several ancillary buildings remain at the site. A deep water loading wharf remains in place but is in disrepair. These are connected to Hwy 138 by the previously mentioned Rue du Nord.

A power transmission line parallels the north shore of the St. Lawrence from Havre-Saint-Pierre to the village of Natashquan along highway 138. Its closest approach to the property is roughly 4 km from the old Spar Mica plant site.

A suitable workforce and heavy construction equipment could be obtained from Havre-Saint-Pierre or, if needed from Sept-Iles.



**Figure 6: Spar-Mica Ltd. Separation Plant and Storage Facilities**

at Cape Feldspar in 1956, near Baie-Johan-Beetz. Photo from MRNFP archives and published in Newsletter of the Mineralogical Association of Canada Number 71, December 2003.

## 6. PHYSIOGRAPHY

In 1974, Gerald E. Cooper (RG074) described the topography, forestry resources and ecology of the Johan Beetz North Shore region. The topography gradually rises to the North, from sea level to just over 185 m. The highest peaks are underlain by mafic plutonic rocks (gabbro) located to the East side of Lake Piashti. The eastern part of the region offers numerous mountains and valleys while the western part of the area is flatter, resembling a plateau.

The Johan Beetz area landscape is dominated by long, low elevation ridges and valleys largely related to folding and differential weathering of rock units which are exposed or covered with shallow soil cover. The shore extends into the Gulf of St. Lawrence in long fingers of rock or strings of rocky islands trending along the strike of the resistant rock units. Shorelines in the area are generally rocky with numerous cliff bounded long narrow inlets, forming steep rock faces at water's edge or narrow rocky beaches.

To the southwest and north of Johan Beetz along the North Shore, lower lying areas that intersect shorelines can develop beach strands composed mainly of sands that can extend for several kms. Inland from the beaches these low-lying areas are generally filled with sediment and covered by swampy lakes and bogs. These swampy areas and some small lakes tend to be oriented along the trend of the underlying bedrock.

At the Johan Beetz Feldspar property the claims are partially covered by black spruce forest in lower lying areas and on the flanks of pegmatite ridges. The forest was extensively burned in a forest fire several years ago.

Elevation throughout the property is less than 100 m above sea level.

#### FLORA AND FAUNA

The Johan Beetz area is located within the Boreal forest landscape of Canada. It is part of the Continuous Boreal Forest Subzone, specifically the Spruce-Moss domain. This zone is dominated by black spruce with moss-over-soil cover and shallow lakes and peat bogs which forms a 300 km wide strip between the 49<sup>th</sup> and 52<sup>nd</sup> latitudes, from Abitibi in the west to Labrador in the east. The climate is generally humid. Rare fire events are the primary pathway for ecological disturbance and regeneration and black spruce, birch and jack pine are well adapted to this regime. Fireweed, Labrador tea, blueberry and other wild fruits are common.

The main tree species of the region are black spruce, pine and aspen. White birch is rare. Forest is best developed in valleys and on the shore of lakes and rivers. The high hills are steep with poor soil cover supporting only stunted spruce and peat. The very poor vegetation is affected by strong winds from the Gulf of St. Lawrence. Poor soil covers only small areas.

The economy of the North Shore includes significant business supported by natural resources such as sport fishing, hunting and eco-tourism. The region supports sport fishing for several trout species, Atlantic salmon, northern pike and arctic char. The St. Lawrence River has also supported the cod fishery although stocks have depleted significantly over recent decades. Fishing is a main source of subsistence for residents of Johan Beetz. Trout and salmon are plentiful in the nearby Watshishou and Corneille rivers.

The North Shore is also rich in crustaceans and molluscs. The northern shrimp and snow crab are certainly the best known crustaceans on the North Shore. Edible molluscs in the area include clams, scallops, mussels, whelks and razor clams.

Large marine mammals are also found in the region. Some are relatively common such as grey, harbour and harp seal, beluga and minke whale. Of some 80 species of cetaceans in the world, 13 can or could at one time be found the waters of the St. Lawrence River. There is a population of seals living on the east islands of Pontbriand, Bay 18 km east of Johan Beetz.

There are few moose, deer or caribou along the coast where the Property is located likely as a result of poor forage and natural cover. Several wild duck colonies live nearby along the coast.

### COMMUNITY

The two nearest communities to the Johan Beetz Feldspar property are Johan Beetz (5 km W) and Natashquan (80 km E).

The village of the aboriginal reserve of Natashquan (also Nutashkuan) is located on the shore of the Gulf of St. Lawrence, situated 380 km to the east of Sept-Iles. The territory of the reserve is surrounded by that of the Municipality of Natashquan and is accessible by Route 138. This community is associated with the Mamuitun Tribal Council for the comprehensive territorial negotiations with the governments of Québec and Canada. According to the Québec Secrétariat aux affaires autochtones in 2007, the community numbered 932 people (including 58 outside the reserve).

Seventy-four percent (74%) of the region's aboriginal population is under 35 years of age. The main economic activities are associated with outfitting, commercial fisheries and construction.

The village of Baie Johan Beetz was renamed in 1965 in honour of a Canadian naturalist of Belgian origin who settled in this small coastal town in 1897. The nearby bay on the St. Lawrence also bears his name. Today the community principally caters to the tourism sector, including travel and sport fishing.

## 7. PROPERTY HISTORY

Industrial scale and quality feldspar has been known to occur in pegmatites in the Baie Johan Beetz area for a century. In the 1950's Spar-Mica Ltd. spent several million dollars on a new and innovative electromagnetic separation plant at Baie Johan Beetz. However, the plant was shut down in 1959 after only three years of operation, reportedly due to contamination of the concentrate and technical issues.

Stuart Lee (1990) reported that a total of 25,000 tons of feldspar-quartz concentrate was produced and shipped from the Spar Mica operation but that a total of 150,000 tons was mined from 6 quarries on the property. For the purposes of this report the pits (or quarries) are identified by the nomenclature used by Canspar Resources in 1993.

Several mineral resources or reserves have been quoted in literature related to the property. These resources were estimated prior to the application of National Instrument (NI) 43-101 – Standards of Disclosure for Mineral Projects and are to be considered historic in nature. They should not be relied upon as these estimates have not been prepared by a Qualified Person under the Instrument. These resources and related development activity are summarized in section 15.

A summary of existing references to historic exploration and activity at the Property is presented in Table 1.

Table 1: Compilation of Historical Work Completed in the Johan Beetz Area

| Year  | Reference & Company                                   | Work Done  | Summary  |
|---|---|--|--|
| <b>Feldspar Exploration and Development</b> |   |  |  |
| 1918  | GM-00897 - British Magnesite Corporation              | Report on the Feldspar Industry  | The Manikuagan Bay Feldspar described as having a good potential for production  |
| 1952  | GM-01734 - Amalgamated Mines and Minerals Corporation | Report on the Thelma Bay Feldspar Deposit  | 3,038 tons extracted with a value of \$17,000  |
| 1952  | GM-01896 - Amalgamated Mines and Minerals Corporation | Prospectus style Report  | Working capital estimate required for operations   |
| 1952  | GM-01898 - Thelma Bay Feldspar Corporation            | General Information Report   | Describes 15 M tons of high grade Feldspar and 100 M tons of feldspar and quartz   |
| 1952  | GM-09086 - Thelma Bay Feldspar Corporation            | General Information Report   | Describes 15 M tons of high grade pottery feldspar and 100 M tons of material for manufacture of fertilizer  |
| 1954  | GM-03256A - Spar-Mica Corporation                     | Geological Report and Map  | Indicates between 8 and 12 million tons of feldspar can be extracted from the pegmatite in the area mapped   |
| 1955  | GM-03256B - Spar - Mica Corporation                   | Diamond drilling 25 vertical holes   | Assays not available   |
| 1956  | GM-04329 - Spar - Mica Corporation                    | Technical Report   | <u>Ore Reserves:</u> (Gross)<br><u>Indicated</u> by diamond drilling:<br>8,547,334 Tons<br><u>Probable Ore:</u> 20,245,005 Tons<br><u>Possible Ore:</u> 4,607,000 Tons |
| 1957  | GM-09829 - Spar - Mica Corporation                    | (Resource) Memo  | Proven Ore Reserves: 5,000,000 tons  |
| 1959  | GM-09971 - Spar - Mica Corporation                    | Surface Plans and drill sections Holes 59-1 to 59-38, 8A, 22A                                      | Best assay 6.95% K <sub>2</sub> O over 6 ft in hole 59-21  |
| 1983  | GM-44313 - Minaco Equipment Limited                   | Preliminary Market Survey  | Significant resource and may well be one of the largest deposits known in the Western world  |
| 1990  | GM-49460 - Canspar Resources                          | Flotation Tests On a Sample of Feldspar Ore & Recovery of Muscovite Mica                           | Good separation efficiency and product quality   |
| 1991  | GM-51826 - Ressources Canspar                         | Diamond Drilling Hole 91-1 to 91-15  |  |
| 1993  | GM-52321 - Ressources Canspar                         | "Rapport des résultats d'analyse d'échantillons composites des trous de sondage 91 - 01 à 91 - 15" |  |
| 1994  | GM-52908 - Ressources Canspar                         | Processing of Crude Feldspar Ore From Existing Quarries and Diamond Drilling                       | Based on the results, recommend to do more detailed work on magnetic separation of individual core sample  |
| 1996  | GM-54453 - Canspar Resources                          | Test Report "Magnetic Cleaning of Feldspar"  | Magnetics were removed from each sample  |

Before 1950 Mr. S. C. E. Melkman provided a promotional outlook on the global feldspar industry and the possible insertion of production from the "Manikuagan Bay Mines" (later Spar Mica) by British Magnesite Corporation. Mr. Melkman was general manager of the company. The document provided possible market profile for the feldspar at the site but no technical information. Mr. Melkman indicated the property was approximately 150 acres and had "...millions of tons of the highest grade feldspar exposed right at surface...". He further describes the future project as "quarrying operations carried on within one hundred feet of tide water, and this in spar bodies from one hundred to two hundred feet in width; each feldspar-dyke having been opened by over a length of one mile."

Melkman predicted a mine with docks and an aerial tramway producing 300 tons of feldspar daily.

Melkman promoted the mine again in 1951 and 1952 under the name Thelma Bay Feldspar while raising money for Amalgamated Mines and Minerals Corporation. During that period Melkman reports that "development work exposed at least 15 tons of high grade feldspar and 100 million tons of Feldspar and Quartz mixed which will be separated into clean Feldspar."

The promotional nature of the eventual success of the project led the registrar of the Securities Act (Quebec) to take Mr. Melkman and Amalgamated Mines and Minerals to task for his reports in 1952. In addition to terse words for Mr. Melkman, the registrar's comments also contain a reference to historic production from the property, citing feldspar shipments by the St. Lawrence Feldspar Company totalling 3,038 tons valued at \$17,000 were made in 1923 and 1924.

In 1952, Mr. Melkman tried again to promote the property, linking the proposed Amalgamated Mines and Minerals operation to Thelma Bay Feldspar Corporation, a company which would market the feldspar products. There is no further information found by the author to suggest the arrangement was completed.

In 1957, a memo to Dr. D.T. Denis describing the assets of Spar Mica Corporation Ltd. identifies the Johan Beetz property as being owned by this company, probably as early as 1953. The memo notes 2,600 acres of property including 189 acres in mining concession No. 434 (granted in Sept. 1956). The report describes start-up of operations in 1955 including leveling of the mill site, mill and wharf construction and preliminary mining. A large shed was constructed to store mineral processed in winter for the coming shipping season. The memo reports mill start-up in 1957 at a rate of 100 ton per hour using crushing (16 mesh) and drying followed by electromagnetic and electrostatic separation. A flow sheet compiled by C.D. Howe Consulting and Engineering annexed to Denis' memo is presented in section 18.

In 1954, exploration work is reported from the eventual miner of the Johan Beetz property, Spar Mica Corporation. The report, written by Edgar Hobby Jr. describes site evaluation for docking facilities and extraction of a bulk sample of 1,000 lbs. of feldspar material. Hobby describes an assumed mineral inventory of eight to twelve million tons of feldspar in pegmatite ridge exposures he calculated volumetrically to contain 19,400,000 tons. He based inventory on an estimated 40% to 60% feldspar content.

The report includes results of process testing of 600 lbs of Hobby's sample and chemical analysis of 5 (hand?) samples both reported by J. G. Gemmell of Spar Mica. These samples were taken in widely distributed areas of the Mining Concession. Samples 4 and 5 are located on the ridge where pits #s 4, 5 and 6 would later be excavated (see Figure 3).

The 5 samples taken by Gemmell reported ranges of 8.19% to 12.05% potassium as  $K_2O$ ; 3.84% to 6.01% sodium as  $Na_2O$  and 0.034% to 0.417% iron as  $Fe_2O_3$

Metallurgical results from this report are described in section 14.

In 1955, J. G. Gemmell supervised the drilling of 25 vertical drill holes totalling 1,578 feet at the Spar Mica site. These holes targeted short term development of feldspar ore and explored longer range resources for the Spar Mica Plant. An historic map of the drill hole locations shows holes (55-) 1 through (55-) 6 and (55-) 17 through (55-) 21 to be located in areas subsequently developed as quarries and open cuts now seen on the property to the south and east of the historic mill facility location. The logs provide a description of lithology and an estimate of 'spar' content. Holes (55-) 23 to (55-) 25 do not appear on the map accompanying the drill logs, however they appear on a later map for Spar Mica by Mr. L. Germain (1956), located on the river shoreline the site of the mine camp.

In 1956 Mr. L. Germain provided an independent technical report for the Spar Mica Corporation property defining ores in three categories but acknowledging that no proven reserves were defined. He describes 'ores' that were; a) Indicated by diamond drilling (1955 drill holes); b) Probable in light of physical dimensions of outcrops mapped and; c) Possible located in unmapped areas of the property assumed to have geological extension of pegmatites. These ores were confined to the area of 8 claims determined by Spar Mica to be required for the application for a mining concession (eventually CM 434). Germain used information from work done in 1954 and 1955 provided by Spar Mica (E. Hobby, C. Authier and J. G. Gemmell) to support his report.

In his report Germain qualifies the mineral reserves he calculates as being based on the assumptions that they can be bulk mined with no physical selection such as hand cobbing (separation); can be liberated cheaply from quartz and ferromagnesian minerals (mica?) and; can be marketed as a mixed Na/K feldspar product. He provides information that Spar Mica planned differential crushing and high intensity magnetic separation.

The report provides a feldspar grade and certain other mineral characteristics for the area tested by the 1955 drilling. The report uses chemical analyses (major oxide ratios and mineral recalculation) from holes (55-) 7 to (55-) 22 to generate the following composition. These holes are all located on the east-north-easterly trending ridge located immediately east of the mill location.

| Component                        | Composition % |
|----------------------------------|---------------|
| Potash (K) feldspar              | 28.87         |
| Soda (Na) feldspar               | 25.34         |
| Lime (Ca) feldspar               | 5.57          |
| Micas                            | 5.21          |
| Free quartz                      | 34.24         |
| Other (tourmaline, garnet, etc.) | 0.71          |

This mineral calculation mathematically corrected the  $K_2O$  of the major oxide analysis to apportion part to the micas present and the balance to K feldspar. The average  $K_2O$  ascribed to the micas is 0.61% out of the averaged total of 5.49%  $K_2O$ . The remaining 4.88%  $K_2O$  is recalculated to 28.87% feldspar mineral in the pegmatite.

A total 'reserve' of 33.4 million tons containing 16 million tons of 'commercial spar' was calculated by Germain using all calculated feldspars. The resource is further detailed in section 15.

In 1959, Spar Mica provided information (Mowat) related to 41 inclined drill holes (59-1 to 59-38, 59-8a, 22a and 59-27a). All these holes are located on a prominent ridge extending north-east from the Spar Mica mill area. No report or drill logs are available for the program, however a series of drill sections on 50 foot spacings present an interpretation of ore, possible ore, non-ore (soda mica) and schist, interpreted from geology and major oxide chemistry. The sections place a base limit to the ore at 30 feet above sea-level where working quarry floors had already been established. Sections 100E, 150E, 200E and 250E report depths and chemical analysis data for holes 59-4 to 59-11, 59-14 to 22, 8a and 22a. All holes have been drilled to a hole depth of 50 to 60 feet.

Sections 050E (holes 59-1 to 59-3), 300E (59-23 to 59-27 and 27a) 350E (59-29 to 59-33) and 400E (59-34 to 59-38) are presented in plan but without geological section or analyses. Mowat identifies these as proposed on his drill plan. Some of the 1959 holes have been located in bedrock exposures on the ridge east of the East Mill Cut during the OTD site visit.

In 1960, Minaco Equipment Limited acquired the Johan Beetz Feldspar property from the bankruptcy receiver for Spar Mica.

In 1983 a marketing report (#90022) by I.M.D. Laboratories prepared for Minaco Equipment Limited. The report provides a good summary of the property and the metallurgical processes used. The report also describes feldspar markets at the time in some detail and suggests a suite of studies to improve the quality of mineral resources as well as operational and transport options.

In 1990, Stuart Lee provided a report to Canspar Resources Inc. (also called Ressources Canspar Inc. in later reports) ('Canspar') which introduces a new metallurgical study by I.M.D. Laboratories (#90221-1). The I.M.D. report describes flotation tests on potassium feldspar pegmatite samples taken from Pit No. 5 (see figure 3) located north of the mill site. The most important result of Lee's property visit according to the report was the recognition of the existence of an approximately five hundred foot wide zone of predominantly potassic feldspar pegmatite adjacent to Pit No. 5 and not the focus of the majority of product mined at the property. The I.M.D. study was done from "character samples" taken from this zone (samples 2522, 2523, 2524, 2525 and 2520). Results of Study 90221-1 are summarized in section 14.

In 1991, Canspar completed 15 inclined drill holes totalling 813 m. The holes were logged by Christian Derosiers and included in a larger 1993 study by Eric Hurtubise for Canspar. The holes are situated within and north and west the area of Spar Mica 1959 era drilling and north of the Spar Mica quarrying operations, extending further so as to cover more of Mining Concession 434. The 1991 drilling included a large area of the northern ridge from which selected samples were obtained for the previous I.M.D. study 90221-1. Other than the quarry faces, there is no evidence of historic sampling by Spar Mica in this part of the property except for Gemmell's samples. Holes were generally drilled to a depth approximating sea level.

All core intersecting pegmatite feldspar units was sampled and assigned sample numbers according to the logs. Hurtubise reports 175 samples were taken. These samples were subsequently combined to create 48 composite samples, 2 to 5 composites per drill hole. Unfortunately documents obtained for the property do not specifically describe which samples in each hole were composited. The composites were named by drill hole and by letter representing increased depth (91-) 1A, 1B, 1C, etc. 47 of these composites were then tested by whole rock analysis. The following results were obtained;

**Table 2: Summary of Whole Rock Analysis Major Oxides from Composites, Hurtubise 1993**

|                | SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | Fe <sub>2</sub> O <sub>3</sub> | Na <sub>2</sub> O | K <sub>2</sub> O | CaO  | MgO  | TiO <sub>2</sub> | MnO    | LOI  |
|----------------|------------------|--------------------------------|--------------------------------|-------------------|------------------|------|------|------------------|--------|------|
| <b>Average</b> | 74.85            | 14.36                          | 0.80                           | 3.40              | 4.83             | 0.83 | 0.19 | 0.11             | 0.02   | 0.63 |
| <b>Hi</b>      | 73.30            | 13.20                          | 0.10                           | 2.65              | 2.91             | 0.55 | 0.11 | 0.06             | < 0.01 | 0.35 |
| <b>Low</b>     | 76.00            | 15.10                          | 1.36                           | 4.41              | 5.33             | 2.02 | 0.31 | 0.20             | 0.04   | 1.43 |

Selected geochemical analyses from sampling by Spar Mica and Canspar are presented in Appendix III.

Also during this period numerous surface rock trenches were blasted on the ridge located NW of the mine and mill. Hurtubise indicates this trench material was not analysed. Trenches A through K were located in relation to available maps during the field visit for this Technical Report, as was Canspar drill hole 91-08.

In 1994, Canspar commissioned I.M.D. to conduct further testing of pegmatite feldspar ore from the Johan Beetz property. The work is detailed in I.M.D. report 90301-1. Stuart Lee instructed 2 drill core composites to be developed; one from holes (91-) 4 to 7 and the other from holes (91-) 11 to 15; representing two SE trending sections located approximately 170 m apart traversing the northern portion of Mining Lease #434 segment. Two large samples were taken from quarries #2 and #3, two of the main feed sources for the Spar Mica operation. The samples were processed in a series of flotation and magnetic separation tests. The report also mentions samples obtained from trenches excavated by Canspar had been submitted but no results are presented.

Conclusions from this report are described in section 14.

The last recorded work on the Johan Beetz property is a magnetic separation study completed by ErieZ of Pennsylvania in 1996. The tests were performed on two samples from Quarries #2 and #3. No preparation or sample sizes are mentioned.

Exploration in the Johan Beetz region outside of the Spar Mica / Canspar Mining Concession has principally focused on the uranium potential of the Lac Turgeon Intrusive Complex. Phases of exploration occurred from the late 1960s to the late 2000s. Exploration is keyed to the cycle of uranium pricing. In the 1970s the large scale search was mainly led by large energy companies using the recently developed Rossing Mine in Namibia as a geological model. Later exploration was undertaken by junior explorers whose work in the pegmatite fields of the LTIC in the 1980s took historic exploration data and applied it to the search for rare earth elements located within the same pegmatite formations. Once again in the 2000's a surging uranium price drove renewed exploration. Most resources identified were of low grade.

In April 2013, the government of Quebec announced a moratorium on uranium exploration and development, followed by a recommendation to ban mining in November 2015 after public consultation. At this time no ban has been enacted and the moratorium remains in place.

The closest reported uranium exploration work extended from the northern limit of CLM 434 north-easterly along the dominant pegmatite ridge 1.5 km north of the property. The area received radiometric surveying, trenching and diamond drilling. Assay results available report a range of trace to 300 ppm U.

A list of uranium exploration references for the Johan Beetz area available through the MERN SIGEOM data portal is included in Appendix IV

To the knowledge of the author no sampling for minerals other than for the evaluation of feldspars has been completed on the Johan Beetz property.

In 2013 Mining concession #434 was cancelled and the lands opened for staking.

## **8. GEOLOGICAL SETTINGS AND MINERALIZATION**

### **REGIONAL GEOLOGY**

Regional geology for the Johan Beetz area (Figure 7) is compiled from references obtained using the SIGEOM (Système d'information géominière du Québec) online application and other sources.

The Johan Beetz Feldspar property is located in the Eastern part of the Grenville Province at the south end of the Wakeham Supergroup. In Canada, the Grenville province extends from Lake Superior northeastwards for more than 2000 km along the North Shore of the St. Lawrence River to the coast of Labrador. It has long been considered an uraniumiferous geological province with several uranium showings and former producing deposits. In addition to base metals, it is also host to a wide range of specialty metals including iron, zinc, graphite and rare earths as well as high grade industrial minerals including lithium, mica, apatite, calcium carbonate and feldspar. Locally, the Wakeham Supergroup, includes the basal Aguanus Group, which is discordantly overlain by the Davy Group sedimentary rocks. The bottom of the Davy Group is varied in lithology, including sericite schists, quartz sandstones, black shales, conglomerates and some felsic volcanic rocks. The upper part of the Davy Group mainly consists of quartz sandstone and sandstone. These rocks are all underlain by gneiss bedrock of Middle Proterozoic Age.

The geology of the area between Baie-Johan-Beetz and Aguanish, located 50 km to the east, has been studied by Cooper (1957), Blais (1956) and Kish (1993). Avramtchev (1983) has also compiled the geology of the Côte-Nord area to a scale of 1:250,000. The region is composed of two distinct geological provinces; the western portion is underlain by the Wakeham terrane and the eastern portion by an older gneiss complex (figure 7). These two terranes are separated by the Caron Lake deformation zone,

which trends eastward near Johan Beetz then continues northward for a distance of at least 100 km. The two geological provinces show a very characteristic dome and basin pattern related to regional folding on aeromagnetic maps (maps 5128 G - Bay Pashashibou and 5129 G - Baie-Johan-Beetz, 1:63,360; map 7360 G - Havre-St-Pierre, 1:1,000,000).

The age of the volcanic rocks is 1271 MA (Loveridge, 1986) and a local quartz monzonite pluton has been dated to 1322 MA (Martignole et al., 1987).

Gabbro sills are hosted in the Aguanus and Davy Groups. Several late sub-circular plutons of post-tectonic biotite granite and quartz monzonite (one is dated at 993 my) intrude the Wakeham supergroup strata.

The lower part of the Aguanus Group is composed of arkoses, quartz sandstone, calcareous sandstone, feldspathic sandstone and rare intercalations of pelites and basalts (Martignole et al., 1992; Sharma, 1973). A great thickness of rhyolites and porphyry rhyodacites and some units of basalt overlie the sandstones. The volcanics are injected by intrusive granitic rocks and monzonitic and monzo-dioritic rocks. Study of trace elements shows that felsic volcanic rocks have a similar composition to the volcanic anorogenic peralkaline rocks (Bourne, 1986).

The Wakeham supergroup is sourced from bedrock erosion in a continental rifting zone. The Aguanus Group was the source of a part of detritus in the rocks of the Davy Group. The sedimentation environment was probably associated to a high fluvial-deltaic energy.

The gneiss complex underlying the Wakeham Terrane was affected by Grenvillian and older deformations. However, the deformation in the Wakeham is attributed exclusively to the Grenvillian orogenic cycle (about 1.16 - 0.97 Ga, Rivers and al, 1989). The Aguanus Group, at the bottom, has undergone two phases of deformation while the younger group of Davy rocks has been affected by a single phase. The large Caron Lake Deformation Zone on along the east limit of the territory includes rocks of the Davy Group (Gobeil and Clark, 1992). In the Wakeham terrane, greenschist-facies metamorphism is dominant, with the exception of a southern portion where amphibolite-facies is present.

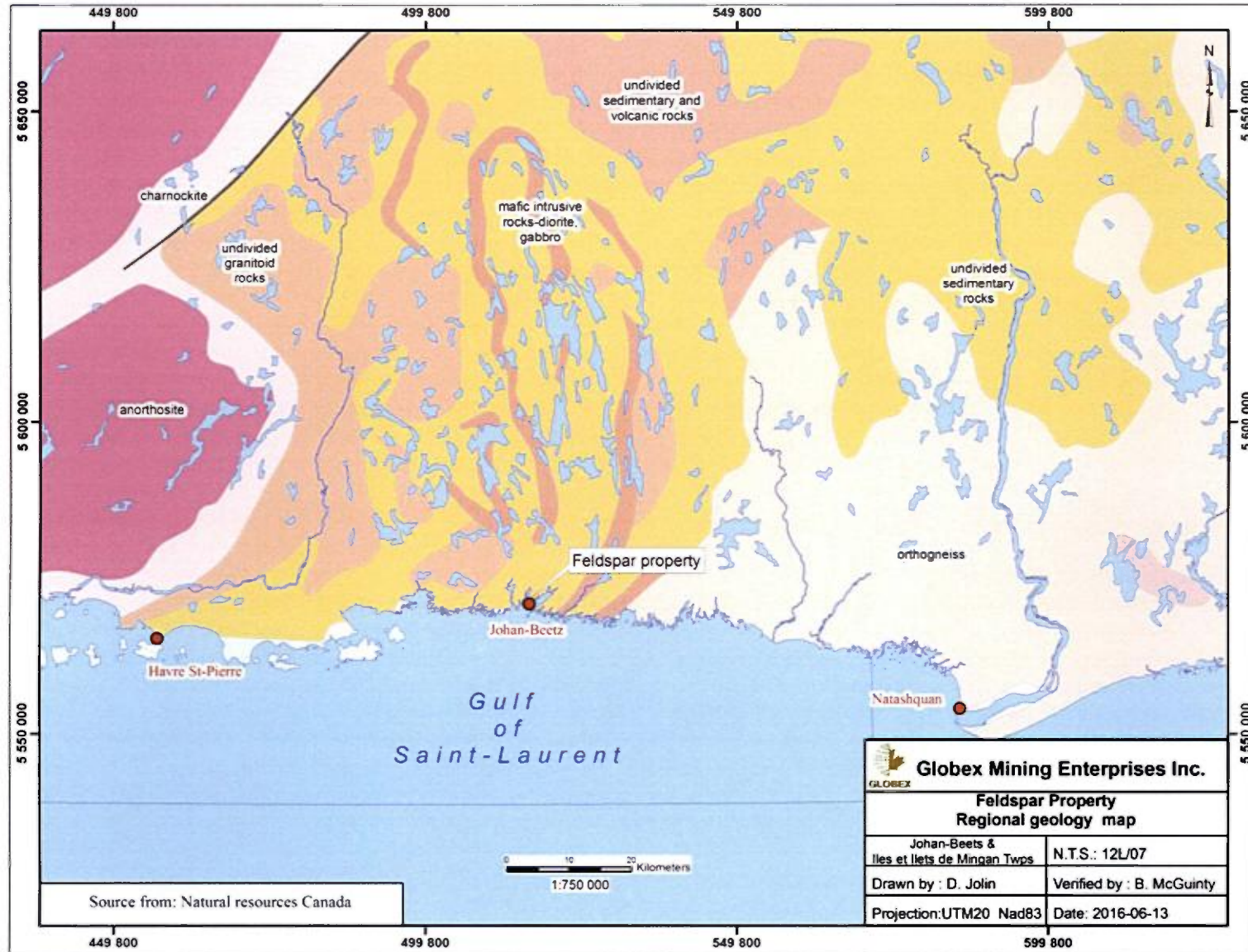


Figure 7: Regional Geology of North Shore near Johan Beetz, QC.

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## LOCAL GEOLOGY AND MINERALOGY

On the Johan Beetz Feldspar Property, the pegmatites corresponding to the Spar Mica deposit are related to the metamorphosed Lac Turgeon Intrusive Complex (LTIC) within the Wakeham terrane. The property is almost exclusively covered by a pegmatite assemblage intercalated with strongly foliated amphibolite, probably metamorphosed pelitic sediments. The pegmatite dykes show massive and coarse grained textures with feldspar (fsp), quartz (qtz) and both white and dark micas (muscovite and biotite) generally present. Locally, sub cm grain size units of fsp-qtz-mica can be seen. Variable white-beige-pink color in the pegmatites depends on the local sodium and/or potassium feldspar composition. Garnet is seen locally replacing biotite and small 5 – 10 cm sized radial tourmaline clusters are also observed.

The pegmatites are expressed as tall whale-back ridges with other more mafic metamorphic rocks found on the edges of the ridges and in valleys. On the western side of the property near trenches #4, #5 and #6 the pegmatites strike in a northerly (020°) direction while on the eastern side, the apparent strike is north-easterly (040°-060°). Apparent dips observed on contacts between schistose rock (as rafts and on major contacts) are sub-vertical. Micaceous quartzite, dark grey quartzite, mafic schist, quartz-biotite gneiss and biotite schist can be seen as small metre sized to multi metre sized interlayers within the pegmatites where mining has occurred as well as in larger areas between pegmatites. Mafic and pegmatite members are also cut by several gabbro sills.

Germain's report credits Hobby for the geological mapping of the property which he summarizes in his 1956 report:

*"Roughly ninety percent (90%) of the land area of the eight claims forming the object of the present report (note: the eight claims of the application for future Mining Concession #434) is underlain by pegmatites, the balance being quartzites of varying compositions. Consequently, the geology of the property is really confined to a description of the pegmatites.*

*The geology of those eight claims was determined in considerable detail by E. Hobby Jr. and C. Authier during the summer and fall of 1954 when all outcrops and other surface features were mapped and rocks classified. A glance at Map No. 1 (Germain report) attached hereto will show that outcrops are numerous and of fair size. Therefore, to the extent that rocks have been correctly classified, it is reasonable to assume that the extent of the pegmatite development on these claims has been correctly determined. This is considered of much importance for the working out of reliable estimates of ore reserves.*

*The pegmatites are apparently one solid mass as it was found to be continuous on east-west traverses and also throughout the length of diamond drill holes (1955) which were put down to within ten feet of sea level.*

*The exposed surface is in the form of large rolls and keels cut by many cooling fissures (jointing?) at right angle to the strike. Numerous contacts with the country rock are present showing an average dip of 50 to 60 degrees and strike of N40°E. The contacts on the east side of the pegmatites may be part of the*

*wall rock or they may be part of a large keep extending under the east arm of Quetachou Bay and appearing again in a red feldspar ridge forming the east shore of the bay."*

Germain further reports;

*"The pegmatites are composed of fine grained graphic granite, lenses of perthitic feldspar, quartz pods and stringers, muscovite and biotite mica, garnet and tourmaline. The graphic granite is unusually uniform both in grain size and areal extent. It is composed of a white perthite with microcline and a crystal-clear to milky quartz predominating. The crystal quartz appears to predominate but this may be due to the difficulties of recognizing the milky quartz with the white feldspar. The grain size of the quartz is from 1/64<sup>th</sup> to 1/8<sup>th</sup> inch in cross section. The graphic granite is found in all parts of the pegmatites and comprises 65%, by volume, of the mass."*

The shallow 50°-60° dips referred to by Germain are not supported by cross sections produced by Mowat for mine planning purposes in 1960, using the same drill holes. His interpretation generally arrays lithological contacts with sub-vertical dips.

No significant cross-cutting structures are seen in the pegmatite field. Valleys extending parallel to the main pegmatite ridges may contain N to ENE trending faults but most topographic effects are interpreted to be related fold pattern and differential weathering giving prominence of pegmatite relative to mafic schists and metasediments seen on ridge flanks and along the property shoreline.

Smaller shear offsets are seen in mafic metamorphic and metasedimentary rocks on the property. Color and the coarse grain size of much of the pegmatite make identification of similar shears in these difficult.

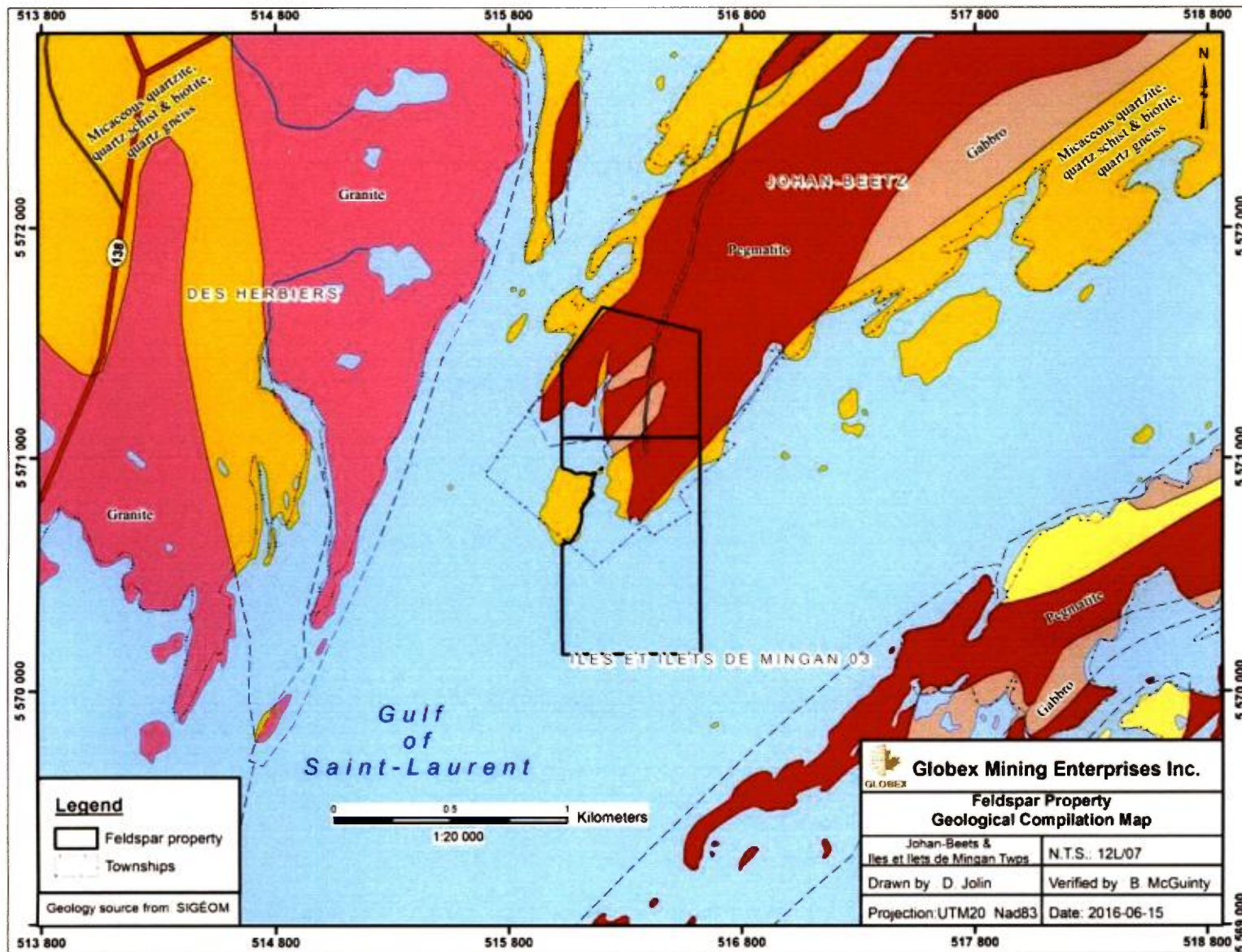


Figure 8: Johan Beetz Feldspar Property - Local Geology



Whale back ridge of pegmatite north of Canspar pit #6



Hanging raft of mafic schist in pegmatite – West wall of East Mill Cut (Canspar pit #2) (looking west)



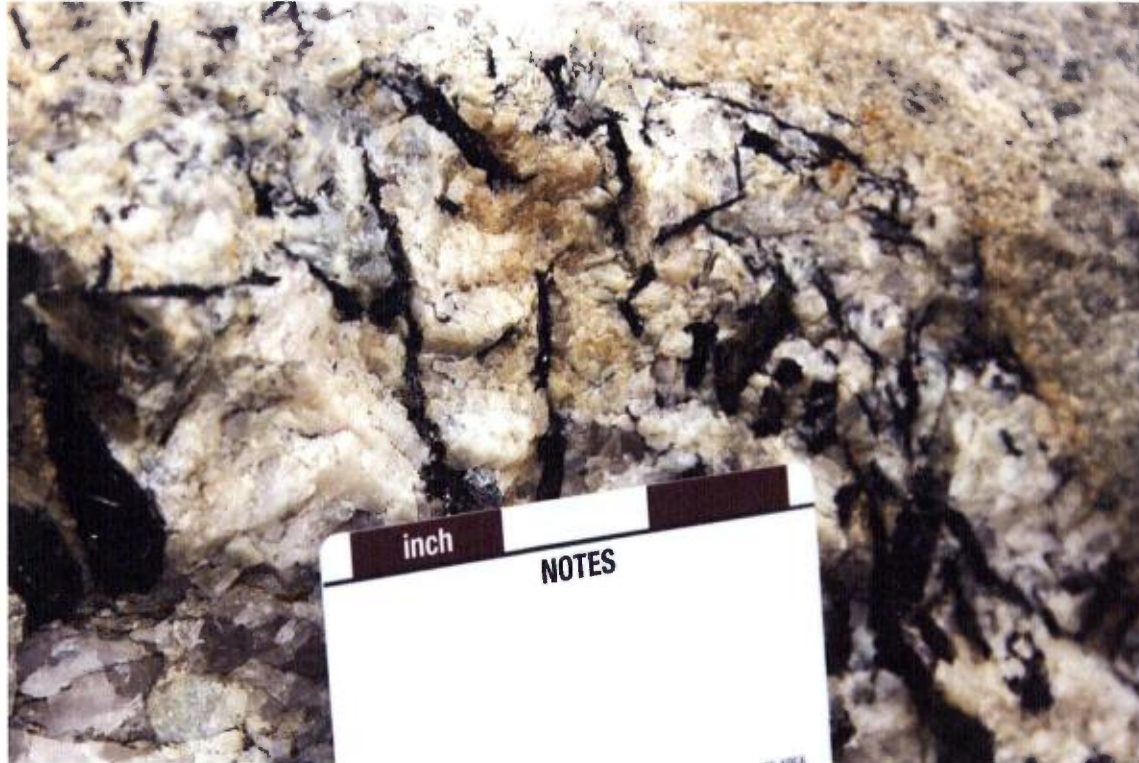
Pegmatite in West and North walls of a Spar Mica quarry (Canspar Pit #5) (looking north)



Example of 'fine grained pegmatite', East Mill Cut (Canspar pit #2) - grey sections contain biotite



Example of graphic granite (white feldspar and grey quartz) on ridge above Canspar Pit #6



Example of coarse biotite mineralization in pegmatite



Biotite distribution in white pegmatite above east end of Canspar Pit #2



Very coarse pink feldspar pegmatite (grey quartz) Canspar trench B



North trending left handed shear offset in meta-sediments near Johan Beetz docking facility

## 9. DEPOSIT TYPES

The Johan Beetz Feldspar deposit is a folded granite and pegmatite intrusive complex which extends to all limits of the property and for several kms beyond northern and eastern borders of the claims. It is the single source of high grade feldspar mineral on the property.

In general such deposits are not systematically qualified and modeled for exploration. The ability to move bulk material such as feldspar from a mine site to a refining or manufacturing site and the specific uses, marketing and transport to purchaser destinations creates selective evaluation for each deposit that is not related to its geology. Alkaline granites and pegmatites similar in mineralogy and genesis to the LTIC in which the Johan Beetz pegmatites are found occur throughout the extent of the Grenville Province. Few however appear to have the benefit of size and location that attracted initial developers to Baie Johan Beetz.

## 10. EXPLORATION

No exploration or technical evaluation has occurred on the Johan Beetz Feldspar since 1996. Globex and Walmer have not initiated exploration on the property but have compiled publicly available historic exploration reports and geological information.

A description of work undertaken on the property has been provided in section 7.

During the site visit for this report, 3 samples were taken Spar Mica's East Mill Cut (Canspar Pit #2) and 4 samples were taken from 1991 Canspar trenches. These samples were obtained by continuous chip sample from existing faces. Samples weighing approximately 2 kg per metre were obtained. It was not possible to select samples that were un-weathered. Sample locations were tagged with flagging tape and sample numbers written on the tape. Samples were bagged with a numbered sample tag and the sample number marked on the bag. Bags were tied, boxed and shipped by bus to OTD Exploration Services in Pickering and from there delivered to SGS Laboratories in Lakefield Ontario. All samples submitted to SGS were tested by whole Rock Analysis (WRA) to establish major oxide contents as used by Spar Mica and Canspar in their work. In addition, two of these samples, one from a white pegmatite (#15659) and one from a pink pegmatite (#15664) were tested by X-Ray Diffraction (XRD) to provide a semi-quantitative pegmatite mineralogy.

**Table 3: Summary of Samples Taken at Johan Beetz Feldspar Property in May 2016**

| Sample Number | UTM Zone 20 U |           | Description  |
|---------------|---------------|-----------|--|
|               | Northing      | Easting   |  |
| 15658         | Not taken     | Not taken | 1 kg sample of sand sized concentrate remaining in storage shed floor from Spar Mica operation, taken at 30 cm depth   |
| 15659         | 5570955       | 516459    | 2 m chip sample from west wall of East Mill Cut (Canspar pit #2) starting at northern contact of major schist unit and proceeding to small schist inlier - white fsp pegmatite with thin biotite books measuring up to 0.5 cm by 10 cm in aspect |
| 15660         | Not taken     | Not taken | 2 m chip sample from west wall of East Mill Cut located (Canspar pit #2) located 15 m north of sample 15659 along wall - white fsp pegmatite with thin biotite books up to 0.5 cm by 10 cm in aspect   |
| 15661         | 5570977       | 516495    | 1 m chip sample from east end of East Mill Cut mine heading (Canspar pit #2) - pale apple green to white fsp pegmatite with thin biotite books to 0.5 cm by 10 cm in aspect  |
| 15662         | Not taken     | Not taken | Canspar (CSP) Trench B - 1 m chip sample taken at southeast end of trench (position not taken by GPS) approx. 5 m from 15663. Coarse Grained pink fsp-qtz-bio+/-musc pegmatite. Located near drill hole CSP 91-08 collar                         |
| 15663         | 5571386       | 516293    | Canspar (CSP) Trench B - 2 m chip sample taken at northwest end of trench 5 m NW from sample 15662. Coarse grained pink fsp-qtz-bio+/-musc pegmatite   |
| 15664         | 5571354       | 516339    | Canspar (CSP) Trench H - 2 m chip sample taken at 3 m SE from northwest end of trench, Coarse grained pink fsp-qtz-bio+/-musc pegmatite  |
| 15665         | 5571353       | 516365    | Canspar (CSP) Trench I - 2 m chip sample taken at northwest end of trench. Coarse grained buff-pink fsp-qtz-bio+/-musc pegmatite   |

**Table 4: Summary of Whole Rock Analyses from Johan Beetz Feldspar Property Samples May 2016**

| Sample                                 | SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | Fe <sub>2</sub> O <sub>3</sub> | MgO  | CaO  | Na <sub>2</sub> O | K <sub>2</sub> O | TiO <sub>2</sub> | P <sub>2</sub> O <sub>5</sub> | MnO    | Cr <sub>2</sub> O <sub>3</sub> | V <sub>2</sub> O <sub>5</sub> | LOI  | Sum   |
|--|------------------|--------------------------------|--------------------------------|------|------|-------------------|------------------|------------------|-------------------------------|--------|--------------------------------|-------------------------------|------|-------|
| ID                                     | %                | %                              | %                              | %    | %    | %                 | %                | %                | %                             | %      | %                              | %                             | %    | %     |
| <b>OTD sampling 2016</b>               |                  |                                |                                |      |      |                   |                  |                  |                               |        |                                |                               |      |       |
| 15658                                  | 68.6             | 17.4                           | 0.11                           | 0.06 | 1.05 | 5.18              | 6.03             | < 0.01           | 0.05                          | < 0.01 | 0.03                           | < 0.01                        | 0.58 | 99.1  |
| 15659                                  | 71.1             | 15.7                           | 1.05                           | 0.29 | 0.97 | 4.49              | 5.26             | 0.1              | 0.05                          | 0.01   | 0.02                           | < 0.01                        | 1.09 | 100.2 |
| 15660                                  | 76.1             | 13.1                           | 0.63                           | 0.14 | 0.61 | 3.08              | 5.9              | 0.08             | 0.05                          | < 0.01 | 0.02                           | < 0.01                        | 0.6  | 100.3 |
| 15661                                  | 75.8             | 13.2                           | 0.56                           | 0.14 | 0.79 | 3.7               | 4.66             | 0.07             | 0.04                          | < 0.01 | 0.01                           | < 0.01                        | 0.66 | 99.6  |
| 15662                                  | 76.3             | 14.1                           | 0.51                           | 0.14 | 0.93 | 4.02              | 3.3              | 0.07             | 0.05                          | < 0.01 | < 0.01                         | < 0.01                        | 0.8  | 100.1 |
| 15663                                  | 73.2             | 15.3                           | 0.75                           | 0.22 | 0.96 | 4.03              | 4.47             | 0.08             | 0.05                          | < 0.01 | < 0.01                         | < 0.01                        | 0.85 | 99.9  |
| 15664                                  | 74.2             | 14.7                           | 0.49                           | 0.17 | 0.59 | 3.25              | 5.93             | 0.05             | 0.07                          | 0.01   | < 0.01                         | < 0.01                        | 0.71 | 100.2 |
| 15665                                  | 73.4             | 15.2                           | 0.51                           | 0.18 | 0.62 | 3.4               | 5.49             | 0.04             | 0.05                          | 0.03   | < 0.01                         | < 0.01                        | 0.9  | 99.8  |
| <b>Average</b>                         | 74.30            | 14.47                          | 0.64                           | 0.18 | 0.78 | 3.71              | 5.00             | 0.07             | 0.05                          | 0.02   | <0.02                          | <0.01                         | 0.80 | 100.0 |
| <b>Canspar Drill Composites 1993</b>   |                  |                                |                                |      |      |                   |                  |                  |                               |        |                                |                               |      |       |
| <b>Average</b>                         | 74.85            | 14.36                          | 0.80                           | 0.19 | 0.83 | 3.40              | 4.83             | 0.11             | -                             | 0.02   | -                              | -                             | 0.63 | -     |
| <b>Spar Mica Drill Composites 1956</b> |                  |                                |                                |      |      |                   |                  |                  |                               |        |                                |                               |      |       |
|  | 75.06            | 14.75                          | 0.35                           |      | 1.12 | 2.99              | 5.49             |                  |                               |        |                                |                               |      |       |

Table 4 presents results obtained from analysis of 8 samples taken from the Johan Beetz site in May, 2016. High and low major oxide values for each rock sample are outlined in yellow and green respectively, compared to averages in grey and a sample of concentrate remaining in the shipping area in rose. Observations from the field would indicate that potassium content in rock samples does not have a visible color equivalent. Often pink feldspars are believed to be K<sub>2</sub>O rich but samples taken from the northwest ridge of the property which had greater visible pink feldspar composition do not report higher overall K<sub>2</sub>O content than samples from the historic mine areas that are white.

Comparing the limited results from rock outcrops to the average and the concentrate sample #15658 indicates that processing at the Spar Mica concentration plant was effective in concentrating feldspar product and reducing silica. Similar reductions in iron and magnesium would indicate that a considerable degree of mica sequestration to tailings was also completed by the process. Remaining MgO and F<sub>2</sub>O<sub>3</sub> may be related to continued presence of mica or tourmaline in the concentrate.

Limited extraneous or deleterious mineral and elemental material is identified through whole rock analysis. Those measured; TiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, MnO, Cr<sub>2</sub>O<sub>3</sub>, V<sub>2</sub>O<sub>5</sub> are generally used to recalculate mineral assemblages from oxides particularly high iron minerals. In this case very low values indicate the absence of minerals in which these elements are found which is corroborated by the absence of such minerals in hand sample and outcrop.

Major potassium, sodium and other oxide values for the samples taken from mine and adjacent areas compare well with historic values recorded by Spar Mica and Canspar (see Appendix III)

Table 5 presents the mineralogy obtained from XRD from two samples which were also submitted for WRA. Sample 15659 is located in the area of Pit #2 where the Spar Mica operation drew ore for processing, while Sample 15664 is located on the ridge above Pit #5 to the north of the Spar Mica plant. The results indicate that quartz and mica contents are lower in the zone mined by Spar Mica. This does not indicate that a future feldspar concentrate would be less pure or marketable from the zone where sample 15664 was taken, simply that more mineral separation would be required and more tailings material would be produced.

Table 5: Results of XRD analysis from Johan Beetz Feldspar Property Samples, May 2016

| Semi-Quantitative X-ray Diffraction Results |        |        |
|---|--------|--------|
| Mineral                                     | 15659  | 15664  |
|   | (wt %) | (wt %) |
| Quartz                                      | 23.9   | 34.3   |
| Microcline (K fsp proxy)                    | 24.3   | 24.4   |
| Albite (Na fsp proxy)                       | 37.4   | 23.9   |
| Muscovite (mica proxy)                      | 6.5    | 10.8   |
| Anorthite (Ca fsp proxy)                    | 3.1    | 3.7    |
| Illite (mica proxy)                         | 2.0    | 1.9    |
| Diopside *                                  | 1.0    | 0.8    |
| Chamosite *                                 | 1.0    | 0.3    |
| Actinolite *                                | 0.9    | -      |
| TOTAL                                       | 100    | 100    |

\* proxy for Fe-, Mg- minerals ex: garnet, tourmaline seen in samples

XRD analysis reporting provides a reconstitution of the mineral assemblage from X-ray analysis based on a set of combination criteria. If used as a tool for mineral identification in metallurgical studies, it is recommended that mineral identification by microscopy be done in parallel to help distinguish specific mineral types such as muscovite and biotite. The combination criteria can be set within certain limits to improve how minerals are identified by the algorithm. A similar check should be used if extensive analysis by QEMSCAN is considered since the identification depends on establishing a mineral reference library.

## 11. DRILLING

Walmer and Globex have not completed drilling at Johan Beetz. Three phases of drilling have been completed historically; in 1955 and 1959 by Spar Mica and in 1991 by Canspar Resources. No core samples from these programs were seen to remain at the property.

Recorded information for the 1955 program seems to indicate Spar Mica was looking to evaluate both initial production and the potential of the future Mining Concession #434. 12 drill holes on tight grids appear in the traces of quarries #1 and #3, while 10 additional holes appear on two SE trending sections located 700 to 1200 feet NE of the mine site. Quarry #1 and #3 locations do not show evidence that detailed sampling guided their selection. There is no recorded sampling information suggesting alternate sites were considered. Initial selection seems to have been in part pragmatic. Drill holes 55-1 to 55-6 being located in the pegmatite ridge that would have blocked the transfer of material from the mill to the dock. Drill holes 55-17 to 55-22 were drilled in the future location East Mill Cut of Pit #2. Four other quarry sites were opened with no recorded drilling.

All reported drilling in 1959 targeted near term production, defining volumes of feldspar rich pegmatite material for near term processing from quarry #2. Although major oxides are reported for 1959 drill samples the selection of the drilled area appears to be pragmatic, building from available access.

Drilling in 1991 by Canspar was 'regional' in scope. Drilling was mostly distributed on two SE trending sections spaced between the two distal 1959 sections. These sections extend further NW than the 1959

sections, covering an area of coarse pink feldspar pegmatite. Canspar was building a global resource for the property and used whole rock analysis from the 1959 and 1991 core samples. Canspar selected a possible mining volume bounded by the Johan Beetz access road on the west, the pegmatite ridge edge above the St. Lawrence coast on the east and the northern Mining Concession #434 boundary. The proposed 'mining block' was estimated to contain "11 Million tonnes at 60% recovered feldspar" with  $K_2O$  and  $Na_2O$  concentrations of 5.35% and 3.11% respectively.

During the site visit for this report, one hole from the 1991 Canspar campaign (CSP 91-08) was located. Several inclined drill holes from the 1959 campaign were located but not identified by hole number due to changes to the mine face since they were drilled. Further mapping will properly identify these holes.

## **12. SAMPLE PREPARATION, ANALYSIS AND SECURITY**

No sample preparation or analytical information is available for the treatment of Spar Mica drill core or surface samples. Early estimates were completed by visual estimate and later results are reported by major oxide chemistry. Canspar refers to core being logged and split with sections selected and composited. No description of the sample analysis for this material conducted by I.M.D. Laboratories is provided.

## **13. DATA VERIFICATION**

No Quality Control or Quality Assurance (QA/QC) programs or information for the historic Spar Mica or Canspar evaluations of the Johan Beetz Feldspar property have been obtained from sources identified by the author.

The author has not imposed a QA/QC program on the limited sample suite provided to SGS in June 2016. QA/QC protocols for this deposit would require close work with the laboratory to determine appropriate measures for this type of deposit since mineral aspect and separation are as important as the concentration of Na and K in feldspars.

Sample preparation and analytical procedures used in the analysis of the samples acquired during the OTD site visit in May 2106 is outlined in Appendix II.

An insufficient number of samples were taken on the site visit to develop a reasonable sample standard for insertion.

## **14. MINERAL PROCESSING AND METALLURGICAL TESTING**

Feldspar consists essentially of aluminum silicates combined with varying percentages of potassium, sodium and calcium and it is the most abundant mineral of igneous rocks. The two types of feldspar that are important components of mineralization on the property are found in concentrations of sodic (Na) feldspar (3-4%  $Na_2O$ ) and potassic (K) feldspar (4-8%  $K_2O$ ) within the property's pegmatite host

rock. The historic purpose of exploration, mining and milling operations at the property was to concentrate these minerals to suit appropriate market requirements.

Potassic feldspar is the more valuable mineral and commands a premium in the ceramic, white ware and glaze industries. In 2013, CRA, a consultancy, categorized true K-spar at >10% K<sub>2</sub>O with the U.S market consuming approximately 215,000 tonnes per annum (mtpa) growing to 250,000 mtpa by 2020, virtually all from domestic production concentrated in North Carolina and Georgia. Prices were reported to be about \$190/t in 2012, ranging from \$80 to \$450 depending on grade and fineness of the concentrate.

The Johan Beetz Feldspar deposit consists of coarse pegmatites varying from pink potassic feldspars in the western portion to finer white sodic feldspars in the eastern part with buff colored mixed feldspar in the central part. Micas and minor minerals account for 1 – 5% of the pegmatite and quartz from 20 – 30% with feldspar making up the remainder.

Globex and Walmer have performed no mineral processing or metallurgical testing of feldspar mineralization from the Johan Beetz Feldspar Property.

Metallurgical testing was performed by both Spar Mica and Canspar to evaluate beneficiation options for the pegmatite. In 1954, E. N. Hobby describes a range of tests done on a bulk sample of material from a location near the future site of Pit #2. Part of the sample was sent for flotation tests to a facility in Keene, New Hampshire. A second portion was sent to Exalon Corp. in Buffalo, New York for electrostatic tests. Electrostatic processing was used by Spar for the removal of mica and iron bearing minerals from ore.

Hobby's report is excerpted below:

*“(Because there was no overburden over the deposit and no kaolin visible in the outcrops of pegmatite)...tests 1 and 2 were carried out with the de-sliming step eliminated in hopes of a much better recovery of feldspar. The results show that “de sliming” is necessary. Loss of feldspar here can be controlled to some extent in the grinding circuit.*

*There is a different combination of reagents used in each circuit and in order to obtain best results, it is necessary to dewater between circuits. This dewatering causes a further slime loss in addition to the slimes lost in the natural de-sliming operation.*

*Test No1        No de-sliming. Mica and iron flotation was combined. Conditioning time 3 minutes for mica and iron and 3 minutes for feldspar. The feldspar recovery was 42.4% but was contaminated with much iron and mica.*

*Test No 2        No de-sliming. There were three separate flotation steps: Mica, iron and feldspar. Conditioning time was 3 minutes before each flotation step. Separations were poor. The feldspar recovery 32.4% and showed much iron and mica.*

*Test No 3        De-slimed. Mica and iron flotation were combined. 3 minutes conditioning for mica and iron also for feldspar. The feldspar recovery was 45.6% and showed much iron and mica.*

*Test No 4        De-slimed. Mica and iron flotation were combined: 30 minute conditioning for mica and iron and 10 minute conditioning for feldspar. Feldspar recovery 46.6% and showed much iron and mica.*

- Test No 5 De-slimed. Three flotation steps: 10 minute conditioning for mica, 30 minute conditioning for iron, 10 minute conditioning for feldspar. The feldspar recovery was 38.4%. This was a much cleaner concentrate and the separations in all flotation steps were much improved.*
- Test No 6 De-slimed. Mica and iron flotation steps were combined: 10 minute conditioning for feldspar. The first flotation step in this test was set to recover mica to see if the iron would not come with the mica concentrate. It was not successful. Much iron showed in the feldspar concentrate. Feldspar recovery was 34.6%.*
- Test No 7 De-slimed. Three flotation steps: 10 minute conditioning for mica, 20 minute conditioning for iron and 10 minute conditioning for feldspar. Very good separation in all flotation steps and a clean feldspar concentrate. Feldspar recovery (was) 39.8%.*

#### Remarks

- Without de-sliming the reagent consumption was about four times greater than with de-sliming.*
- A conditioning time of less than 10 minutes on mica or less than 20 minutes on iron results in a very poor separation of these minerals. Test No 7 gave the best results.*
- The equipment used in the laboratory to reduce the crushed sample to 20 mesh is apt to produce more slimes than a production unit. It is, therefore, reasonable to expect a slightly higher recovery than these tests show. However, it should be pointed out that test No 7, showing a recovery of 39.8% is on a par with results in operating feldspar mills in North Carolina.*
- In all of these tests, the feldspar concentrate and the firing tests were grey in color. A comparison test was run on a Colony Mine sample and it too was grey. We are making tests to determine the cause of this discoloration.*

*The firing test showed this feldspar to be softer than our Colony hand cobbled feldspar and slightly harder than colony flotation feldspar. The fired sample was grey and speckled probably because of the high iron (0.182)."*

Hobby does not discuss the results of electrostatic testing from this sample and the report by Germain in 1956 presumes Fe and mica components of the pegmatite will be separable from the pegmatite ore during processing.

Although the relative advantages are not reported, the Spar Mica operation eventually chose electrostatic separation over flotation as shown in a flow sheet from a 1957 report by Paul Bourret (see section 18). The decision may have been made based on higher concentrate quality or it may have influenced by the economics of managing flotation processing at the site.

**Table 6: Summary of Flotation Tests from Hobby 1954**

| Test No               | 1    | 2    | 3    | 4    | 5    | 6    | 7    |
|-----------------------|------|------|------|------|------|------|------|
| Slimes                | -    | -    | 9.0  | 7.0  | 8.6  | 9.4  | 8.8  |
| Conditioning Time     | -    | 3    | -    | -    | 10   | 10   | 10   |
| Mica                  | -    | 14.6 | -    | -    | 8.6  | 17.6 | 8.6  |
| Conditioning Time     | 3    | 3    | 3    | 30   | 30   | -    | 20   |
| Iron                  | 17.4 | 4.4  | 8.6  | 3.4  | 3.2  | -    | 2.4  |
| Conditioning Time     | 3    | 3    | 3    | 10   | 10   | 10   | 10   |
| Spar                  | 42.4 | 32.4 | 45.6 | 46.6 | 38.4 | 34.6 | 39.8 |
| Quartz                | 26.0 | 22.0 | 21.0 | 24.4 | 24.8 | 22.4 | 22.4 |
| Dewatering Slime Loss | 14.2 | 26.6 | 15.8 | 18.6 | 16.4 | 16.0 | 18.0 |

**Table 7: Analysis of Johan Beetz Pegmatite Ore from Hobby 1954**

|  | Crude   | Hand Cobbed | Flotation test no. 7 |
|--|---------|-------------|----------------------|
| Silica (SiO <sub>2</sub> )                   | 74.32   | 74.00       | 65.60                |
| Alumina (Al <sub>2</sub> O <sub>3</sub> )    | 14.27   | 13.89       | 18.40                |
| Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> ) | 0.139   | 0.108       | 0.182                |
| Calcium (CaO)                                | 0.575   | 0.60        | 1.275                |
| Potassium (K <sub>2</sub> O)                 | 7.01    | 7.50        | 9.02                 |
| Sodium (Na <sub>2</sub> O)                   | 3.23    | 3.60        | 3.10                 |
| Loss on ignition                             | 0.419   | 0.413       | 0.64                 |
| Combined Alkalines                           | 10.815  | 11.70       | 14.12                |
| Total  | 100.444 | 100.111     | 100.217              |

Two metallurgical test programs were conducted by I.M.D. Laboratories for Canspar Resources in 1989 (#90221-1) and 1994 (#90310-1). Both test programs were designed to assess feldspar and mica separation and recovery. Tests were conducted on core samples. During the course of the tests it was noted that the core samples as composited reported higher than acceptable iron content which make feldspar concentrates undesirable for glass manufacture. It was noted that more selectivity in identifying high iron zones would be required in mining feldspar ore.

Excerpts from the conclusions of these reports are cited below:

**IMD Project 90221, Report #90221-1 (October, 1989) - Flotation Tests on a Sample of Feldspar Ore and Recovery of Muscovite Mica**

In this series of initial separation tests on Johan Beetz feldspar mineralization, several process iterations were undertaken which informed the design of each subsequent test. The final flotation test of the series, #4, was conducted on magnetically-separated ore, without pre-treatment for removal of mica. The procedure for test #4 is summarized as follows;

- Grinding was performed to a sizing consistent with flotation separation,
- A de-sliming stage was performed to remove minus 200 mesh fines,
- The de-slimed pulp was conditioned for 10 minutes with the pH adjusted to 2.5 using dilute sulphuric acid and an amine collector was added,
- Mica was floated in a rougher stage but not cleaned,

- The mica tailings were further conditioned for 5 minutes at pH 2.0 with 2.0 lb/t hydrofluoric acid addition, 1.0 lb/t amine and 0.3 lb/t of fuel oil as an auxiliary collector,
- A rougher and scavenger bulk concentrate were collected and cleaned in one stage to yield a high grade feldspar concentrate and a mixed feldspar/quartz cleaner tailing (this latter would normally be recycled to the rougher float in a plant environment);

Some observations from Test #4 included;

Only 1.5% of the total feldspar was contained in the scavenger tailing;

The weight distribution of test products was;

|                        |       |
|------------------------|-------|
| -200 mesh slimes -     | 10.5% |
| Mica concentrate -     | 1.6%  |
| Cleaner tails -        | 3.4%  |
| Feldspar Concentrate - | 63.9% |
| Scavenger tails -      | 20.6% |

The feldspar concentrate at 10.5% K<sub>2</sub>O, 0.07% Fe<sub>2</sub>O<sub>3</sub> content was judged to be very clean.

No analysis of the slime fraction was undertaken but an overall feldspar recovery of well over 90% appeared likely.

Conclusions from this report focus on the positive results of test #4 as quoted below;

*"Based on Test #4 (of 4 tests in Project 90221) it is evident that a high quality feldspar product can be produced from the submitted sample. The approach taken in Test #4 resulted in good separation efficiencies and product quality.*

*Further work to optimize the process is required. This should include additional work on mica extraction and separation of potassium and sodium feldspar"*

#### **IMD Project 90310, Report 90310-1 (May, 1994) - Processing of Crude Feldspar Ore from Existing Quarries and Diamond Drilling**

*A similar suite of tests to those conducted in I.M.D. project 90221 were complete in this study. Conclusions from this report are quoted below;*

*"Based on testwork conducted on magnetic separation and flotation the following conclusions can be made.*

*Quarry samples # 2 & 3 are of slightly higher grade than the composites prepared from drill cores. Quarry samples can be readily processed at either 20 x 150 mesh or 30 x 150 mesh by one medium and one high intensity pass over an induced roll high intensity magnetic separator.*

*The composites prepared from drill holes 4, 5, 6 and 7 and drill holes 11, 12, 13, 14 and 15 can be processed using three passes over the magnetic separator with two passes at high intensity. Only products (at -) 30 x 150 mesh have a sufficiently low iron content. Material made (at up to -) 20 x 150 generally produced products with too high an iron content.*

*Quarry and drill core samples can be processed (for feldspar) by froth flotation, with the standard hydrofluoric acid process, to a good quality feldspar at high recovery. For the quarry samples it is possible to float at 20 x 150 mesh.*

*Recovery is somewhat lower but grade is satisfactory. Drill core samples can also be floated by the same process to a higher grade feldspar content but with higher iron content. Only the -30 x 150 material can achieve the iron specification, but is marginal. The 20 x 150 mesh-floated products are too high in iron for clear glass production.*

*Initial results using a new type of reagent that eliminates the use of hydrofluoric acid are encouraging and should be followed up with more testing. Product grade was slightly lower from these initial tests. Recovery was 5 - 10% lower than with the hydrofluoric acid system. From an environmental point of view it is desirable to use the hydrofluoric acid free process even if recovery is lower. This comment applies only if it was decided to build and operate a flotation plant."*

In 1996, Canspar commissioned a study by Eriez Magnetics of Erie, Pennsylvania to assess a magnetic separation cleaning as a stage of feldspar processing. Samples from Quarries #2 and #3 were tested using a Rare Earth (RE) Roll separator at three feed rates; 100, 200, and 300 lbs./in./hr at a single drum speed at 120 feet per minute (FPM). A triple pass flowsheet was used to determine the maximum purification of the product.

The tests concluded that Magnetic minerals were removed from each sample. No details as to the degree of effectiveness or mineralogy of the magnetic separate were provided. ErieZ observed that best separation was obtained at lower feed rates.

## **15. MINERAL RESOURCE ESTIMATES**

There are no current Resources and Reserves estimated on Johan Beetz Feldspar Property. Historic resource and resource estimates by various authors (Hobby 1954, Germain 1956 and Hurtubise 1993) were not prepared by a qualified person as defined National Instrument 43-101 under Canadian Institute of Mining Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves. These historic resources should not be relied upon.

Hobby in 1954 estimated 19,400,000 tons of 'ore' with a range of 40% to 60% feldspar although no rationale for the estimate was provided.

Similarly, Hurtubise in 1993 refers to a 'reserve' of 13,650,000 tonnes but offers no estimate calculation or metallurgical parameters information source in support.

The most detailed estimate is by Germain in 1956 building on previous work by Hobby and Gemmell.

Germain calculated 'Commercial Spar' available on the Mining Concession volumetrically and applies the following factors to the gross tonnages estimated;

waste (10%); feldspar recovery (80%); and feldspar content (60%) based on major oxide ratios adjusted for K<sub>2</sub>O in mica) He subsequently allows for a 10% dilution by quartz.

Germain derives his (60%) feldspar content from whole rock analyses of the 1955 drill holes. The whole rock analyses are reported as a composite for each of the holes used (55-7 to 55-22). Each alkali oxide; CaO, K<sub>2</sub>O, Na<sub>2</sub>O is averaged. The average K<sub>2</sub>O is adjusted for K<sub>2</sub>O reporting to mica and all oxides are recalculated to feldspar giving a total feldspar content in pegmatite of 59.78%. Waste rock in the

measured volume is calculated by excluding drilled sections not in pegmatite and applying this factor to undrilled zones being calculated. Feldspar recovery appears to be assumed.

He does not apply different factors to address the reliability of the three types of pegmatite volumes computed in his estimate. The resource volume calculation is as follows;

$$\begin{aligned}
 \text{Gross tons X reduction for waste X feldspar recovery X feldspar content} &= \text{Tons X 0.9 X 0.8 X 0.6} \\
 \text{[total ore less] Quartz contamination (10\% SiO}_2\text{)} &= 0.9 \\
 \frac{33,399,339 \text{ tons X 0.9 X 0.8 X 0.6}}{0.9} &= 16,031,683 \text{ tons}
 \end{aligned}$$

**Table 8: Ore Estimates (Gross Tonnages) – Computation by Germain 1956**

| (1)<br>Location  | (2)<br>Elev'n Above<br>M.S. Level | (3)<br>Area (Sq. Ft.) | (4)<br>Thickness<br>(Ft.) | (5)<br>Volume<br>(3) x (4) | (6)<br>Tonnage *<br>(5) ÷ 12 |
|--|-----------------------------------|-----------------------|---------------------------|----------------------------|------------------------------|
| <b>1 – INDICATED BY DIAMOND DRILLING</b>                                     |                                   |                       |                           |                            |                              |
| Block "A" See<br>Map   | 40'                               | 1,458,000             | 40                        | 58,320,000                 | 4,860,000 tons               |
|  | 50'                               | 1,363,600             | 10                        | 13,636,000                 | 1,136,333 tons               |
|  | 60'                               | 1,276,400             | 10                        | 12,764,000                 | 1,063,667 tons               |
|  | 70'                               | 1,014,800             | 10                        | 10,148,000                 | 845,666 tons                 |
|  | 80'                               | 558,400               | 10                        | 5,584,000                  | 465,334 tons                 |
|  | 90'                               | 211,600               | 10                        | 2,116,000                  | 176,334 tons                 |
| Gross Tonnage Indicated by D.D. Down to Mean Sea Level                       |                                   |                       |                           |                            | <b>8,547,334 tons</b>        |
| <b>2 – PROBABLE ORE (Based on outcrops and their geological correlation)</b> |                                   |                       |                           |                            |                              |
| Cl. 71918-1  | 70'                               | 244,400               | 70                        | 17,108,000                 | 1,425,666 tons               |
|  | 100'                              | 360,800               | 100                       | 36,080,000                 | 3,006,667 tons               |
| Cl. 71918-2  | 60'                               | 222,000               | 60                        | 13,320,000                 | 1,110,000 tons               |
|  | 90'                               | 250,800               | 90                        | 22,572,000                 | 1,881,000 tons               |
| Cl. 71918-3  | 90'                               | 416,000               | 90                        | 37,440,000                 | 3,120,000 tons               |
| Cl. 71918-4  | 50'                               | 1,197,200             | 50                        | 59,860,000                 | 4,988,334 tons               |
|  | 70'                               | 906,400               | 20                        | 18,128,000                 | 1,510,667 tons               |
|  | 90'                               | 484,400               | 20                        | 9,688,000                  | 807,333 tons                 |
| Cl. 71918-5  | 30'                               | 232,400               | 30                        | 8,472,000                  | 706,000 tons                 |
| Cl. 71919-2  | 40'                               | 238,800               | 40                        | 9,552,000                  | 796,000 tons                 |
|  | 50'                               | 214,400               | 50                        | 10,720,000                 | 893,334 tons                 |
| <b>Total Probable Ore</b>  |                                   |                       |                           |                            | <b>20,245,005 tons</b>       |
| <b>3 – POSSIBLE ORE (Unmapped areas based on geological inferences)</b>      |                                   |                       |                           |                            |                              |
| Cl. 71918-1  | 30'                               | 376,000               | 30                        | 11,280,000                 | 940,000 tons                 |
| Cl. 71918-2  | 30'                               | 1,160,800             | 30                        | 34,824,000                 | 2,902,000 tons               |
| Cl. 71918-3  | 30'                               | 108,800               | 30                        | 3,264,000                  | 272,000 tons                 |
| Cl. 113851-1   | 30'                               | 197,200               | 30                        | 5,916,000                  | 493,000 tons                 |
| * based on 12 cu. ft. per ton of ore in place                                |                                   |                       |                           | <b>Total Possible Ore</b>  | <b>4,607,000 tons</b>        |
| <b>Summary</b>   |                                   |                       |                           |                            |                              |
| Indicated by Diamond Drilling  |                                   |                       |                           |                            | 8,547,334 tons               |
| Probable Ore   |                                   |                       |                           |                            | 20,245,005 tons              |
| Possible Ore   |                                   |                       |                           |                            | 4,607,000 tons               |
| <b>Total Ore Reserves from Surface to Sea Level</b>                          |                                   |                       |                           |                            | <b>33,399,339 tons</b>       |

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**16. MINERAL RESERVE ESTIMATES**

No reserves have been estimated on the Johan Beetz property.

**17. MINING METHODS**

No mining methods have been considered by Globex or Walmer. Previous mining at the Property has been by quarrying with pit faces reaching up to 10 m in what appears to be a single bench. Pit floors are generally equal in elevation or above the nearest haul route. Former haul routes all move down to the former milling complex if located north mill or from Pit #2 down to the shore line and then to the mill via the docking facility.

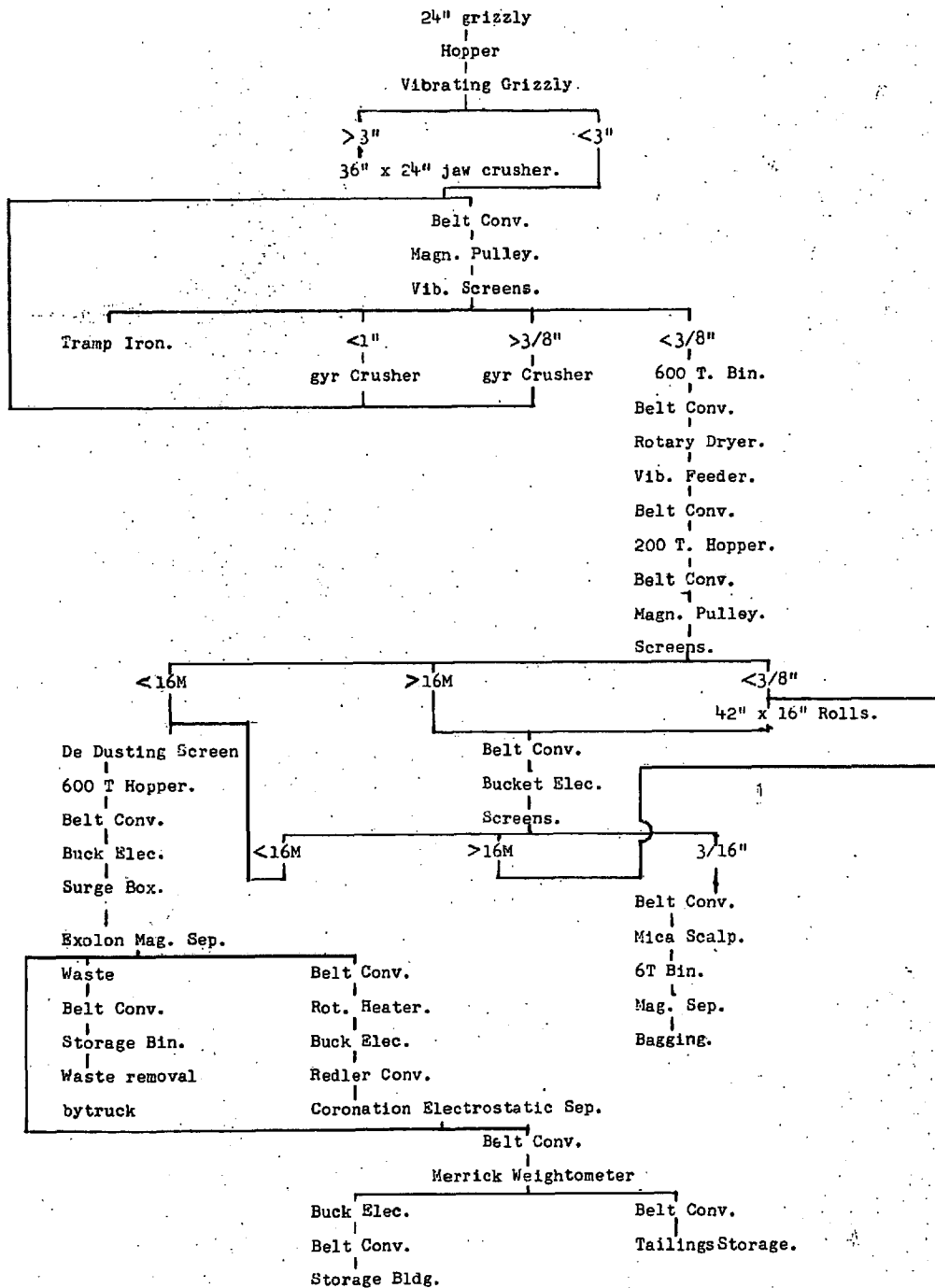
Unused blast holes seen above pit faces have a 2 m by 2 m spacing.

**18. RECOVERY METHODS**

No recovery methods have been tested by Globex and Walmer. Traditional beneficiation of feldspar ores, flotation, magnetic and electrostatic separations have been tested by previous owners of the property with the latest in 1996 as described in section 14. The previous Spar Mica operation had tested all these separation process technologies as they existed at the time and selected an electromagnetic and electrostatic milling process for the mine. The circuit is presented in Figure 9 as per Bourret, 1957

SPAR MICA CORPORATION LIMITED

CAPE FELDSPAR MILL FLOW-SHEET.



Compiled by P.E. Bourret from plan submitted  
by C.D. Howe Consulting Engineering, Montreal.

Figure 9: Compiled flow sheet for Cape Feldspar from Paul Bourret 1957.

## 19. PROJECT INFRASTRUCTURE

No infrastructure has been developed for the current property although it benefits from road and tide water access developed by previous operators as well as proximity to suitable hydro-electric power. Infrastructure requirements cannot be considered until detailed studies of the deposits resources and metallurgy are determined.

## 20. MARKET STUDIES AND CONTRACTS

Globex and Walmer have commissioned no market studies or sought sales contracts for potential concentrates from the Property.

### WORLD FELDSPAR PRODUCTION AND TRADE

About 21.5 million tonnes of feldspar were estimated to have been produced in 2014, mostly by three countries: Italy (4.7 Mt), Turkey (5.0 Mt), and China (2.1 Mt). At an estimated value per tonne of finished product, the world feldspar trade is estimated to be between \$US1.6 and \$1.8 Billion.

Feldspar is a common raw material used in glassmaking, ceramics, and to some extent as a filler and extender in paint, plastics, and rubber. In glassmaking, alumina from feldspar improves product hardness, durability, and resistance to chemical corrosion. In ceramics, the alkalis in feldspar; calcium, potassium and sodium oxides act as a flux, lowering the melting temperature of a mixture. Fluxes enhance melting at an early stage in the firing process, forming a glassy matrix that bonds the other components of the system together, thereby reducing process energy costs.

### US DOMESTIC PRODUCTION AND USE

US feldspar production in 2014 was estimated at 560 Kt valued at \$US40 M. Three leading producers account for 79% of feldspar production. North Carolina has the most state production. Producers also report byproduct production of mica and silica. Feldspar is ground to about 20 mesh for glassmaking and 200 mesh or finer for most ceramic and filler applications

In the US, about 60% of feldspar is consumed in glassmaking, including glass containers and glass fiber. Ceramics (including electrical insulators, sanitaryware, pottery, tableware and tile) and other uses, such as fillers, accounted for the remaining 40%. Feldspar usage in glass and fiberglass applications remained relatively stable though beverage container recycling continued to gain headway against new glass production.

Increased construction activity added to the glass used in construction over 2013.

It is anticipated that US domestic production will focus more on building construction use including solar glass which is used in the production of solar cells.

The table below shows flotation concentrate grades of K-Spar taken from Johan Beetz flotation test #4 of Report # 90221-1 compared against other US feldspar property grades obtained from a 2013 CRA report prepared for I-Minerals. The Johan Beetz (Canspar) concentrate is compared to commercially available K-Spar and to I-Minerals' concentrate (this project analysed may not be in production). The Johan Beetz grade from the most successful flotation test appears to be reasonably similar to the

IMERYS product. It is anticipated that more stringent process testing could improve the Johan Beetz result further.

**Table 9: Comparison of Key Major Oxide Elements in Selected Feldspar Deposits.**

|                                    | Lower   | ← Quality → | Higher |                        |
|------------------------------------|---------|-------------|--------|------------------------|
|                                    | Minspar |             | Imerys | I-Minerals Johan Beetz |
| SiO <sub>2</sub> : Al Ratio        | 3.78    |             | 3.59   | 3.55 3.35              |
| Fe <sub>2</sub> O <sub>3</sub> , % | 0.07    |             | 0.08   | 0.06 0.07              |
| Na <sub>2</sub> O, %               | 6.5     |             | 3.0    | 1.4 4.2                |
| K <sub>2</sub> O, %                | 4.1     |             | 10.8   | 12.8 10.5              |
| CaO, %                             | 1.4     |             | 0.81   | 0.2 0.4                |

### Potassium Feldspar

Included in the world production of feldspar is an estimated annual production of about 4.3 MT of high potassium feldspar that commands a premium price.

**Table 10: Global K-Spar Production (2012)**

| Countries      | Quantity (000 T) | % Share | Notes   |
|----------------|------------------|---------|---|
| World          | 4,300            | 100%    | Based on CRA estimates of K-Spar as a percentage of total feldspar output                                     |
| US             | 215              | 5%      | Production stabilized since 2009 and has since been increasing. Estimate includes some K-Na feldspar mixtures |
| Italy          | 1,000            | 23%     | Stabilized. Major tile producer   |
| Turkey         | 800              | 19%     | Production declined drastically since 2011  |
| Other Europe   | 350              | 8%      |   |
| India          | 100              | 2%      |   |
| China          | 440              | 10%     | Top manufacturer of ceramic tiles and sanitary ware   |
| Japan          | 200              | 5%      |   |
| Malaysia       | 95               | 2%      |   |
| Growth Markets |                  |         |   |
| South Korea    | 100              | 2%      |   |
| All Other      | 1,000            | 23%     |   |

Source: Potassium Feldspar Study - Market Assessment Report to I-Minerals from CRA Charles River Associates, May 10, 2013

### FELDSPAR IN CANADA

Canada has one small seasonally active feldspar producer for the dental trade. The Othmer Mine is located in Derry township, near Buckingham, Qc. The mine is owned by Dentsply Canada and services the Dentsply plant as needed. Its current operational levels are not known to the author. Nepheline syenite for similar end uses as feldspar is produced in quantity near Peterborough, Ontario. Unimin produces more than 500 Kt annually valued at an estimated at \$ 40 Million.

## 21. ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

No environmental studies have been completed by Walmer or Globex since the property was acquired. Similarly no mention of such studies by previous owners including the Spar Mica operation was obtained during the document review for the property. In Quebec, exploration permits are required to conduct exploration programs that include tools such as diamond drilling as recommended further in this report.

The area of the Johan Beetz Feldspar Property is included within the East Sector of the Mingan Archipelago National Park Reserve, designated in 1984. The Mingan Archipelago National Park Reserve is located along the northern shore of the Gulf of St. Lawrence, between Anticosti Island and Quebec's Middle North Shore. It covers approximately 100 km<sup>2</sup> and is comprised of 20-some islands and approximately 1,000 coastal islets that extend over more than 150 km between île aux Perroquets to the west and the Aguanish River to the east. The East sector of the park reserve is part of the East Coast Boreal Natural Region, the easternmost part of the Canadian Shield



**Figure 10:** Mingan Archipelago National Park Reserve (source: Bing maps)

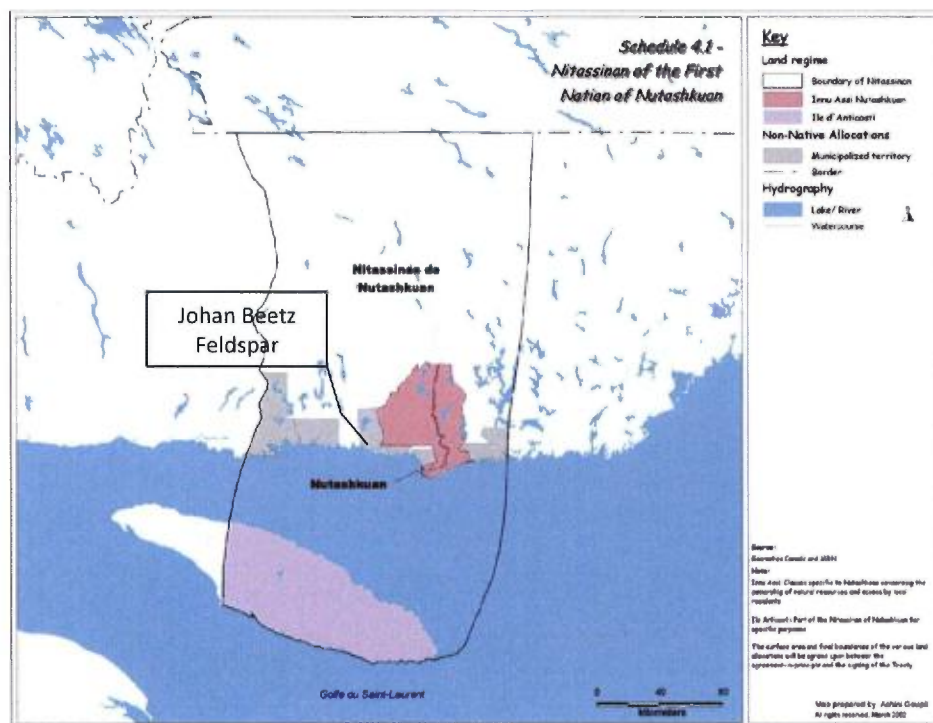
The Johan Beetz Feldspar Property is located within the traditional territory of the Nistassinan First Nation of Natashquan. In 2004, the First Nations of Mamuitun, Nutashquan, the Governments of Quebec and Canada reached an Agreement-in-Principle of General Nature. The agreement describes the rights of the Innu nations who are signatories to the agreement as well as the general terms regarding use of the territory. The Agreement identifies that mining activities on Innu Lands shall be governed at a minimum by Canadian and Quebec industrial and environmental standards and with participation with the First Nation (in the case of Johan Beetz, the First Nation of Nutashquan).

The community of Johan Beetz is part of the Regional Municipality of Minganie County (Minganie MRC) along with neighbouring communities of Natsahquan, Aguanish and the Innu community (or Montagnais Council) of Nutashquan. Direct consultation with communities is always considered good practice but many services and communications of common interest such as economic development and strategic planning are often well managed and coordinated by the MRC and advantageous to mineral explorers.

Communications with the MRC, the First Nation of Nutashquan and the village of Johan Beetz are recommended as exploration increases the development potential of the Johan Beetz Feldspar Property. Application and receipt of early exploration permits for the property will generally include guidelines

which have been established by the Quebec government with regard to site specific consultation and any specific environmental guidelines that may apply.

Mining Lands on the boundary of the Johan Beetz Feldspar property claims have been temporarily withdrawn from staking since 2009 (instrument #20090813-A the withdrawal is to allow for the consideration of the development of the Watshishou regional park and covers portions of NTS map sheets 12L/07 et 12L/08. The regional park appears to be an initiative of the Minganie MRC to effect access and improvement of natural areas in the MRC region. Should Walmer see expansion requirements for the project, either for greater resource development or infrastructure, early discussions with the MRC to identify such sites and their benefits is advised.



**Figure 11:** Nitassinan First Nation Agreement Map (from; Agreement-in-Principle of General Nature between the First Nations of Mamuitun and Nutashkuan and the Government of Quebec and the Government of Canada [www.aadnc-aandc.gc.ca](http://www.aadnc-aandc.gc.ca) )

## 22. CAPITAL AND OPERATING COSTS

No Capital and Operating Costs have been estimated for the Johan Beetz Feldspar Project.

### **23. ECONOMIC ANALYSIS**

No Economic Analysis has been conducted for the property.

### **24. ADJACENT PROPERTIES**

There are currently no adjacent properties to the Johan Beetz Feldspar Property. As mentioned in section 7, the Lake Turgeon Intrusive Complex has been explored for uranium periodically but no exploitable deposits have been located in the areas near the property.

No other adjacent feldspar development properties were identified in the literature review.

### **25. OTHER RELEVANT DATA AND INFORMATION**

No additional relevant data is available or known to be available to the author.

### **26. INTERPRETATION AND CONCLUSIONS**

The following observations are made with the view of further advancing the state of this project and the necessary knowledge to develop a mining and processing plan.

- The quarry samples previously analysed and tested represent only material taken from the faces of existing quarry areas and limited drilling and as such only represent the quality of the material at those limited locations from which the material was taken. A greater breadth of sampling would contribute to metallurgical assessment and resource estimate for the deposit.
- The drill cores as used in the historical test programs cover a significant area but provide only aggregated or composited analytical information. The composite samples are a reflection of the average deposit grade but did not test for, or isolate, low grade material or significant zones of deleterious materials such as iron. As no historical core is known to exist, new drilling is required for resource definition and metallurgical testing. Significant exposures of pegmatite exist where large samples can be obtained once drilling has defined suitable feldspar enrichment.
- Original analyses from the historic drill core samples (mostly as composites) reported a strikingly high degree of uniformity. It is important to establish in further testing how well new detailed sampling may respond to processing by more modern magnetic separation and a more refined range of flotation separation tests.
- Based on the historic results, specifically from magnetic separation, it is necessary to do more detailed work on magnetic separation of individual core samples.

- Metallurgical research will be driven by potential high value K-spar market opportunities and will need to include technical and economic review of autogenous versus conventional steel grinding, the latest developments in electrostatic and magnetic separation processes for iron removal as well as best available flotation procedures for elimination of mica and quartz contaminants.
- Historic resource estimates do not provide comparable physical limits of resources in area or depth, however all appear to select a base near sea level and a constraint somewhere within the limit of former Mining Concession 434 which lapsed in August, 2013. Given that the area covered by the current claims is approximately the same as when historic work was completed, estimated tonnages of approximately 13 M tonnes by Hurtubise and Hobby and 23 M tonnes for “indicated and probable” ore by Germain predict a range of material volumes which can be used in developing exploration and development objectives for future work by Walmer.

The Johan Beetz Feldspar Property is easily accessible and presents very good site opportunities to pursue a drilling-based evaluation of the pegmatites which were the historic source of feldspar for the Spar Mica facility. Its history of development presents a compelling reason for a review of the property as a re-vitalized feldspar producer.

New metallurgical studies using the separation and concentration technologies which may have improved in the past 20 years (since the most recent research on the property’s ore was completed) may help in improving the feldspar concentrates and broadening their appeal to feldspar consumers.

## **27. RECOMMENDATIONS AND PROPOSED PROGRAM**

### RECOMMENDATIONS

The following exploration program is recommended for the Johan Beetz Feldspar Project:

- Undertake a significant sampling program (drilling and pitting) over two phases to obtain and test feldspar pegmatite core and surface materials with detailed analysis and subsequent compositing for beneficiation tests.
- Each drill hole should be logged with feldspar and ‘waste’ minerals (biotite, garnet, tourmaline etc.) domains identified from hole to hole (and section to section). Na- vs K- feldspar domain contents can be visualized and photographed in the field using mineral staining. In general drilling should test only a nominal depth below mean sea level and composites from drilling broken out into possible quarry cuts or spaces. Ridge heights would indicate that mining benches may not be required. Drilling with large diameter core such as HQ is recommended. Its incrementally higher cost over more standard NQ sized drilling is compensated for by larger sample size for testing purposes.
- Analyze each sample for a full range of chemical composition. Samples should be analyzed by whole rock analyses initially to test for the major mineral components and additional detailed

study of iron compartment to assist with magnetic studies, and mica (potassium robbing) mineralogy to assist with electrostatic tests should be undertaken with additional multi-element analysis prior to, or in concert with, metallurgical testing. This would give a detailed picture of the deposit, outline high potassium feldspar areas, and pinpoint any potential problem areas with respect to high iron, mica or other elements or minerals which will hamper processing.

- Iron content is a known challenge to the delivery of high quality feldspar concentrates. Although iron has been tested in the deposit and from historic testing appears to be a manageable contaminant, detailed analysis for iron beginning at the drill stage will improve deposit resource estimates and mine planning scenarios for economic analysis.
- Metallurgical samples should be organized into zones based on composites obtained from sample results once geochemical mapping of the pegmatites via drill and pit sampling analyses is complete. At this stage more detailed mineralogical testing should be undertaken. Prior to compositing the samples it is recommended that QEMSCAN tests are done on core samples as a baseline for subsequent QEMSCAN testing of composites obtained from concentrates and tails of metallurgical tests.
- As the area has not known mining in recent years, Walmer should begin a consultative process with local aboriginal and non-aboriginal stakeholders during the initial exploration phase to apprise stakeholders of the activities planned and outlook for the project.

#### PROPOSED WORK PROGRAM

A two year exploration budget of \$1,000,000 in 2 phases comprised of \$450,000 in the first year and \$600,000 in the second year is proposed for the initial assessment of the Johan Beetz Feldspar deposit. Initial exploration work recommended in Phase 1 will obtain geological information via core drilling and surface sampling to deliver a comprehensive and detailed geological and mineralogical understanding of the property's feldspar endowment. Phase 1 will also include initial metallurgical test work which can be used to guide additional drilling in Phase 2. Drilling and surficial sampling in the initial program should deliver adequate volumes of sample materials to enable the completion of the proposed Phase 1 metallurgical testing and for follow-up optimization studies in advance of industrial scale or feasibility scale evaluation.

Based on the results of Phase 1, a Phase 2 exploration program is proposed to include definition drilling and bulk sampling for pilot scale testing of metallurgically favourable areas, where zones of significant economic volume can be identified. Work in Phase 2 should include considerations for detailed environmental and plant site selection studies.

Table 11: Johan Beetz Feldspar Project - Exploration Budget

|  |                       |                    |
|--|-----------------------|--------------------|
| <b>Phase 1</b>   |                       |                    |
| Geological Mapping/ Drill supervision and reporting                                  | 60 days @ \$700       | \$42,000           |
| Drilling (HQ) 60 holes to average 25 m depth with logging, core cutting, support     | 1,500 m @ \$135 / m   | \$202,500          |
| Pitting and Trenching  | 300 m @ \$150 / m     | \$45,000           |
| Whole Rock Analysis (1.5 m length for 1,000 core samples / 200 pit samples)          | 1,200 x \$90 / sample | \$108,000          |
| Metallurgist   | 15 days @ \$800       | \$12,000           |
| <b>Subtotal Phase 1</b>  |                       | <b>\$409,500</b>   |
| Contingency 10%  |                       | \$40,950           |
| <b>Total Phase 1</b>   |                       | <b>\$450,450</b>   |
|  |                       |                    |
| <b>Phase 2</b>   |                       |                    |
| Geological Mapping/ Drill supervision  | 60 days @ \$700       | \$42,000           |
| Drilling (HQ) 60 holes to average 25 m depth with logging, core cutting, support     | 1,500 m @ \$135 / m   | \$202,500          |
| Whole Rock Analysis (1.5 m length for 1,000 core samples)                            | 1,000 x \$90 / sample | \$90,000           |
| Semi-Quantitative XRD Analysis   | 200 x \$275 / sample  | \$54,000           |
| Metallurgy (Flotation, Magnetic, Electrostatic) with supporting QEMSCAN Mineralogy * | 50 composite samples  | \$100,000          |
| Metallurgist   | 30 days @ \$800       | \$24,000           |
| Feldspar Marketing Study - (Roskill or other industry leader)                        |                       | \$10,000           |
| Compilation and report   |                       | \$20,000           |
| <b>Subtotal Phase 2</b>  |                       | <b>\$542,500</b>   |
| Contingency 10%  |                       | \$54,250           |
| <b>Total phase 2</b>   |                       | <b>\$596,750</b>   |
|  |                       |                    |
| <b>Total Phase 1 and 2</b>   |                       | <b>\$1,047,200</b> |

\*Note; pricing for metallurgical testing will vary substantially based on test design, sample selectivity and volumes

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**APPENDIX I**

OTD Exploration Services Inc.

Trip Report: Johan Beetz Feldspar Project, May 24<sup>th</sup> to 27<sup>th</sup>, 2016

OTD Exploration Services Inc.  
682 Hillview Crescent  
Pickering, Ontario L1W 2R7  
(905) 837-9032  
GST# 837554427 RT0001

## **Site Visit**

**Destination:** Johan Beetz Feldspar Project

**Personnel:** W. J. McGuinty

**For:** Walmer Capital Inc.

**Dates:** May 24 to 27, 2016

May 24: Travel Toronto – Sept-Iles - Johan Beetz

May 25: Property Visit

May 26: Property Visit

May 27: Return Johan Beetz – Sept Iles (Sample shipment) - Toronto

### **Access to site**

Air travel was arranged to Sept Iles QC. This is the nearest large centre that offers flexible flight schedules and several car rental agencies. Flight choices are available to Havre St. Pierre which is 200 km closer by road to the village of Johan Beetz, but both air service and vehicle choices are more limited. Vehicle fuel is available in Havre St. Pierre and Johan Beetz, as well as at least two villages between Sept-Iles and Havre St. Pierre on Hwy 132.

The Village of Johan Beetz is 280 km by paved road from Sept-Iles. The property is accessed from Johan Beetz by travelling eastward along Hwy 132 from the bridge in the village for 5.2 km to the “Rue du Nord” also locally known as the Sentier du Spar Mica and proceeding south. The former Spar Mica mine is located 3.7 km south on this road on the Gulf of St. Lawrence shoreline. The road is built from mine rock and either concentrate or tailings from the plant.



The Sentier du Spar Mica is currently blocked to vehicles by a washout (collapsed culvert) approximately 600 m south of highway 132. With the exception of this obstacle the Spar Mica site is accessible by 4 wheel drive vehicle. The road is currently passable to ATVs.

Access to the various mine rock cut workings is heavily overgrown by alders and young birch. Trails will have to be cut to allow vehicle approach. The upper ridges and mine cut brows can be accessed from several raised elevations along the mine road where this crosses the ridges.

### **Amenities**

The village of Johan Beetz has one ‘Dépanneur’ offering fuel, some groceries and postal service. Extensive grocery choices are available in Havre St. Pierre and Sept Iles.

OTD Exploration Services Inc.  
682 Hillview Crescent  
Pickering, Ontario L1W 2R7  
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There is one tourist inn; the Pourvoirie de Johan Beetz which can host 8 people (open from June 15, [www.baiejohanbeetz.com/hebergement/](http://www.baiejohanbeetz.com/hebergement/) ) and a rooming house; the Auberge de la Mission (open year round [www.quebecoriginal.com/fr/fiche/hebergement/autres-hebergements/auberge-de-la-mission-290849997](http://www.quebecoriginal.com/fr/fiche/hebergement/autres-hebergements/auberge-de-la-mission-290849997) ). The Auberge was used for this visit; it has 4 rooms and can lodge 4 – 5 people, full kitchen, bath and laundry.

Johan Beetz has no cell coverage and the Auberge de la Mission does not have internet. Long distance phone calls from the Auberge must be done through a calling card. Telus was recommended. Should an extended stay be planned, house rental should be considered if available. There are no restaurants.

### **Property Observations**

The entire area of the mining claims and all lands north of the property to highway 132 has been completely burned in a forest fire, perhaps 2-3 years ago. Only the area surrounding the mine and mill area, located near the shore and protected in a low, sea level valley were spared.



*Pegmatite ridge exposure on Johan Beetz Feldspar property (looking ENE). Furthest ridge located N of claim boundary*

The fire has exposed an extensive network of prominent ridges almost entirely composed of feldspathic pegmatites extending from the mine area northwards beyond the property boundary to highway 132. Low swales amongst the ridges are filled with peat bog (Labrador tea, blueberry, cranberry and sphagnum moss).

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Sources of fresh water for a camp or drilling are rare as evidenced by several old sumps located in peat fields on the highlands.

Foundations for the old Spar-Mica operation are in evidence at the site. The mill, concentrate storage facility and machine shop cement footings are all in evidence. These present no overt public safety risk. Some metal scrap from steel infrastructure is present. The office and mill tank farm areas are mostly overgrown with some concrete footings present. Very little wood or other waste construction material is in evidence near the mill or elsewhere on the property.



*Spar Mica storage facility foundations and residual concentrate. Looking north*

The Spar Mica loading dock at tidewater is still present. It is a wood caisson construction composed of 14" x 14" square timber frame with mine rock fill, covered by three inch plank. The planks are all rotted and pose a fall risk as they will collapse if stepped on. The square timber frame is still traversable. Large anchor cables and cement blocks still connect to the dock on the east side but those cables have disconnected on the west side.

The dock and the concentrate storage building were connected by a conveyor when Spar Mica operated the property. The conveyor travelled through a broad rock cut created for the purpose and possibly as initial mine feed.

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*Trace of conveyor line from Spar Mica storage facility to loading dock. Looking East*

The Spar Mica camp is located 200-300 m east of the dock along the shoreline. Except for some minor steel scrap the camp area is clean of debris. A wood lined sump in peat is located behind the ridge above the camp, possibly as a fresh water source.

The shore line from the camp west to the dock and from the dock westwards to the location of the old tank farm has been raised by approximately 2 – 3 m to allow for a level working apron near the shore line.

All quarries visited at the site were visually clear of equipment and waste material. Most working faces are vertical and approximately 10 m in height, similar to natural scarps in the area.



*View of Spar Mica 1955 era loading dock*

In general, there were no overt environmental or safety issues identified with the site, with the exception of the condition of the dock platform.

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### **Exploration Observations**

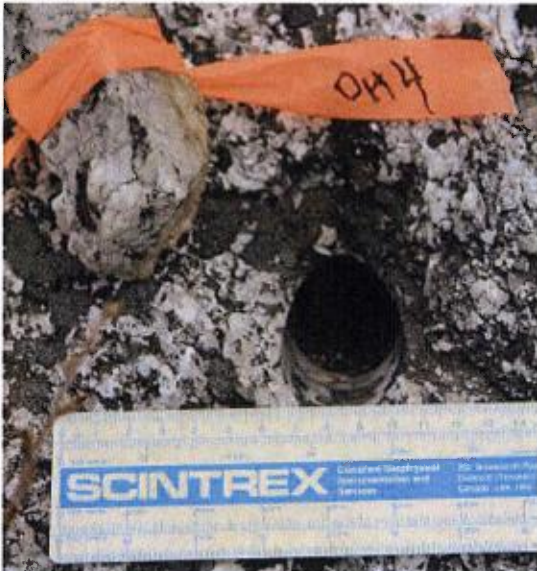
Pits in this report are numbered in the same manner as the nomenclature used by Canspar in 1993 (see Canspar Compilation map). Both days on the site involved identification of historic exploration activity with a view to providing sufficient information to reconstitute available historic information into a new exploration database as required. In particular, focus was given to identification of drill holes, primarily from work completed by Spar Mica Corporation in 1955 (vertical holes) and 1959 (inclined holes) and by Canspar Resources Ltd. in 1991 (inclined holes). Trenching by Canspar and mine faces from the Spar Mica era were also visited.

All drill casings installed during drilling in each of the three campaigns at the property appear to have been removed upon completion of the drill holes. Canspar drill logs record this, Spar Mica logs do not mention the status of casings but none were found. Absence of hole collar casings make holes difficult to identify. In quarry areas, 1950s era drill holes can be differentiated from blast holes left in outcrop by their generally smaller diameter and smooth bore. The holes located are all above the east end of the East Mill Cut. They are believed to be 1959 era holes as they are inclined. One possible 1955 drill hole was also located.

Some of the 1959 era holes which are reported in sections 100E and 150E prepared by Mowat in his 1959 report have been subsequently mined though. The quarry face appears to reach section 200E. The 1959 holes located in the field should allow the drill grid to be reconstructed using the iron pin (Permanent Station) also located on the brow of the quarry.

On Mowat's plan map, holes 59-23 to 59-38 are marked as proposed and no sections or analysis are included. Holes 59-1 to 59-3 on Section 050E are shown as drilled but no section or analyses are provided.

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*Example of inclined 1959 drill hole*



*Canspar Drill hole 91-08 and Trench B*

Only one Canspar drill hole was located during the visit, based on its relative position to Canspar trenching as described in maps from the 1992 Canspar report. It was visible as a wooden stake had been inserted in the hole in bedrock and covered with rocks. The hole is believed to be (CSP) 91-08.

Holes from all drill campaigns are only visible when exposed on outcrops. For drill sites set on moss or overburden base, locations can only be projected relative to locations on previous maps. The 1955 (or earlier) Permanent Station pin located above the east end of the East Mill Cut quarry could be used to potentially reconstruct the 1959 and 1955 drill grids assuming the map representations were tied in to it at that time. CSP 91-08 could be used to re-locate the 1991 hole locations.

Trenches created by Canspar were done by drill and blast and are clearly visible along the tops of the ridges. At most trenches visited, a single wood marker is located, likely as a sampling start or end point. The markers are weathered and have no identification. There are no interval markers seen across the trenches themselves. Trenches are extensive but exhibit some selectivity, not being extended or sampled across the available width of the pegmatite. It is not clear whether the trenches were guided by prior sampling or whether they were selected for their locations on prominent ridge top positions where no overburden needed to be removed from the outcrop.

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## Geology

The geology of the Johan Beetz Feldspar Project is reasonably well described by various authors who mapped the property for previous owners. Geologically, the property presents as a wide zone of positive feldspar pegmatite expressed as high whale back ridges. Where visible, rocks in low swales between ridges are noted to be weak to moderately schistose mafic rocks. Similar rocks can be seen locally as large (10 m) to small (1 m) sized detached rafts inside pegmatite. The pegmatite ranges from limited amounts of fine to medium grained feldspar – quartz - mica pegmatite to more common coarse grained pegmatites which have a variable white (buff) to reddish-pink. Feldspars often show >2 mm sized quartz exsolutions in feldspar as well as being part of the groundmass. Locally the quartz-feldspar mixture displays myrmekitic texture.

In addition to quartz, biotite and lesser muscovite are the most common gangue minerals and are ubiquitous, varying from less than 1 mm to as long as 10 cm in some pegmatite units. Mica 'books' may range to 1 cm thick. Locally some garnet was noted which appears to be replacing biotite. Tourmaline (var. schorl) is also seen. Neither garnet nor tourmaline appears to be present in all pegmatites in significant amounts.

General dips of lithology appear to be vertical.

There is a significant range grain size of feldspar, quartz and biotite minerals within pegmatites as they occur across the property. The behaviour of grain size of host rock minerals was not mentioned as a guide to mining or milling in the historic literature. Fine grained material appears to be a greater separation challenge.

During the site visit for this report, 3 samples were taken Spar Mica's East Mill Cut (Canspar Pit #2) and 4 samples were taken from 1991 Canspar trenches. These samples were obtained by continuous chip sample from existing faces. Samples weighing approximately 2 kg per metre were obtained. It was not possible to select samples that were un-weathered. Sample locations were tagged with flagging tape and sample numbers written on the tape. Samples were bagged with a numbered sample tag and the sample number marked on the bag. Bags were tied, boxed and shipped by bus to OTD Exploration Services in Pickering and from there delivered to SGS Laboratories in Lakefield Ontario. All samples submitted to SGS were tested by whole Rock Analysis (WRA) to establish major oxide contents as used by Spar Mica and Canspar in their work. In addition, two of these samples, one from a white pegmatite (#15659) and one from a pink pegmatite (#15664) were tested by X-Ray Diffraction (XRD) to provide a semi-quantitative pegmatite mineralogy.

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**Table 1: Summary of Samples Taken at Johan Beetz Feldspar Property in May 2016**

| Sample Number | UTM Zone 20 U |           | Description  |
|---------------|---------------|-----------|--|
|               | Northing      | Easting   |  |
| 15658         | Not taken     | Not taken | 1 kg sample of sand sized concentrate remaining in storage shed floor from Spar Mica operation, taken at 30 cm depth   |
| 15659         | 5570955       | 516459    | 2 m chip sample from west wall of East Mill Cut (Canspar pit #2) starting at northern contact of major schist unit and proceeding to small schist inlier - white fsp pegmatite with thin biotite books measuring up to 0.5 cm by 10 cm in aspect |
| 15660         | Not taken     | Not taken | 2 m chip sample from west wall of East Mill Cut located (Canspar pit #2) located 15 m north of sample 15659 along wall - white fsp pegmatite with thin biotite books up to 0.5 cm by 10 cm in aspect   |
| 15661         | 5570977       | 516495    | 1 m chip sample from east end of East Mill Cut mine heading (Canspar pit #2) - pale apple green to white fsp pegmatite with thin biotite books to 0.5 cm by 10 cm in aspect  |
| 15662         | Not taken     | Not taken | Canspar (CSP) Trench B - 1 m chip sample taken at southeast end of trench (position not taken by GPS) approx. 5 m from 15563. Coarse Grained pink fsp-qtz-bio+/-musc pegmatite. Located near drill hole CSP 91-08 collar                         |
| 15663         | 5571386       | 516293    | Canspar (CSP) Trench B - 2 m chip sample taken at northwest end of trench 5 m NW from sample 15562. Coarse grained pink fsp-qtz-bio+/-musc pegmatite   |
| 15664         | 5571354       | 516339    | Canspar (CSP) Trench H - 2 m chip sample taken at 3 m SE from northwest end of trench, Coarse grained pink fsp-qtz-bio+/-musc pegmatite  |
| 15665         | 5571353       | 516365    | Canspar (CSP) Trench I - 2 m chip sample taken at northwest end of trench. Coarse grained buff-pink fsp-qtz-bio+/-musc pegmatite   |

Table 2 presents results obtained from analysis of 8 samples taken from the Johan Beetz site during the visit. High and low major oxide values for each rock sample are outlined in yellow and green respectively, compared to averages in grey and a sample of concentrate remaining in the shipping area in rose. Observations from the field would indicate that potassium content in rock samples does not have a visible color equivalent. Often pink feldspars are believed to be K<sub>2</sub>O rich but samples taken from the northwest ridge of the property which had greater visible pink feldspar composition do not report higher overall K<sub>2</sub>O content than samples from the historic mine areas that are white.

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**Table 2: Summary of Whole Rock Analyses from Johan Beetz Feldspar Property Samples May 2016**

| Sample ID                              | SiO <sub>2</sub> % | Al <sub>2</sub> O <sub>3</sub> % | Fe <sub>2</sub> O <sub>3</sub> % | MgO %       | CaO %       | Na <sub>2</sub> O % | K <sub>2</sub> O % | TiO <sub>2</sub> % | P <sub>2</sub> O <sub>5</sub> % | MnO %       | Cr <sub>2</sub> O <sub>3</sub> % | V <sub>2</sub> O <sub>5</sub> % | LOI %       | Sum %        |
|--|--------------------|----------------------------------|----------------------------------|-------------|-------------|---------------------|--------------------|--------------------|---------------------------------|-------------|----------------------------------|---------------------------------|-------------|--------------|
| <b>OTD sampling 2016</b>               |                    |                                  |                                  |             |             |                     |                    |                    |                                 |             |                                  |                                 |             |              |
| 15658                                  | 68.6               | 17.4                             | 0.11                             | 0.06        | 1.05        | 5.18                | 6.03               | < 0.01             | 0.05                            | < 0.01      | 0.03                             | < 0.01                          | 0.58        | 99.1         |
| 15659                                  | 71.1               | 15.7                             | 1.05                             | 0.29        | 0.97        | 4.49                | 5.26               | 0.1                | 0.05                            | 0.01        | 0.02                             | < 0.01                          | 1.09        | 100.2        |
| 15660                                  | 76.1               | 13.1                             | 0.63                             | 0.14        | 0.61        | 3.08                | 5.9                | 0.08               | 0.05                            | < 0.01      | 0.02                             | < 0.01                          | 0.6         | 100.3        |
| 15661                                  | 75.8               | 13.2                             | 0.56                             | 0.14        | 0.79        | 3.7                 | 4.66               | 0.07               | 0.04                            | < 0.01      | 0.01                             | < 0.01                          | 0.66        | 99.6         |
| 15662                                  | 76.3               | 14.1                             | 0.51                             | 0.14        | 0.93        | 4.02                | 3.3                | 0.07               | 0.05                            | < 0.01      | < 0.01                           | < 0.01                          | 0.8         | 100.1        |
| 15663                                  | 73.2               | 15.3                             | 0.75                             | 0.22        | 0.96        | 4.03                | 4.47               | 0.08               | 0.05                            | < 0.01      | < 0.01                           | < 0.01                          | 0.85        | 99.9         |
| 15664                                  | 74.2               | 14.7                             | 0.49                             | 0.17        | 0.59        | 3.25                | 5.93               | 0.05               | 0.07                            | 0.01        | < 0.01                           | < 0.01                          | 0.71        | 100.2        |
| 15665                                  | 73.4               | 15.2                             | 0.51                             | 0.18        | 0.62        | 3.4                 | 5.49               | 0.04               | 0.05                            | 0.03        | < 0.01                           | < 0.01                          | 0.9         | 99.8         |
| <b>Average</b>                         | <b>74.30</b>       | <b>14.47</b>                     | <b>0.64</b>                      | <b>0.18</b> | <b>0.78</b> | <b>3.71</b>         | <b>5.00</b>        | <b>0.07</b>        | <b>0.05</b>                     | <b>0.02</b> | <b>&lt; 0.02</b>                 | <b>&lt; 0.01</b>                | <b>0.80</b> | <b>100.0</b> |
| <b>Canspar Drill Composites 1993</b>   |                    |                                  |                                  |             |             |                     |                    |                    |                                 |             |                                  |                                 |             |              |
| <b>Average</b>                         | <b>74.85</b>       | <b>14.36</b>                     | <b>0.80</b>                      | <b>0.19</b> | <b>0.83</b> | <b>3.40</b>         | <b>4.83</b>        | <b>0.11</b>        | <b>-</b>                        | <b>0.02</b> | <b>-</b>                         | <b>-</b>                        | <b>0.63</b> | <b>-</b>     |
| <b>Spar Mica Drill Composites 1956</b> |                    |                                  |                                  |             |             |                     |                    |                    |                                 |             |                                  |                                 |             |              |
|  | 75.06              | 14.75                            | 0.35                             |             | 1.12        | 2.99                | 5.49               |                    |                                 |             |                                  |                                 |             |              |

Comparing the limited results from rock outcrops to the average and the concentrate sample #15658 indicates that processing at the Spar Mica concentration plant was effective in concentrating feldspar product and reducing free quartz. Similar reductions in iron and magnesium would indicate that a considerable degree of mica sequestration to tailings was also completed by the process. Remaining MgO and Fe<sub>2</sub>O<sub>3</sub> may be related to continued presence of mica or tourmaline in the concentrate.

Limited extraneous or deleterious mineral and elemental material is identified through whole rock analysis. Those measured; TiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, MnO, Cr<sub>2</sub>O<sub>3</sub>, V<sub>2</sub>O<sub>5</sub> are generally used to recalculate mineral assemblages from oxides particularly high iron minerals. In this case very low values indicate the absence of minerals in which these elements are found which is corroborated by the absence of such minerals in hand sample and outcrop.

Major potassium, sodium and other oxide values for the samples taken from mine and adjacent areas compare well with historic values recorded by Spar Mica and Canspar.

Table 3 presents the mineralogy obtained from XRD from two samples which were also submitted for WRA. Sample 15659 is located in the area of Pit #2 where the Spar Mica operation drew ore for processing, while Sample 15664 is located on the ridge above Pit #5 to the north of the Spar Mica plant. The results indicate that quartz and mica contents are lower in the zone mined by Spar Mica. This does not indicate that a future feldspar concentrate would be less pure or marketable from the zone where sample 15664 was taken, simply that more mineral separation would be required and more tailings material would be produced.

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**Table 3: Results of XRD analysis from Johan Beetz Feldspar Property Samples, May 2016**

| Semi-Quantitative X-ray Diffraction Results |        |        |
|---|--------|--------|
| Mineral                                     | 15659  | 15664  |
|   | (wt %) | (wt %) |
| Quartz                                      | 23.9   | 34.3   |
| Microcline (K fsp proxy)                    | 24.3   | 24.4   |
| Albite (Na fsp proxy)                       | 37.4   | 23.9   |
| Muscovite (mica proxy)                      | 6.5    | 10.8   |
| Anorthite (Ca fsp proxy)                    | 3.1    | 3.7    |
| Illite (mica proxy)                         | 2.0    | 1.9    |
| Diopside *                                  | 1.0    | 0.8    |
| Chamosite *                                 | 1.0    | 0.3    |
| Actinolite *                                | 0.9    | -      |
| TOTAL                                       | 100    | 100    |

\* proxy for Fe-, Mg- minerals ex: garnet, tourmaline seen in samples

XRD analysis reporting provides a reconstitution of the mineral assemblage from X-ray analysis based on a set of combination criteria. If used as a tool for mineral identification in metallurgical studies, it is recommended that mineral identification by microscopy be done in parallel to help distinguish specific mineral types such as muscovite and biotite. The combination criteria can be set within certain limits to improve how minerals are identified by the algorithm. A similar check should be used if extensive analysis by QEMSCAN is considered since the identification depends on establishing a mineral reference library.

### Conclusions

The Johan Beetz Feldspar Property is easily accessible and generally presents very good site opportunities to pursue drilling evaluation of the pegmatites which were the historic source of feldspar for the Spar Mica facility. Its access and history present compelling reasons for a review of the property as a renewed feldspar producer.

In general, historic exploration will be identifiable and can be incorporated into a property wide model including drill holes and mined sites. Major oxide analyses from sampling by Spar Mica provides no indication of how the samples were prepared and can likely only be used only as information to guide future work. Whole Rock Analysis (major oxide) by Canspar was performed by a known lab and could likely be incorporated into new resource estimations and used to inform future work.

An exploration project involving drilling will require access to fresh water which could be quite distant. Any large project will require planning for staff housing.

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**Features identified in the field during May 2016 Johan Beetz Feldspar site visit by OTD**

| Field Name      | Easting   | Northing | Historic Name?    | Comment  |
|-----------------|-----------|----------|-------------------|--|
| DH              | 5571020   | 516521   | Spar Mica DDH     | 1959 hole visible in outcrop??   |
| DH1A            | 5571021   | 516534   | Spar Mica DDH     | 1959 hole visible in outcrop   |
| DH2             | 5571053   | 516494   | Spar Mica DDH     | 1959 hole visible in outcrop   |
| DH3             | 5571077   | 516636   | Spar Mica DDH     | old debris no hole or casing   |
| DH4A 45         | 5570998   | 516529   | Spar Mica DDH     | 1959 hole visible in outcrop   |
| DH5A 45         | 5570985   | 516453   | Spar Mica DDH     | 1959 hole visible in outcrop   |
| DH6A V          | 5570944   | 516499   | Spar Mica DDH     | older generation 1955? drill hole  |
| DH6A 45         | 5570984   | 516519   | Spar Mica DDH     | 1959 hole visible in outcrop   |
| DH7A 45         | 5570973   | 516510   | Spar Mica DDH     | 1959 hole visible in outcrop   |
| DH8A 45         | 5570995   | 516493   | Spar Mica DDH     | 1959 hole visible in outcrop   |
| DH9A 45         | 5571010   | 516511   | Spar Mica DDH     | 1959 hole visible in outcrop   |
| Permanent Stn A | 5570974   | 516484   | Spar Mica DDH     | steel pin visible on edge of pit   |
| DH CSP 91-08    | 5571383   | 516288   | Canspar DDH 91-08 | 1991 hole visible in outcrop near trench B   |
| 15658           | Not Taken |          | N/A               | sample of concentrate remaining in Storage shed floor from 30 cm depth   |
| 15659           | 5570955   | 516459   | N/A               | 2 m chip sample from west wall of East Mill Cut starting at northern contact of major schist unit and proceeding N to small schist inlier - white fsp pegmatite with thin biotite books to 0.5 cm by 10 cm |
| 15660           | Not Taken |          | N/A               | 2 m chip sample from west wall of East Mill Cut located 15 m north of 15659 along wall - white fsp pegmatite with thin biotite books to 0.5 cm by 10 cm  |
| 15661           | 5570977   | 516495   | N/A               | 1 m chip sample from east end of Mill Cut mine heading - pale apple green to white fsp pegmatite with thin biotite books to 0.5 cm by 10 cm  |
| 15662           | Not Taken |          | N/A               | Canspar (CSP) Trench B - 1 m chip sample taken at southeast end of trench approx. 5 m from 15563 CG pink fsp qtz bio pegmatite   |
| 15663           | 5571386   | 516293   | N/A               | Canspar (CSP) Trench B - 2 m chip sample taken at northwest end of trench (position not taken by GPS) approx. 5 m from 15563 CG pink fsp qtz bio pegmatite   |
| 15664           | 5571354   | 516339   | N/A               | Canspar (CSP) Trench H - 2 m chip sample taken at 3 m SE from northwest end of trench, CG pink fsp qtz bio pegmatite   |
| 15665           | 5571353   | 516365   | N/A               | Canspar (CSP) Trench I - 2 m chip sample taken at northwest end of trench, CG buff-pink fsp qtz bio pegmatite  |

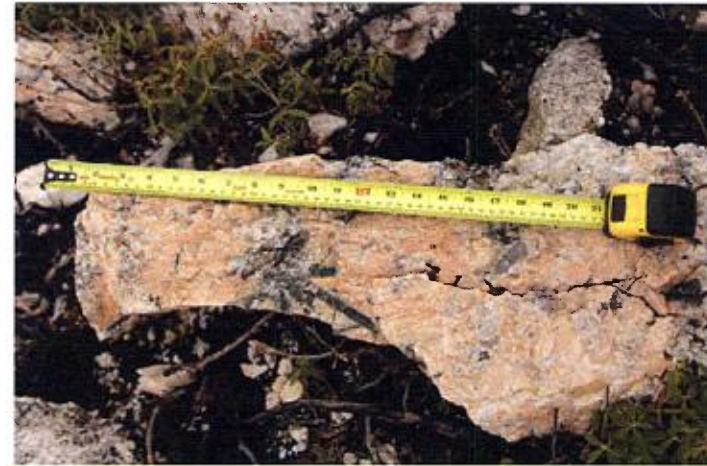


Above; Pink-white feldspar + quartz + minor biotite pegmatite near Canspar trench I

Left; Very coarse grained quartz K-feldspar pegmatite near Canspar trench B



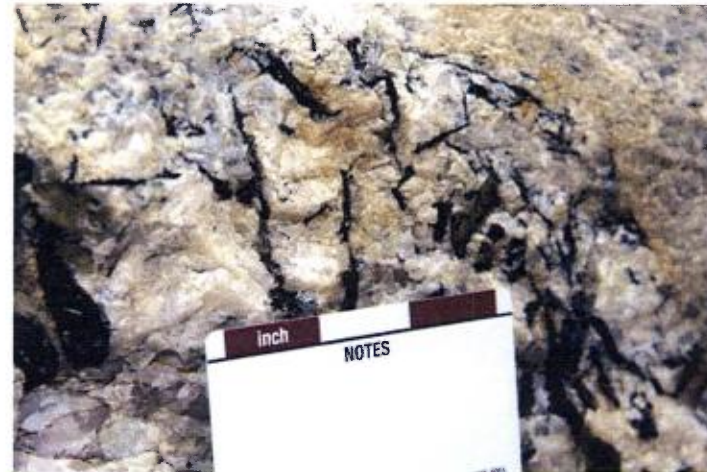
K-feldspar rich pegmatite with quartz NW ridge above pit #5



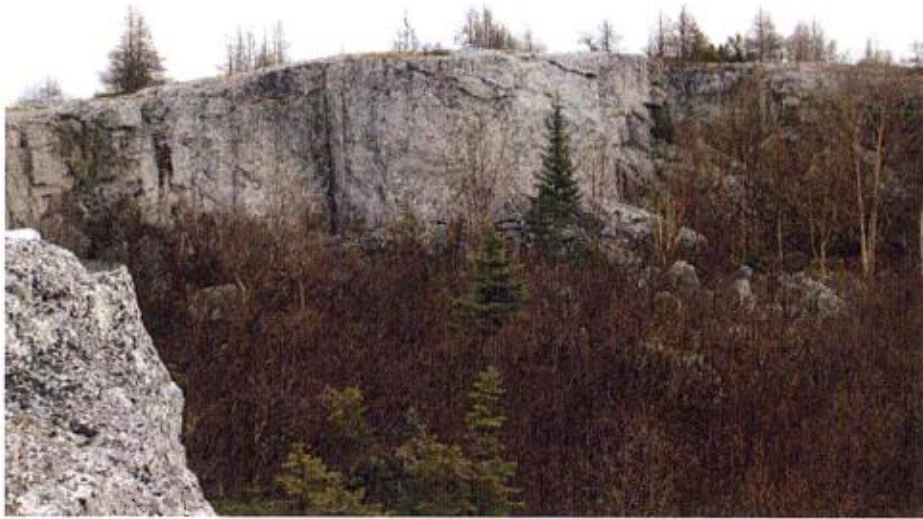
K-feldspar rich pegmatite coarse biotite + quartz above pit #5



Graphic granite white feldspar and quartz above pit #6



Biotite crystals in white pegmatite near pit #1



Southern pit wall - pit #3 looking south



Pit # 2 – looking west with East mill cut west wall in background



OTD Sample # 56659 East Mill Cut west wall



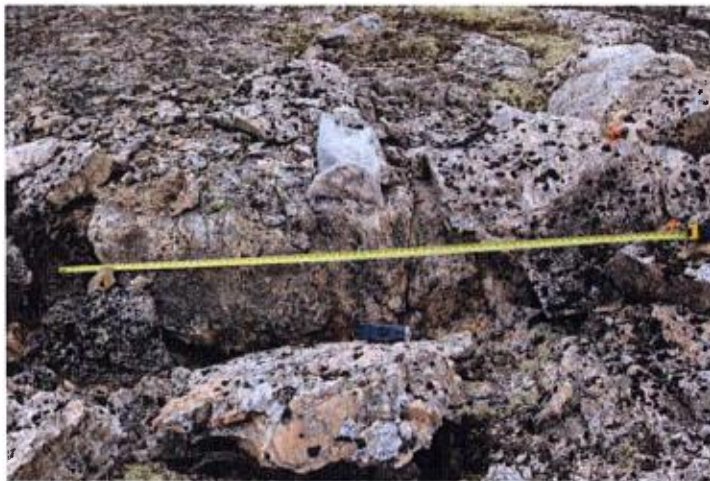
OTD Sample # 56660 East Mill Cut west wall



OTD Sample # 56661 Pit #2 East end wall



OTD Sample # 56662 Canspar Trench B



OTD Sample # 56663 Canspar Trench B



OTD Sample # 56664 Canspar Trench H

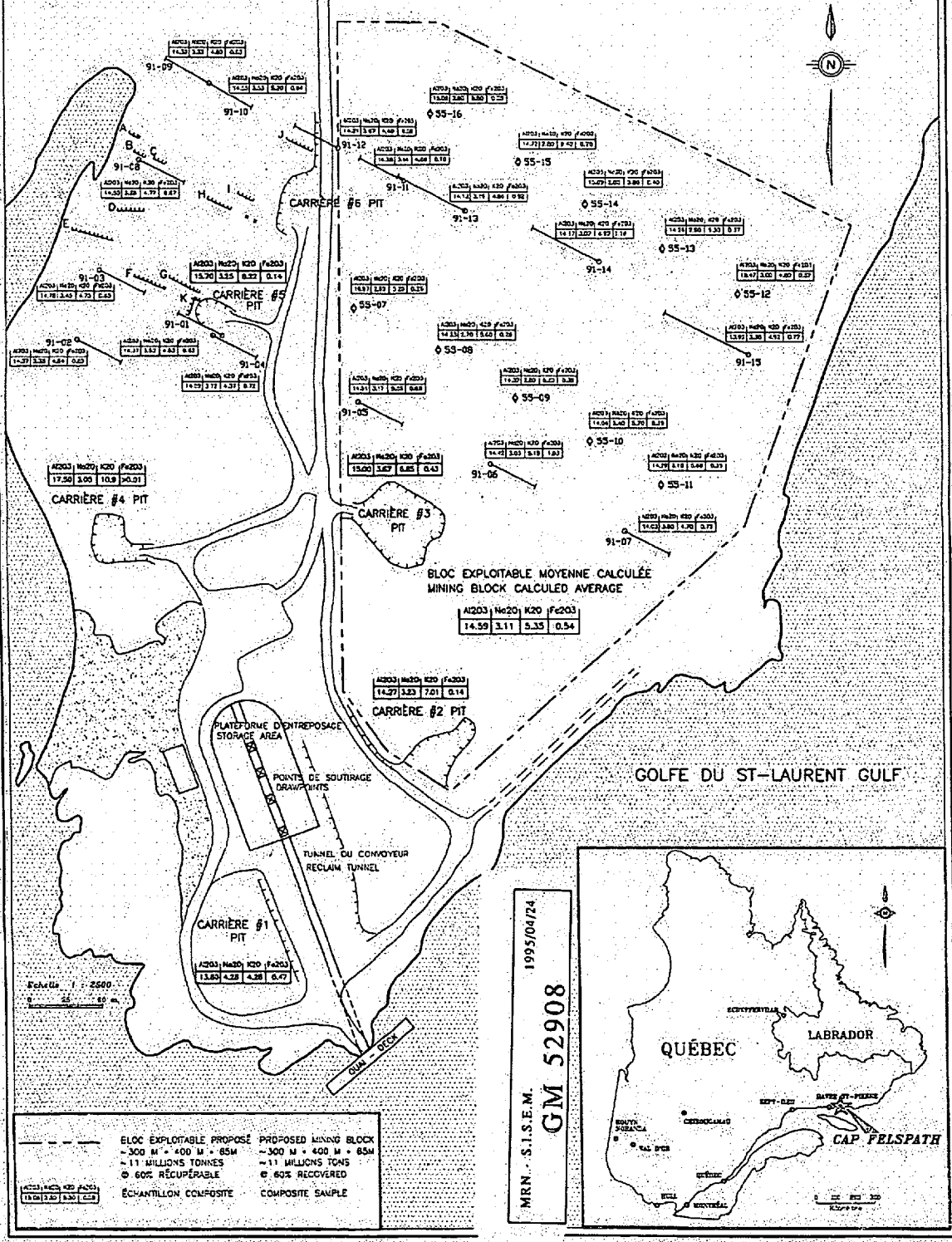


OTD Sample # 15665 Canspar Trench I

# RESSOURCES CANSPAR INC. PROPRIÉTÉ CAP FELSPATH PROPERTY

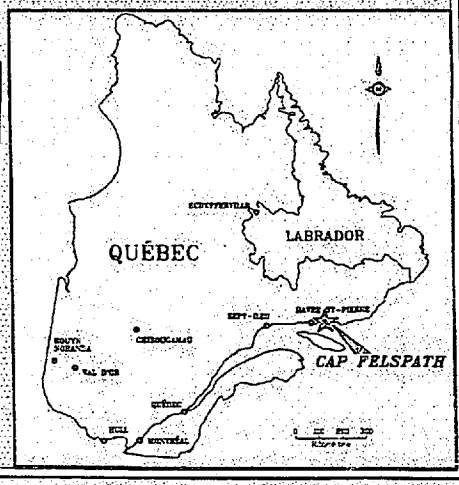
C.M.434

CANTON JOHAN-BEEZ TOWNSHIP



|     |                          |                       |
|-----|--------------------------|-----------------------|
| --- | BLOC EXPLOITABLE PROPOSÉ | PROPOSED MINING BLOCK |
| --- | ~ 300 M x 400 M x 85M    | ~ 300 M x 400 M x 85M |
| --- | ~ 11 MILLIONS TONNES     | ~ 11 MILLIONS TONS    |
| --- | 60% RÉCUPÉRABLE          | 60% RECOVERED         |
| --- | ÉCHANTILLON COMPOSITE    | COMPOSITE SAMPLE      |

MRN - S.I.S.E.M. 1995/04/24  
**GM 5298**



## **APPENDIX II**

Geochemical Analytical Results to Trip Report:  
Johan Beetz Feldspar Project, May 24<sup>th</sup> to 27<sup>th</sup>, 2016



SGS Canada Inc.  
P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

LR Internal Dept 14  
Attn : Chris Gunning

23-June-2016

Date Rec. : 15 June 2016  
LR Report : CA02441-JUN16  
Project : CALR-15762-001  
Client Ref : MI5015-JUN16

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---,  
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Phone: ---  
Fax:---

# CERTIFICATE OF ANALYSIS

## Final Report

| Sample ID | SiO2<br>% | Al2O3<br>% | Fe2O3<br>% | MgO<br>% | CaO<br>% | Na2O<br>% | K2O<br>% | TiO2<br>% |
|-----------|-----------|------------|------------|----------|----------|-----------|----------|-----------|
| 1: 15658  | 68.6      | 17.4       | 0.11       | 0.06     | 1.05     | 5.18      | 6.03     | < 0.01    |
| 2: 15659  | 71.1      | 15.7       | 1.05       | 0.29     | 0.97     | 4.49      | 5.26     | 0.10      |
| 3: 15660  | 76.1      | 13.1       | 0.63       | 0.14     | 0.61     | 3.08      | 5.90     | 0.08      |
| 4: 15661  | 75.8      | 13.2       | 0.56       | 0.14     | 0.79     | 3.70      | 4.66     | 0.07      |
| 5: 15662  | 76.3      | 14.1       | 0.51       | 0.14     | 0.93     | 4.02      | 3.30     | 0.07      |
| 6: 15663  | 73.2      | 15.3       | 0.75       | 0.22     | 0.96     | 4.03      | 4.47     | 0.08      |
| 7: 15664  | 74.2      | 14.7       | 0.49       | 0.17     | 0.59     | 3.25      | 5.93     | 0.05      |
| 8: 15665  | 73.4      | 15.2       | 0.51       | 0.18     | 0.62     | 3.40      | 5.49     | 0.04      |

| Sample ID | P2O5<br>% | MnO<br>% | Cr2O3<br>% | V2O5<br>% | LOI<br>% | Sum<br>% | Weight<br>g | Split |
|-----------|-----------|----------|------------|-----------|----------|----------|-------------|-------|
| 1: 15658  | 0.05      | < 0.01   | 0.03       | < 0.01    | 0.58     | 99.1     | 56.6        | ---   |
| 2: 15659  | 0.05      | 0.01     | 0.02       | < 0.01    | 1.09     | 100.2    | 52.0        | 1     |
| 3: 15660  | 0.05      | < 0.01   | 0.02       | < 0.01    | 0.60     | 100.3    | 50.9        | ---   |
| 4: 15661  | 0.04      | < 0.01   | 0.01       | < 0.01    | 0.66     | 99.6     | 51.5        | ---   |
| 5: 15662  | 0.05      | < 0.01   | < 0.01     | < 0.01    | 0.80     | 100.1    | 50.9        | ---   |
| 6: 15663  | 0.05      | < 0.01   | < 0.01     | < 0.01    | 0.85     | 99.9     | 50.7        | ---   |
| 7: 15664  | 0.07      | 0.01     | < 0.01     | < 0.01    | 0.71     | 100.2    | 51.9        | 1     |
| 8: 15665  | 0.05      | 0.03     | < 0.01     | < 0.01    | 0.90     | 99.8     | 51.9        | ---   |

Control Quality Assays: Not Suitable for Commercial Exchange

OnLine LIMS



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LR Report : CA02441-JUN16

  
Sarah Thyret-Arbour  
Technologist, Mineral Services, Analytical



## Semi-Quantitative X-Ray Diffraction

**Report Prepared for:** ODT Exploration Services

**Project Number/ LIMS No.** 15762-001/MI5015-JUN16

**Sample Receipt:** June 13, 2016

**Sample Analysis:** June 20, 2016

**Reporting Date:** June 28, 2016

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**Instrument:** BRUKER AXS D8 Advance Diffractometer

**Test Conditions:** Co radiation, 40 kV, 35 mA  
Regular Scanning: Step: 0.02°, Step time:0.2s, 2θ range: 3-70°

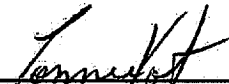
**Interpretations:** PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva software.


**Detection Limit:** 0.5-2%. Strongly dependent on crystallinity.

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**Contents:**

- 1) Method Summary
- 2) Summary of Mineral Assemblages
- 3) Semi-Quantitative XRD Results
- 4) Chemical Balance(s)
- 5) XRD Pattern(s)

  
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Connie Kot  
Technologist, XRD

  
\_\_\_\_\_  
Huyen Zhou, Ph.D., P.Geo.  
Senior Mineralogist

**ACCREDITATION:** SGS Minerals Services Lakefield is accredited to the requirements of ISO/IEC 17025 for specific tests as listed on our scope of accreditation, including geochemical, mineralogical and trade mineral tests. To view a list of the accredited methods, please visit the following website and search SGS Canada - Minerals Services - Lakefield: <http://palcan.scc.ca/SpecsSearch/GLSearchForm.do>.

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Member of the SGS Group (SGS SA)



## Method Summary

The Semi-Quantitative Mineral Identification by XRD (ME-LR-MIN-MET-MN-D03) method used by SGS Minerals Services is accredited to the requirements of ISO/IEC 17025.

### ***Mineral Identification and Interpretation:***

Mineral identification and interpretation involve matching the diffraction pattern of a test sample material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) and released on software as a database of Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds. Mineral proportions are based on relative peak heights and may be strongly influenced by crystallinity, structural group or preferred orientations. Interpretations and relative proportions should be accompanied by supporting petrographic and geochemical data (Whole Rock Analysis, Inductively Coupled Plasma - Optical Emission Spectroscopy, etc.).

### ***Semi-Quantitative Analysis:***

The Semi-Quantitative analysis (RIR method) is performed based on each mineral's relative peak heights and of their respective  $I/I_0$  values, which are available from the PDF database. Mineral abundances for the bulk sample (in weight %) are generated by Bruker-EVA Software. These data are reconciled with a bulk chemistry (e.g. whole rock analysis including  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{Na}_2\text{O}$ ,  $\text{K}_2\text{O}$ ,  $\text{CaO}$ ,  $\text{MgO}$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{Cr}_2\text{O}_3$ ,  $\text{MnO}$ ,  $\text{TiO}_2$ ,  $\text{P}_2\text{O}_5$ ,  $\text{V}_2\text{O}_5$  or other chemical data). A chemical balance table shows the difference between the assay results and elemental concentrations determined by XRD.

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**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

## Summary of Semi-Quantitative X-ray Diffraction Results

### Crystalline Mineral Assemblage (relative proportions based on peak height)

| Sample    | Major<br>(>30% Wt) | Moderate<br>(10% -30% Wt)                | Minor<br>(2% -10% Wt) | Trace<br>(<2% Wt)                   |
|-----------|--------------------|--|-----------------------|-------------------------------------|
| (1) 15659 | plagioclase        | quartz, potassium-feldspar               | mica, illite          | *chlorite, *amphibole,<br>*diopside |
| (2) 15664 | quartz             | potassium-feldspar,<br>plagioclase, mica | -                     | *chlorite, *illite,<br>*diopside    |

\* tentative identification due to low concentrations, diffraction line overlap or poor crystallinity

| Mineral            | Composition  |
|--------------------|--|
| Amphibole          | $Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$                      |
| Chlorite           | $(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$              |
| Diopside           | $CaMgSi_2O_6$  |
| Illite             | $(K,H_3O)(Al,Mg,Fe)_2(Si,Al)_4O_{10}[(OH)_2,(H_2O)]$ |
| Mica               | $K(Mg,Fe)Al_2Si_3AlO_{10}(OH)_2$                     |
| Plagioclase        | $(NaSi,CaAl)AlSi_2O_8$                               |
| Potassium-Feldspar | $KAlSi_3O_8$   |
| Quartz             | $SiO_2$  |



### Semi-Quantitative X-ray Diffraction Results

| Mineral    | 15659<br>(wt %) | 15664<br>(wt %) |
|------------|-----------------|-----------------|
| Quartz     | 23.9            | 34.3            |
| Microcline | 24.3            | 24.4            |
| Albite     | 37.4            | 23.9            |
| Muscovite  | 6.5             | 10.8            |
| Anorthite  | 3.1             | 3.7             |
| Illite     | 2.0             | 1.9             |
| Diopside   | 1.0             | 0.8             |
| Chamosite  | 1.0             | 0.3             |
| Actinolite | 0.9             | -               |
| TOTAL      | 100             | 100             |



### Chemical Balance

15659

| Name       | Assay <sup>1</sup> | SQD <sup>2</sup> | Delta | Status |
|------------|--------------------|------------------|-------|--------|
| Oxygen     | 48.1               | 48.7             | -0.62 | Both   |
| Silicon    | 33.2               | 33.4             | -0.16 | Both   |
| Aluminum   | 8.31               | 8.60             | -0.30 | Both   |
| Potassium  | 4.37               | 4.20             | 0.17  | Both   |
| Sodium     | 3.33               | 3.28             | 0.05  | Both   |
| Iron       | 0.73               | 0.87             | -0.13 | Both   |
| Calcium    | 0.69               | 0.69             | 0.00  | Both   |
| Magnesium  | 0.18               | 0.19             | -0.02 | Both   |
| Hydrogen   | -                  | 0.06             | -0.06 | SQD    |
| Phosphorus | 0.02               | -                | 0.02  | XRF    |
| Titanium   | 0.06               | -                | 0.06  | XRF    |
| Chromium   | 0.01               | -                | 0.01  | XRF    |

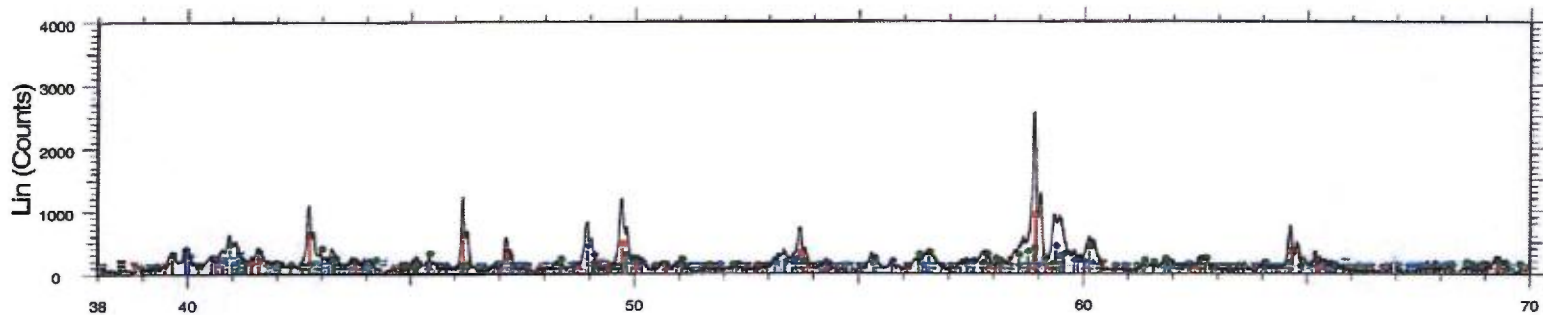
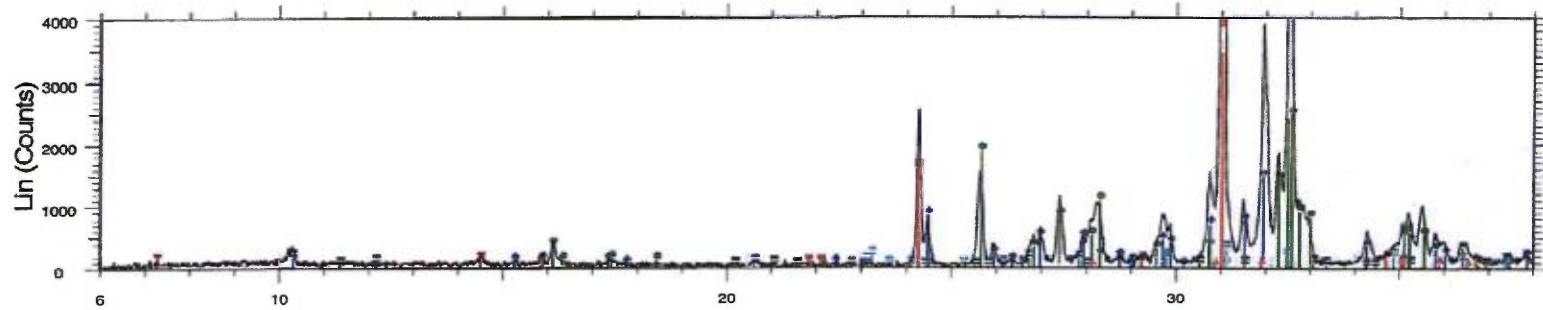
15664

| Name       | Assay <sup>1</sup> | SQD <sup>2</sup> | Delta | Status |
|------------|--------------------|------------------|-------|--------|
| Oxygen     | 48.7               | 49.2             | -0.51 | Both   |
| Silicon    | 34.7               | 34.6             | 0.06  | Both   |
| Aluminum   | 7.78               | 8.07             | -0.29 | Both   |
| Potassium  | 4.92               | 4.63             | 0.30  | Both   |
| Sodium     | 2.41               | 2.10             | 0.32  | Both   |
| Calcium    | 0.42               | 0.66             | -0.24 | Both   |
| Iron       | 0.34               | 0.54             | -0.20 | Both   |
| Hydrogen   | -                  | 0.07             | -0.07 | SQD    |
| Magnesium  | 0.10               | 0.07             | 0.03  | Both   |
| Phosphorus | 0.03               | -                | 0.03  | XRF    |
| Titanium   | 0.03               | -                | 0.03  | XRF    |

1. Values measured by chemical assay.

2. Values calculated based on mineral/compound formulas and quantities identified by semi-quantitative XRD.

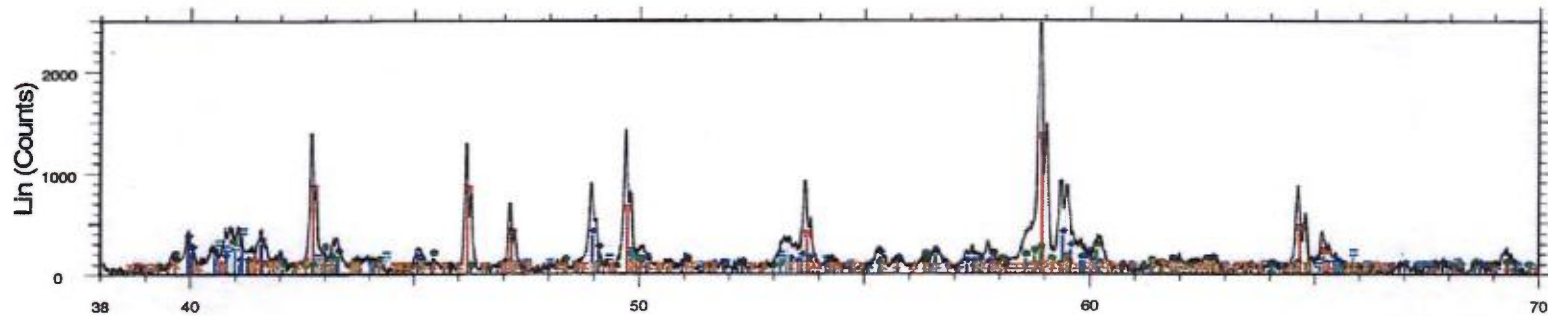
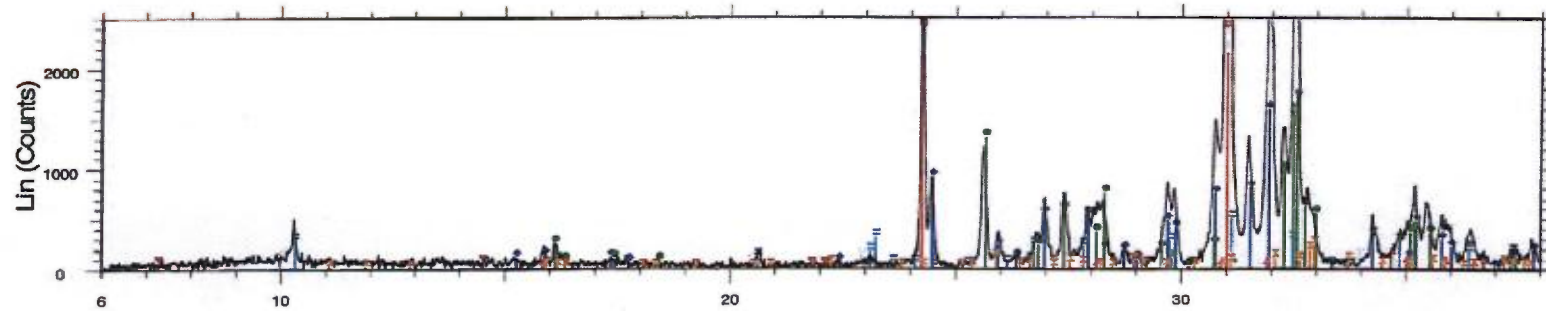
15659



2-Theta - Scale

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▲ 15659 - File: Jun5015-2.raw - Type: 2Th/Th locked - Start: 6.000 ° - End: 69.998 ° - Step:</li> <li>■ 01-079-1910 (C) - Quartz - SiO<sub>2</sub></li> <li>◆ 01-084-0708 (C) - Microcline - KAlSi<sub>3</sub>O<sub>8</sub></li> <li>● 01-080-1094 (C) - Albite low - Na(AlSi<sub>3</sub>O<sub>8</sub>)</li> <li>○ 01-086-1707 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)</li> <li>▼ 00-046-1324 (I) - Chamosite-1M1bb - (Fe,Al,Mg)<sub>6</sub>(Si,Al)<sub>4</sub>O<sub>10</sub>(OH)<sub>8</sub></li> <li>■ 01-080-0521 (C) - Actinolite - Ca<sub>2</sub>(Mg,Fe)<sub>5</sub>Si<sub>8</sub>O<sub>22</sub>(OH)</li> <li>▲ 01-087-0701 (C) - Diopside ferroan, syn - CaMg<sub>0.52</sub>Fe<sub>0.48</sub>(Si<sub>2</sub>O<sub>6</sub>)</li> </ul> | <ul style="list-style-type: none"> <li>■ 01-077-2255 (C) - Muscovite - KAl<sub>2</sub>(AlSi<sub>3</sub>O<sub>10</sub>)(OH)<sub>2</sub></li> <li>■ 00-015-0603 (D) - Illite - K(AlFe)<sub>2</sub>AlSi<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>·H<sub>2</sub>O</li> </ul> |
|--|--|

15664



2-Theta - Scale

- M 15664 - File: Jun5015-7.raw - Type: 2Th/Th locked - Start: 6.000 ° - End: 69.998 ° - Step: X 01-086-1706 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)
- 01-079-1910 (C) - Quartz - SiO<sub>2</sub>
- ◆ 01-084-0708 (C) - Microcline - KAlSi<sub>3</sub>O<sub>8</sub>
- ◻ 01-080-1094 (C) - Albite low - Na(AlSi<sub>3</sub>O<sub>8</sub>)
- ▽ 00-046-1324 (I) - Chamosite-1M1bb - (Fe,Al,Mg)<sub>6</sub>(Si,Al)<sub>4</sub>O<sub>10</sub>(OH)<sub>8</sub>
- ▢ 01-077-2255 (C) - Muscovite - KAl<sub>2</sub>(AlSi<sub>3</sub>O<sub>10</sub>)(OH)<sub>2</sub>
- ◻ 00-015-0603 (D) - Illite - K(AlFe)<sub>2</sub>AlSi<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>·H<sub>2</sub>O
- ▲ 01-087-0701 (C) - Diopside ferroan, syn - CaMg<sub>0.52</sub>Fe<sub>0.48</sub>(Si<sub>2</sub>O<sub>6</sub>)

**APPENDIX III**

Selected Geochemical Analytical Results from Spar Mica (1955) and  
Canspar Resources (1993-94) Reporting

Major Oxide elements from Canspar Resources 1991 drill holes from Hurtubise 1993

| Composite | SiO2 | Al2O3 | Fe2O3 | Na2O | K2O  | CaO  | MgO  | TiO2 | MnO    | LOI  |
|-----------|------|-------|-------|------|------|------|------|------|--------|------|
| ID        | %    | %     | %     | %    | %    | %    | %    | %    | %      | %    |
| IA        | 75.4 | 13.2  | 0.58  | 3.32 | 4.84 | 0.72 | 0.15 | 0.08 | < 0.01 | 0.6  |
| IB        | 75.2 | 13.5  | 0.59  | 3.45 | 4.74 | 0.87 | 0.2  | 0.09 | < 0.01 | 0.77 |
| IC        | 75   | 13.9  | 0.69  | 3.81 | 4.3  | 0.8  | 0.24 | 0.09 | 0.04   | 0.74 |
| 2A        | 75   | 13.9  | 1.04  | 3.29 | 4.53 | 0.72 | 0.31 | 0.12 | 0.04   | 0.71 |
| 2B        | 74.2 | 13.9  | 0.75  | 3.45 | 5.29 | 0.84 | 0.22 | 0.1  | 0.04   | 0.7  |
| 2C        | 75.3 | 14    | 0.67  | 3.37 | 4.64 | 0.83 | 0.19 | 0.09 | 0.01   | 0.64 |
| 3A        | 74.7 | 14    | 0.75  | 3.92 | 4.08 | 0.99 | 0.21 | 0.09 | 0.03   | 0.71 |
| 3B        | 73.3 | 14    | 0.57  | 3.53 | 5.85 | 0.84 | 0.2  | 0.08 | 0.02   | 0.57 |
| 3C        | 74.8 | 14    | 0.6   | 3.03 | 4.93 | 0.65 | 0.2  | 0.09 | 0.02   | 0.82 |
| 4A        | 74.4 | 14.1  | 0.73  | 3.88 | 4.49 | 0.88 | 0.23 | 0.09 | 0.02   | 0.6  |
| 4B        | 74.8 | 14.1  | 0.8   | 4.41 | 2.91 | 1.19 | 0.2  | 0.11 | 0.02   | 0.62 |
| 4C        | 74.5 | 14.2  | 0.68  | 3.3  | 4.95 | 1.11 | 0.19 | 0.12 | < 0.01 | 0.56 |
| 5A        | 74.2 | 14.2  | 0.8   | 3.3  | 5.33 | 0.77 | 0.21 | 0.1  | < 0.01 | 0.74 |
| 5B        | 74.6 | 14.2  | 0.98  | 3.03 | 5.48 | 0.57 | 0.22 | 0.11 | < 0.01 | 0.57 |
| 5C        | 73.9 | 14.3  | 0.73  | 3.23 | 6.21 | 0.64 | 0.18 | 0.1  | 0.02   | 0.42 |
| 6A        | 74.3 | 14.3  | 1     | 3.45 | 4.68 | 0.92 | 0.21 | 0.12 | 0.02   | 0.64 |
| 6B        | 74.7 | 14.3  | 1.02  | 2.93 | 5.06 | 0.67 | 0.21 | 0.14 | 0.01   | 0.63 |
| 6C        | 74.2 | 14.3  | 1.05  | 2.65 | 5.84 | 0.55 | 0.21 | 0.14 | 0.02   | 0.61 |
| 6D        | 74.3 | 14.3  | 1.08  | 3.08 | 5.43 | 0.99 | 0.2  | 0.14 | 0.03   | 0.51 |
| 7A        | 75.8 | 14.3  | 0.66  | 3.5  | 4.75 | 0.73 | 0.2  | 0.09 | 0.02   | 0.35 |
| 7B        | 75.1 | 14.3  | 0.78  | 3.34 | 5.35 | 0.66 | 0.17 | 0.11 | 0.02   | 0.39 |
| 7C        | 74.3 | 14.3  | 0.1   | 4.3  | 4.19 | 1.17 | 0.15 | 0.1  | 0.01   | 1.43 |
| 8A        | 74.4 | 14.3  | 0.72  | 3.36 | 5.03 | 0.87 | 0.25 | 0.09 | < 0.01 | 0.74 |
| 8B        | 75.3 | 14.4  | 0.62  | 3.35 | 4.5  | 0.79 | 0.2  | 0.09 | < 0.01 | 0.65 |
| 9A        | 75.3 | 14.4  | 0.57  | 3.26 | 4.62 | 0.91 | 0.2  | 0.07 | 0.02   | 0.65 |
| 9B        | 74.5 | 14.4  | 0.69  | 3.41 | 5.23 | 0.87 | 0.17 | 0.09 | 0.01   | 0.58 |
|           |      |       |       |      |      |      |      |      |        |      |
| 10A       | 74.6 | 14.4  | 0.75  | 3.88 | 4.31 | 0.85 | 0.24 | 0.07 | 0.03   | 0.61 |

| <b>Composite</b> | <b>SiO2</b> | <b>Al2O3</b> | <b>Fe2O3</b> | <b>Na2O</b> | <b>K2O</b> | <b>CaO</b> | <b>MgO</b> | <b>TiO2</b> | <b>MnO</b> | <b>LOI</b> |
|------------------|-------------|--------------|--------------|-------------|------------|------------|------------|-------------|------------|------------|
| 10B              | 74.3        | 14.4         | 0.51         | 3.13        | 6.09       | 0.57       | 0.13       | 0.06        | 0.02       | 0.47       |
| 10C              | 74.7        | 14.4         | 0.73         | 3.78        | 4.72       | 0.88       | 0.2        | 0.09        | <0.01      | 0.51       |
| 11A              | 74.6        | 14.5         | 0.66         | 3.49        | 5.05       | 0.74       | 0.2        | 0.08        | <0.01      | 0.59       |
| 11B              | 75          | 14.5         | 1.15         | 3.96        | 3.71       | 1.01       | 0.27       | 0.14        | 0.02       | 0.53       |
| 11C              | 73.8        | 14.5         | 0.52         | 3.15        | 4.77       | 2.02       | 0.19       | 0.08        | 0.03       | 1.39       |
| 12A              | 74.4        | 14.6         | 0.68         | 3.78        | 4.9        | 0.83       | 0.18       | 0.07        | 0.02       | 0.46       |
| 12B              | 75.9        | 14.6         | 0.66         | 3.72        | 3.94       | 0.83       | 0.13       | 0.09        | 0.01       | 0.69       |
| 12C              | 75.8        | 14.6         | 0.55         | 3.64        | 4.46       | 0.88       | 0.13       | 0.07        | 0.02       | 0.49       |
| 13A              | 75.6        | 14.6         | 1.11         | 3.52        | 3.99       | 0.85       | 0.21       | 0.15        | 0.03       | 0.57       |
| 13B              | 75.5        | 14.6         | 1.08         | 3.49        | 4.39       | 0.8        | 0.24       | 0.14        | 0.02       | 0.6        |
| 13C              | 75.1        | 14.6         | 0.87         | 2.8         | 5.82       | 0.57       | 0.19       | 0.14        | < 0.01     | 0.52       |
| 13D              | 75.7        | 14.7         | 0.61         | 3.09        | 4.86       | 0.69       | 0.17       | 0.11        | 0.01       | 0.63       |
| 14A              | 75.2        | 14.7         | 1.29         | 3.18        | 4.7        | 0.7        | 0.22       | 0.16        | 0.02       | 0.55       |
| 14B              | 75.4        | 14.7         | 1            | 3.01        | 5.24       | 0.64       | 0.14       | 0.12        | 0.03       | 0.5        |
| 14C              | 75.4        | 14.7         | 1.01         | 3.09        | 5.11       | 0.68       | 0.12       | 0.12        | < 0.01     | 0.51       |
| 14D              | 74.3        | 14.8         | 1.36         | 2.99        | 4.76       | 0.68       | 0.23       | 0.2         | 0.02       | 0.74       |
| 14E              | 75.6        | 14.8         | 1.15         | 3.11        | 4.72       | 0.65       | 0.18       | 0.17        | 0.02       | 0.6        |
| 15A              | 74.3        | 14.9         | 1.07         | 3.42        | 4.53       | 0.93       | 0.18       | 0.14        | 0.02       | 0.85       |
| 15B              | 75.2        | 14.9         | 0.75         | 3.5         | 4.67       | 0.83       | 0.11       | 0.11        | 0.02       | 0.62       |
| 15C              | 76          | 15.1         | 0.62         | 3.28        | 5.24       | 0.67       | 0.16       | 0.16        | 0.01       | 0.36       |
|                  | 3517.90     | 674.70       | 37.38        | 159.96      | 227.23     | 38.85      | 9.14       | 5.11        | 0.77       | 29.74      |
|                  |             |              |              |             |            |            |            |             |            |            |
|                  | <b>SiO2</b> | <b>Al2O3</b> | <b>Fe2O3</b> | <b>Na2O</b> | <b>K2O</b> | <b>CaO</b> | <b>MgO</b> | <b>TiO2</b> | <b>MnO</b> | <b>LOI</b> |
| <b>Average</b>   | 74.85       | 14.36        | 0.80         | 3.40        | 4.83       | 0.83       | 0.19       | 0.11        | 0.02       | 0.63       |
| <b>Hi</b>        | 73.30       | 13.20        | 0.10         | 2.65        | 2.91       | 0.55       | 0.11       | 0.06        | < 0.01     | 0.35       |
| <b>Low</b>       | 76.00       | 15.10        | 1.36         | 4.41        | 5.33       | 2.02       | 0.31       | 0.20        | 0.04       | 1.43       |

Major Oxide elements from Spar Mica 1955 drill holes from Germain 1956

| Hole #         | SiO2         | Al2O3        | Fe2O3       | CaO         | K2O         | Na2O        | Combined Alkalies | Mica Content |
|----------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------------|--------------|
|                | %            | %            | %           | %           | %           | %           | %                 | %            |
| 7              | 73.3         | 16.97        | 0.256       | 1.26        | 5.2         | 2.9         | 8.1               | 2.49         |
| 8              | 75.88        | 14.23        | 0.294       | 1.16        | 5.6         | 2.7         | 8.3               | 6.46         |
| 9              | 74.6         | 14.37        | 0.388       | 1.1         | 6.2         | 2.8         | 9                 | 4.42         |
| 10             | 75.42        | 14.04        | 0.386       | 1.2         | 5.7         | 3.4         | 9.1               | 5.17         |
| 11             | 75.24        | 14.2         | 0.388       | 1.28        | 5.6         | 3.1         | 8.7               | 5.36         |
| 12             | 74.84        | 15.47        | 0.372       | 1.23        | 4.8         | 3           | 7.8               | 4.03         |
| 13             | 75.84        | 14.26        | 0.366       | 1.12        | 5.3         | 2.9         | 8.2               | 8.06         |
| 14             | 74.6         | 15.09        | 0.396       | 1.06        | 5.8         | 2.8         | 8.6               | 8.27         |
| 15             | 75.22        | 14.72        | 0.282       | 1.03        | 5.4         | 2.8         | 6.2               | 8.51         |
| 16             | 74.8         | 15.06        | 0.282       | 0.94        | 5.5         | 2.8         | 8.3               | 5.34         |
| 17             | 76.34        | 14.19        | 0.36        | 1.03        | 5.2         | 2.8         | 8                 | 6.03         |
| 18             | 75.58        | 14.33        | 0.33        | 1.22        | 5.6         | 2.8         | 8.4               | 4.7          |
| 19             | 75.58        | 14.92        | 0.372       | 1.07        | 5.6         | 2.9         | 8.5               | 4.25         |
| 20             | 75.34        | 14.66        | 0.378       | 1.16        | 4.8         | 3.3         | 8.1               | 3.41         |
| 21             | 73.22        | 15.23        | 0.372       | 1.07        | 5.7         | 3.5         | 9.2               | 2.92         |
| 22             | 75.12        | 14.34        | 0.372       | 0.93        | 5.8         | 3.3         | 9.1               | 3.96         |
| <b>Average</b> | <b>75.06</b> | <b>14.75</b> | <b>0.35</b> | <b>1.12</b> | <b>5.49</b> | <b>2.99</b> |                   | <b>5.21</b>  |



## **APPENDIX IV**

References for Regional Uranium Exploration – Johan Beetz Area

**Regional Uranium Exploration References**

|      |  |  |  |
|------|--|--|--|
| 1967 | GM-22013 - Ed White Uranium Property   | (Uranium ) Scintillometer Survey & Trenches                | Total amount removed is 55 tons. 50 tons grading 0.04% U and 5 tons grades 0.15% U for an average of 1 lb per ton.   |
| 1968 | GM-23966 - Wee Gee Uranium Mines   | (Uranium) Diamond Drill Hole : D1                          | From 2' to 48': pegmatite - radioactive 100 - 200 CPM  |
| 1968 | GM-22015 - Ed White Uranium Property   | (Uranium) Scintillometer Survey                            | Recommendation for more trenches   |
| 1975 | GM-50932 - Evelyn Explorations LTD   | (Uranium) Scintillometer Survey                            | Scintillometer readings on Uranium showings  |
| 1976 | GM-33280 - Northgate Exploration Limited   | Airborne Radiometric Survey                                | Anomaly A identified   |
| 1977 | GM-33517 – Deraps and Tanguay claims, General Securities Corporation Ltd.        | (Uranium - Yttrium) Evaluation Report                      | Large area to be considered for open pit mining. Recommends determination of best methods of extraction  |
| 1986 | GM-46667 – Chambers claims, Nuclear Power Resources Inc., Wabigoon Resources LTD | (Uranium) Evaluation Report                                | The overall value of the property looks excellent if the entire suite of metals is considered (Cesium, Gallium, Lanthium, Rubidium, Thorium, Yttrium, Beryllium) |
| 1988 | GM-48307 - SOQUEM  | (Uranium - Yttrium) Baie Quetachou Exploration Report      | Weak Yttrium enrichment in Uranium and Thorium zone  |
| 1990 | GM-50494 - Ressources Quadrus  | Evaluation Report  | Up to 20 million tons Uranium, Yttrium and Cerium concentrations   |
| 2006 | GM-62969 - UFM Ventures LTD.   | Magnetic, Gamma Ray Spectrometry and VLF Surveys (Uranium) | General maps at a scale of 1:50 000  |
| 2006 | GM-62977 - Uracon Resources Inc.   | (Uranium) Summer 2006 Work Report, North Shore Property    | Great number of samples taken  |



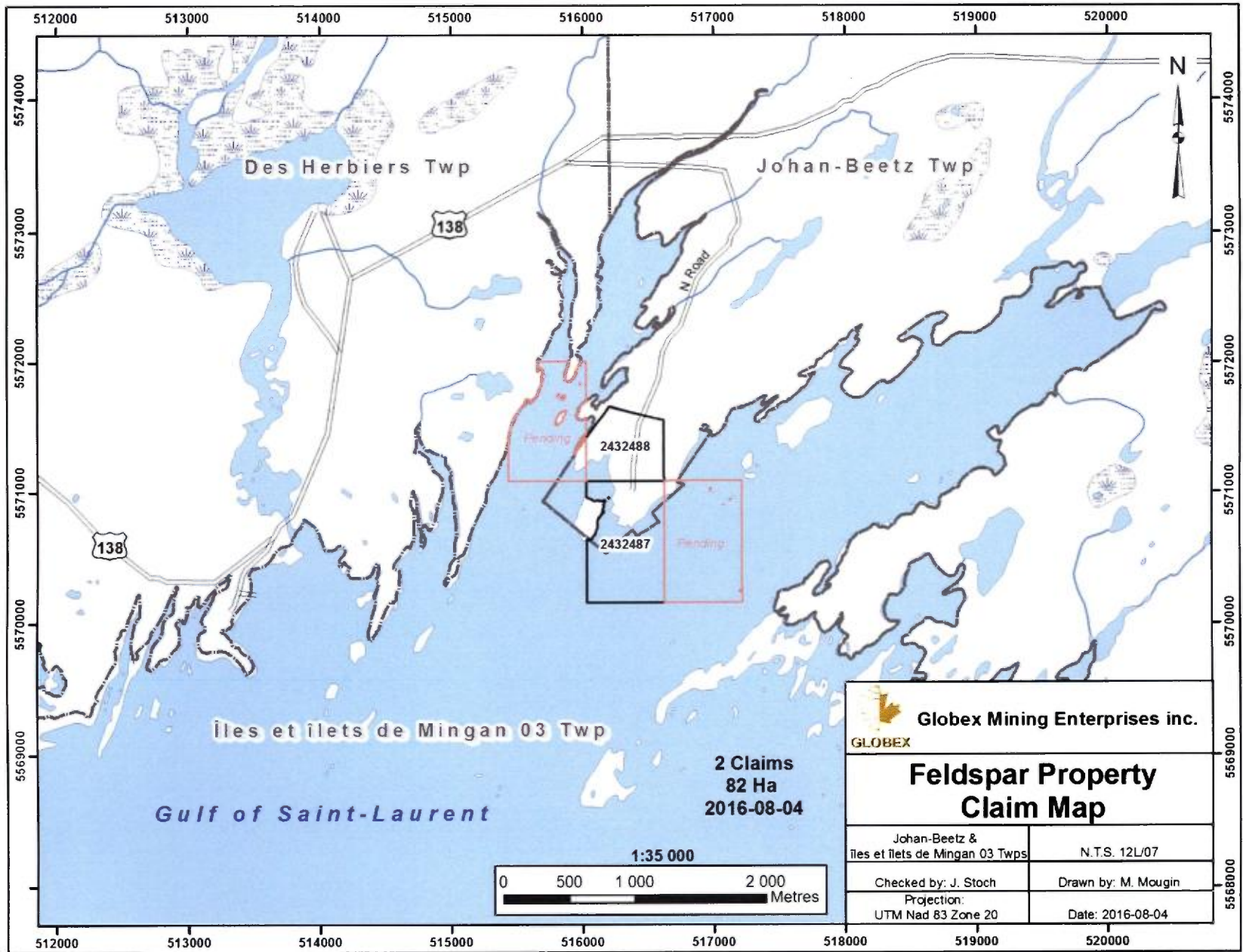
Location of historic uranium exploration near Johan Beetz feldspar property

**APPENDIX V**

**Compilation Map Johan Beetz Feldspar Property**

**Claim Map of Johan Beetz Feldspar Property showing  
new claims under application**

GM 70006



Claim Map of Johan Beetz Feldspar Property showing new claims under application