

Technical Report Niobium and Tantalum resource estimation update of the Crevier deposit North of Lac St-Jean Quebec Canada





Respectfully submitted to: MDN Inc. & Crevier Minerals Inc.

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FOREWORD

The objective of this study is to produce a NI 43-101 compliant **mineral resources estimate update** of the Crevier Niobium & Tantalum property owned by Crevier Minerals Inc. and under option by MDN Inc.

This report is done with the objective of bringing up to date the evaluation of the resources considering the new drilling of 2009 part of an ongoing work program for the completion of a feasibility study later in 2010-2011.

This study is done in accordance with a mandate given to SGS Canada Inc. - Geostat office by the President of MDN Inc. and Crevier Minerals Inc. Mr. Serge Bureau.

This report is prepared by SGS Canada Inc. Claude Duplessis QP for mineral resources and IOS Services Géoscientifiques Inc. Réjean Girard QP for geology and drilling campaign management. IOS Services Géoscientifiques Inc. has managed the latest drilling campaign for MDN Inc.

The 2009 drilling campaign has been implemented under the Réjean Girard's supervision, who visited the site and the operations at numerous occasions in summer 2009 and 2010.

The authors are considered as independent from Crevier Minerals according to the criteria set in the 43-101 national instrument. The author does not owns any securities or other incentive in the project, Crevier Minerals, or any of their partners, share-holder or competitors. IOS is currently under contract by Crevier Minerals to carry-on the 2010 drilling campaign and providing various logistic supports, the value of which being less than 20% of its annual incomes.



1- Summary

Crevier Minerals Inc. ("Crevier or MCI") and MDN Inc. (MDN) commissioned SGS Canada Inc. -Geostat office. ("Geostat") to carry out the estimation of the mineral resources update of the Crevier Niobium and Tantalum deposit, north of Lac St-Jean, Quebec. This technical report is prepared in accordance with the Standards of Disclosure for Mineral Projects as defined by NI 43-101.

The Crevier Property is located in the Crevier and Lagorce Townships that are in the MRC of Maria-Chapdelaine in the Roberval County. The property is located North of Lac St-Jean area and the nearest city with all major services is Dolbeau-Mistassini about 85km to the south.

The property is centered on latitude 49° 30' North and longitude 76° 49' West. In the SNRC system, the map reference is 32H/07. The property now covers 186 claims covering an area of 10,416 hectares. One claim generally covers 56 hectares.

On February 2010, MDN Inc. made commitment and acquired 67.5% of Crevier Mineral Inc. shares, the remaining 32.5% is held by IAMGOLD.

On April 14th 2009, MDN Inc. has come to an agreement with Crevier Minerals Inc.(MCI). The transaction provides MDN with an option to acquire, over a three (3) year period, a majority equity interest in MCI in return for funding the development and feasibility study of a 43-101 compliant niobium and tantalum resource (the "Resource"), located in Quebec's Lac St-Jean Region, 80 km North of St-Félicien.

On April 3rd 2008, Crevier has come to an agreement for the purchase of 100% interest in the property from IAMGOLD QUEBEC-MANAGEMENT INC. for 500,000 Canadian dollars and issued 2,000,000 shares of Crevier Minerals Inc. to IAMGOLD.

The Crevier ore body was discovered by SOQUEM in 1975. From 1975 to 1986, Soquem carried out different phases of exploration on the property. Soquem, in 1986, in the process of a partial privatization of his producing assets formed a new company named Cambior. The ownership of the Crevier Property was transferred to Cambior during the privatization process. In 2006, Cambior was bought by IAMGOLD who became the owner of the Crevier property. In April 2008, Crevier bought the property from IAMGOLD.

The Crevier igneous alkaline complex, covering 25 km², is located inside a gneissic Grenville formation. The origin, according to some authors is associated with the major Saguenay Graben structures, along which a series of phanerozoic alkaline complex intruded the Grenville rocks.

The alkaline complex is divided into three main lithological units (units 1 to 3), the fourth unit being the Grenville rocks. These main units are composed of many specific distinct lithological units, defined by local mapping and diamond drilling.

• The first unit represents the major north-western part of the complex; its elongated shape is aligned along a North 320° axis. The composition is an alternating suite of



bands of biotite-carbonate syenites, nepheline syenites, nepheline syenites with biotite and carbonatites with an orientation between North 300° and North 340°.

- The second unit mainly covers the south of the complex, but is also present in a 300 meters thick band surrounding the first unit. The composition is mainly nepheline syenite with nepheline-biotite syenite dykes crossing the formations along North 320°.
- The third unit is very small and is located in the south-western part of the complex, inside the second unit and is characterized by a large amount of syenite. The chronologic sequence of the deposition of this complex is the following:
 - The chronologic sequence of the deposition of this complex is the following
 - Alkaline metasomatism preceding the complex intrusion.
 - Deposition of the nepheline-biotite syenites.
 - Emplacement of carbonate-biotite melanosyenite.
 - Carbonatite injection.
 - Intrusion of nepheline syenite dykes and biotite syenites.

The mineralized tantalum-niobium zone is located in the southern part of the Crevier alkaline intrusive. Previous stripping, geological mapping, trench sampling and diamond drilling contributed to ascertain this mineralization over a length exceeding three kilometres. The niobium-tantalum mineralization type is associated with a porphyritic nepheline syenite dyke. The contacts with the host rocks are sharp and can easily be observed. The dyke is generally composed (95%) of nepheline syenite of pegmatitic texture containing large feldspar crystals and nepheline having variable grain size from few centimetres to close to one meter in certain areas. Many secondary minerals are observed, mainly: biotite, magnetite, pyrrhotite, pyrite, zircon, sodalite, cancrinite, ilmenite, carbonates and pyrochlore. The main dyke also contains about 5% of secondary dykes and host rocks. The thickness of the secondary units varies from centimetres to meters.

The dyke is oriented along North 320° and is 20 metres thick on average. It dips to the north at 80 to 85 degrees. Its thickness is regular, showing local swelling caused by the presence of large inclusions or parallel lenses. The dyke extends from the surface down to a depth of at least 300 metres. The overburden thickness is generally between two and three metres but can locally reach 12 metres. Large zones have been stripped and many rock trenches have been cut during 1980-1981 to fully map and to sample the mineralized zone. A large portion of the overburden has already been stripped for sampling purposes.

A total of 105 diamond drill holes were completed by previous owners on the property, 72 by SOQUEM and 33 by Cambior. The drill hole spacing was approximately 50 meters on section with a spacing of 100 to 300 meters between sections. These holes were sampled generally at 1.5 meter intervals. Samples were assayed for oxides and especially Nb_2O_5 and Ta_2O_5 from pulverized half core samples. Results show that the Niobium grade varies along strike from south to north of the exploration grid, the grid being oriented 321°. The generally higher Nb grades are observed in the southern part and diminish toward the north direction but the dyke horizontal width increases in the same direction. Tantalum is found within the Niobium pyrochlore mineral grain in a ratio of 1 to 10.



Additional drilling has allowed resources quality to increase to measured level. The in between section drilling of the MDN Inc. – Crevier drilling has confirmed Niobium and Tantalum grade. The drilling has also allowed us to remove correction of SOQUEM Tantalum.while Nb2O5 correction on SOQUEM data is maintained. A total of 157 holes are used for the estimation of resources.

The drilling to the south has expended the deposit and it is still open. The drilling to the north of the lake out of main zones has cut mineralization but has not allowed estimating resources at this stage in this sector.

During the site visit in October 2009, independent samples were taken at IOS core shack located in Chicoutimi. Independent samples were taken from two witness holes drilled by MDN Inc., Hole CR-125 & CR-135. Independent sampling by SGS Geostat has confirmed grade of the mineralized intervals analysed by IOS for MDN.

SGS Geostat completed a Mineral Resource estimate for the property using all the historical data with corrected SOQUEM diamond drill hole grades and the new drilling, 157 holes has allowed the estimation of resources. The following table presents the new current 43-101 compliant mineral resource estimate:



Current 43-101	Resources						
Mineral resources for public disclosure							
Crevier Niobiu	Crevier Niobium & Tantalum deposit in Quebec						
June 2010							
Mineral resour	ces within geolog	ical orebody wi	th cut-off at 0.19	%Nb2O5			
MEASURED							
Zone	Tonnage	Nb2O5	Ta2O5				
	metric tons	%	ppm				
All (3 dykes)	12,465,000	0.20	234				
INDICATED							
Zone	Tonnage	Nb2O5	Ta2O5				
	metric tons	%	ppm				
All (3 dykes)	12,904,000	0.19	234				
INDICATED + N	IEASURED						
Zone	Tonnage	Nb2O5	Ta2O5				
	metric tons	%	ppm				
All (3 dykes)	25,369,000	0.20	234				
INFERRED							
Zone	Tonnage	Nb2O5	Ta2O5				
	metric tons	%	ppm				
All (3 dykes)	15,423,000	0.17	252				
%Nb2O5 capped at 0.5%							
Ta2O5 in ppm capped at 550							
SG: 2.63		C.Duplessis	June _ 2010				
Soquem compo	osites Nb2O5 cori	rected					

+ New drilling by MDN Inc at Crevier have encountered mineralization where supposed and quality of resources has increased to measured level.

+ The new resource estimation is suitable for the completion of the feasibility study.

+ Resources have been extended to the south

+ The project deserve continuing project development

SGS Geostat makes the following recommendations that focus on two aspects: The continuation of project development and the drilling for expansion to the south and at depth of the mineral resources.

MDN Inc. with Crevier Minerals has developed a work program in 2008-2009 and this program is actually in progress.



The proposed Phase 1 program was made of:

A) In 2009, prepare a preliminary economic assessment to prepare documentation for environmental permitting and in order to proceed to the feasibility level in 2010. (status: Done)

B) A detailed topographical survey of the property with DGPS or equivalent method.(Status: Just completed in July 2010)

C) A diamond drilling program of 5,000 m of NQ drilling. The program has 3 goals: (partially completed)

1) geotechnical characterization of the rock for open pit slope design and drilling between existing sections to increase the confidence level.

2) recover mineralized material for metallurgical tests.

3) exploration to extend known mineralization and test targets

D) A geotechnical assessment for mine design (in progress)

E) A market study (in progress)

F) Design the underground mine (Done in PEA but will not be considered in the current project development in the FS)

G) Develop Process engineering Flowsheet and Pilot plant tests (in progress and test schedule for November 2010 at SGS Lakefield)

H) Environmental characterization (in progress)

I) Site/ Tailing/ Waste dump characterization with progressive reclamation plan(in progress)

J) Develop infrastructure plans (Engineering)(in progress)

K) Review legal considerations & permitting (in progress)

L) Prepare environmental management plan in accordance with the progressive reclamation plan (in progress)

M) Validate the economics and financing research (will be address with FS results)

+ Crevier Minerals should prepare a technical report at the end of each phase of exploration providing full description of the program and results with recommendations

+ SGS Canada Inc. Geostat group formally recommends continuing the development of the project.



	Total
S coping S tudy-P releminary E conomic Assessment	\$250 000
S ite topography	\$100 000
Geotechnic and resources validation drilling	\$800 000
Mine Geotechnical Assesment	\$100 000
Design mining Open Pit	\$200 000
Market S tudy	\$100 000
Design underground mining	\$200 000
Processing Eng Flowsheet development Pilot Plant	\$1 700 000
Environmental charaterization	\$500 000
Site /taliling/waste Dump Charaterization	\$500 000
Infrastructure (Engineering)	\$1 000 000
Legal consideration/Permitting	\$250 000
E nvironmental management	\$200 000
E conomics Financing	\$200 000
S ub T otal	\$6 100 000
Contengency 10%	\$610 000
Total	<mark>\$6 710 000</mark>

Existing and ongoing work program and associated cost

Out of the ongoing program 2 million dollars have been invested in 2009 while 3 to 4 million dollars should be spend in 2010 on the project. The completion of the Feasibility is scheduled for March 2011.

CD July 2010



2-Introduction

MDN Inc has optioned the Crevier property from Crevier Minerals Inc. (CMI) on April 14th 2009, CMI has acquired 100% of the Crevier property in 2008 from IAMGOLD which in turn had acquired it from Cambior. As part of its development strategy, the company required the preparation of an update NI 43-101 compliant technical report on the Crevier property resources. The report was prepared under the supervision of the Qualified Persons Claude Duplessis Eng. Geological engineer with co-author, Réjean Girard from IOS Services Géoscientifiques. Claude Duplessis visited the Crevier property site on October 21st 2009 and also the core shack at IOS warehouse in Chicoutimi on October 22rd 2009. Independent sampling of witness core was done by Claude Duplessis. This report will be submitted to regulatory. The results are based on drilling and exploration data from past owners of the property (SOQUEM & CAMBIOR), 2008-2009 validation program carried out by SGS Geostat Ltd and the new drilling of Autumn 2009 realized by independent IOS Services Geoscientifiques workforce and sponsored by MDN Inc. as part of the option agreement.

2.1 Terms and units used

SGS Canada Inc - Geostat was retained by MDN Inc and Crevier Minerals Inc. to carry out update NI43-101 compliant resource estimate of the Crevier $Nb_2O_5 \& Ta_2O_5$ property located to the north of Lac St-Jean in the province of Quebec, Canada.

This report presents a technical review of the geology and the mineralization. It includes a summary of previous works, a detailed description of the new geological works carried out by MDN Inc., update on metallurgical testing, a field and core shack visit, independent check samples, an updated estimation of mineral resources and an updated proposed program of work in phases.

The information herein is derived from information used in the first technical report of 2008 and new information provided by MDN Inc – Crevier Minerals or IOS Services Géoscientifiques Inc. in 2009-2010.



All measurements in this report are presented in metric system. Monetary units are in Canadian dollars (CA\$) unless when specified in United States dollars (US\$).

A table showing abbreviations used in this report is provided below.

tonnes or mt	Metric tones
tpd	Tonnes per day
Ton corr	Tonnage corrected according to the zone dip
t, st, ST, ton	Short tons (0.907185 tonnes)
kg	Kilograms
g	Grams
OZ	Troy ounce (31.1035 grams)
oz/t	Troy ounce per short ton
g/t	Grams/tonne or ppm
NSR	Net Smelter Return
ppm, ppb	Parts per million, parts per billion
ha	Hectares
ft	Feet
in	Inches
m	Metres
km	Kilometres
m ³	Cubic metres

Table 1: List of abbreviations



2.2 Reliance on Other Experts

The authors have relied on other experts during the course of this study for the other relevant information section and the metallurgy section.

3- Property Description and Location

On February 2010 MDN Inc. has acquired 67.5% of Crevier Minerals Inc.

Shareholders of Crevier Minerals are: MDN Inc. 67.5% and Iamgold: 32.5 %,

On April 14th 2009, MDN Inc. has come to an agreement with Crevier Minerals Inc.(MCI). The transaction provides MDN with an option to acquire, over a three (3) year period, a majority equity interest in MCI in return for funding the development and feasibility study of a 43-101 compliant niobium and tantalum resource (the "Resource"), located in Quebec's Lac St-Jean Region, 80 km North of St-Félicien.

On April 3rd 2008 Crevier Minerals inc. has come to an agreement for the purchase of 100% interest of the property from IAMGOLD QUEBEC-MANAGEMENT INC. for 500,000 Canadian dollars and issued 2,000,000 shares of Crevier Minerals Inc. to IAMGOLD. The agreement is private and confidential and has been reviewed by Claude Duplessis Eng. QP, the confirmation of the payment to Iamgold is also confirmed.

3.1 Location

The Crevier Property is located in the Crevier and Lagorce Townships which are in the MRC of Maria-Chapdelaine in Roberval County. The property is located North of Lac St-Jean area and the nearest city with all major services is Dolbeau-Mistassini about 85km to the south.



Crevier Property - Saguenay - Lac Saint-Jean Location Map

Figure 1: Location of the Property in the province of Quebec

The property is centered on latitude 49° 30' North and longitude 76° 49' West, SNRC map reference 32H/07.



3.2 Property description

The property now includes 186 claims covering an area of 10,416 hectares. One claim generally covers 56 hectares.

The claims are registered in the Province of Quebec electronic system and boundaries in the field may be located with a differential global positioning system (DGPS).

The claims are in good standing at the moment of writing this report. There are no environmental liabilities which we are aware of.



Figure 2: Location of the claims in 32H07 (Red claims).

The Claims of Crevier Minerals Inc. have been validated on the MNR Quebec GESTIM website. The mineral titles are irrevocable, and the holder has the exclusivity to acquire mining lease as well as first rights of refusal on acquiring surface rights.





Crevier Property Map

Figure 3: Crevier Minerals 2009 property boundary(*) with 2002 exploration grid

*The property has been expanded since.



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Aessources naturelles et Anne Québec	GESTIMPIUG Courrier Portal Guidance	English Guit
	Consultation du registre	
Accueil	Intervenant	
Gastillation de registre Rechorche Cartie Ternitories désignés Sille FTP Mets documents Formulaires électroniques	Numéro: 82056 Raison sociale: Les Mineraux Crevier Inc. Catégorie: Personne morale Statut: Actif Adresse: A/S Serge Bureau La Tour CIBC, 31e Et, 1155, Boul Rene-Levesque Ouest Ville: Montréal Code Postal: H3B 336 Province / État: Québec Pays: Canada	
	Adresse(s) de correspondance	
	Annuler	

Figure 4: Window on validation of Status of owners of the titles on line from GESTIM.

3.3 Royalties

There are no royalties attached to the property.

However the sector is under aboriginal agreement with the Mashtiushtewash Tribe. Crevier Minerals President has already met with band authorities in July 2008 (conseil des Montagnais de Lac Saint Jean) in Roberval for preliminary project information. The contacts are:

Fabien Paul: External Affairs (Chargé des affaires extérieures)

Carl Cleary: Coordinator External Affairs (Coordonnateur aux affaires extérieures, Négociation territoriale et globale).

In summer 2009 a general information meeting took place in Lac St-Jean with responsible of the MRC Maria Chapdelaine, Giradville and Mashtiushtewash (Mashteuiatsh).

In March 2010 a project update was presented to the community during the special mining symposium organized by the MRC Maria Chapdelaine.



4- Accessibility, Climate, Local Resources, Infrastructure and Physiography

4.1 Accessibility

A gravel road from Girardville gives access to the property. It is approximately 70 km north of the village. The main road follows the upstream of the Mistassini River. The road open year round is numbered RO206.

The north portion of the property can be accessed via a small gravel road connecting to RO206 at kilometre 42; this road is used to access the neighbourhood of Lac à la Truite cabins and fishing camps. The south portion of the property is accessed from kilometre 33 on the RO206 by following a series of secondary gravel roads. These small access roads are only used in summer time.



Figure 5: Property location with regional road network



4.2 Climate

Statistics from Bagotville, Saguenay nearest official meteorological station from Météomedia web site as per Friday, October31st 2008

Latitude: 48.20N Longitude: 071.00W Altitude: 159m

Temperature °C

 J
 F
 M
 A
 M
 J
 J
 A
 S
 O
 N
 D

 Maximum -9
 -7
 0
 8
 16
 22
 24
 22
 17
 10
 1
 -6

 Minimum -21
 -19
 -11
 -2
 3
 9
 12
 11
 5
 0
 -5
 -16

 Average
 -15
 -13
 -5
 2
 9
 15
 18
 16
 11
 5
 -1
 -11

The above statistics represent average values of the meteorological parameters for each month of the year. Sampling represents 30 years from 1961 to 1991.

4.3 Local resources

The region of north Lac St-Jean has an extensive agricultural and forestry industry, it also has a significant hydro-power dam system to supply electricity to the aluminum production and transformation industry. The mining operations are mainly quarries for aggregates and dimensional stone. However Niobec, a niobium mine, is located in the area. The mine is owned and operated by Iamgold. 250 km separate Niobec and the Crevier Minerals property.

Even if the region is not a mining area, qualified personnel may be found in the region. The University of Quebec in Chicoutimi has a well developed geological department. The Chibougamau area not far from the Crevier project offers also mining facilities. The village of Girardville can provide basic needs such as food and limited accommodation, Dolbeau-Mistassini can provide more services. Several surrounding cities with their distinct services may also provide extensive contractor services and supplies within 200km.

4.4 Infrastructures

The only infrastructure at the site is the access road which is generally in good condition. The property area is large enough to support mining operations, infrastructures, processing facilities, waste dump and tailings. The nearest power line is the major transmission line from Chute-des-Passes.



4.5 Physiography

The property lies within the Lac à la Truite Basin in the valley of the Rivière à la Truite. The lake is approximately 330 meters above sea level. The lake of shallow depth covers the central part of the Crevier igneous complex (see previous claim figure for illustration). The hills are about 20 meters higher than the lake in the northern part while the south hills are about 100 meters above lake elevation.

The area has been logged in the 1980's; there is actually little mature commercial wood in the area of interest. There is no major difference in erosion pattern between the ore and the surrounding rocks and the surface is relatively smooth. One remarkable aspect of small scale erosion pattern was observed on surface where the porphyry texture is observed with the matrix protruding while the nepheline crystals are lightly carved in.



Figure 6: Topography near old blasted trenches, lens #1

In the picture above taken by Claude Duplessis during July 2008 site visit, we can see Serge Bureau, President of Crevier Minerals walking on the mineralized dyke with relatively recently grown vegetation.





Figure 7: Typical surface texture enhanced by surface weathering, lens #2



5- History

The Crevier ore body has been discovered by SOQUEM in 1975. From 1975 to 1986, Soquem carried out different phases of exploration on the property. Soquem in 1986, in the process of a partial privatization of his producing assets formed a new company named Cambior. The ownership of the Crevier Property was transferred to Cambior during that privatization process. In 2006, Cambior was bought by IAMGOLD who became the owner of the Crevier property. In April 2008, CREVIER MINERALS INC. bought the property from IAMGOLD. In April 2009 MDN Inc optioned the Crevier property from CMI.

	SOQUEM	
1975	Airborne radiometric survey Land claiming: 322 claims for 5 152 hectares (ha) Line cutting	Identified targets of interest
1976	Line cutting: 222 km including 1975 Geological mapping Trenches Radiometric, induced polarization, magnetometric surveys and mineralogical studies Diamond drilling campaign: 6 holes for 1 156 metres	First hit by DDH
1977	Mapping and geological exploration (1" = 1 000 feet) Diamond drilling campaign: 6 holes for 981 metres	Extension of mineralization
1978	Geological mapping (1" = 1 000 ft ; 1" = 200 ft) Diamond drilling campaign: 20 holes for 2 930 metres	Extension of mineralization
1979	Mineralogical studies Radiometric exploration on the boundary limits Diamond drilling campaign: 7 holes for 1 126 metres Overburden stripping and blasting of the niobium-tantalum zone Metallurgical tests in laboratory	Extension of mineralization and metallurgical testing
1980	Diamond drilling campaign: 27 holes for 3 426 metres Additional overburden stripping, mapping and surface sampling Surveyed line cutting (12.4 km) Bulk sampling of 100 tonnes Metallurgical testing (100 tonnes)	Understanding of the Nb zone, into the Syenite Porphyry dyke (SNp)

Summary of past Exploration Works



1981	Diamond drilling campaign: 5 holes 81-67 to 81-71 (10-745 project) Additional overburden stripping, mapping and surface sampling Line cutting (15 km) Bulk sampling of 1 000 tonnes Mineralogical studies Metallurgical testing (various laboratories)	More comprehensive understanding of the Nb zone, into the Syenite Porphyry dyke (SNp)
1982	Metallurgical testing in laboratory Preliminary assessment (scoping) study Aerial and topographic surveys General survey Radiometric and geological exploration Geochemical survey of creeks sediments Overburden stripping and sampling of east and south showings	Results good enough to continue
1983	Overburden stripping of mineralized showings and sampling Radiometric surveys Mapping Preliminary assessment (scoping) study Mineralogical study Total drilling by SOQUEM 72 holes(13A & 13B) numbered 10-745-1 to 10-745-71	Results good enough to continue
	CAMBIOR	
1986	Complete property acquisition by Cambior Feasibility study: Nb – Ta deposit	Results shows not enough robust economics due to metal price at the time
1997	Soquem takes an option on the property	Back in the hands of SOQUEM
1997-98	Claims staking, and exploration for apatite, sampling, geochemistry and mineralogy	Looking for phosphate
2000	Soquem drops the option on the property Cambior now holds 100% of the property	Back in the hands of Cambior
2002	Diamond drilling campaign by Cambior: 33 holes for 6 062 metres	Resource validation of SOQUEM works



	CREVIER	
2008	Crevier Minerals Inc. acquire property from	Passing from
	IAMGOLD(previously Cambior)	IAMGOLD to
		C.M.I.
2009	Compilation, independent sampling by SGS Geostat and first	First 43-101
	NI 43-101 compliant resource	resource
		statement
2009	Mettallurgical testing and negociation CMI & MDN	MDN Inc.
		optioned property
		from CMI in 2009
2010	Preparation of a first Preliminary Economic Assessment by	Positive results of
	Metchem based on 2009 Resources.	the PEA trigger
		investment of
		MDN Inc in the
		option agreement
		for the financing
		of the Feasibility
		study.

5.1 Exploration and historical mineral resources (not 43-101 compliant)

5.1.1 1975

Discovery by SOQUEM of the Crevier alkaline complex during an airborne spectrometer survey with E-W lines at every kilometre. Two additional surveys were conducted with lines at 0.5 km and at 1 000 feet spacing.

Reconnaissance mapping was done and 19 trenches were excavated, sampled and assayed for U_3O_8 , Nb_2O_5 , Ta_2O_5 , ZrO_2 and P_2O_5 .

5.1.2 1976

Following its development policy SOQUEM prepared a public tender for a participation of 33% in the property, based mainly on 23 surface samples taken from radioactive bands three feet or less in width averaging 1.5 lb per ton of U_3O_8 , 0.22% of $Nb_2O_5Nb_2O_5$, 0.09% of Ta_2O_5 and 0.14% ZrO₂. The tender document, which is still available, contained all information gathered by September 1976: list of claims, surface mapping, diamond drill holes logs, assayed results, etc.

5.1.3 1978

A summary report prepared by Mr. Jacques Bonneau shows the numerous discrepancies in the analytical results of U_3O_8 , Nb_2O_5 and Ta_2O_5 . At the time of this report many laboratories were involved in the assaying procedures, mainly: Bondarr-Clegg in Ottawa, École Polytechnique of Montreal, Chimitec Ltd of Quebec City, X-Ray Assay Lab in Don Mills Ontario, Metriclab in Ste-Marthe sur le Lac, QC and Ledoux & Company in Teaneck New Jersey USA.

5.1.4 1980

In an exploration summary report prepared by Jacques Bonneau in February 1980, one can read that two main economic sectors have been identified.

The first one is located in the central portion of the lithologic unit #2 where pyrochlore (Nb – Ta) is associated to dykes or to layers of nepheline syenites with a porphyritic texture. The grades varyfrom 3.0 to 5.0 lb/t for Nb₂O₅, from 0.6 to 0.9 lb/t for Ta₂O₅ and from 0.012 to 0.02 lb/t for U₃O₈. The second sector of economic interest is located in the central portion of lithologic unit #1. The mineralization (U –Nb –Ta) is inside uranopyrochlore distributed in all different rock types but mainly inside the nepheline syenite and inside the carbonatites. The grades vary from 0.16 to 0.25 lb/t for Nb₂O₅ and from 0.05 to 0.25 lb/t for Ta₂O₅. At that date, \$ 700,000 were spent on the property.

During the fall 1980, a 100-tonnes sample was sent to Lakefield Research Ltd. for metallurgical testing.

A first reserve summary showed a total of 15 838 000 metric tonnes (not 43-101 compliant), with Nb_2O_5 grading 0.204% and Ta_2O_5 grading 212 ppm. The reserves were qualified as semi-measured, indicated and semi-indicated categories (not NI 43-101 compliant).

Due to discrepancies between assay results of Nb_2O_5 and Ta_2O_5 in the samples mainly due to the low content of metal, it was decided to re-assay a portion of the samples taken from the surface and drill holes drilled between 1976 and 1980.



5.1.5 1981

A second preliminary reserves estimation between the surface and level -300 metres showed 32 178 000 tonnes of ore at 0.188% Nb₂O₅ and 203 ppm of Ta₂O₅. These reserves were classified as semi-measured, indicated and semi-indicated non compliant 43-101. An extra 28 500 000 tonnes was added in the potential category, but no grade was attributed to them.

The apatite content of the complex was estimated as a tonnage (metric tonnes) of apatite per vertical metre in 4 areas. The estimation established a minimum of 343 682 t/vertical metre and a maximum of 461 130 t/vertical metre. The global apatite content was not published but more than 60% of the tonnage had a grade varying from 4.10 % to 6.30 % in apatite.

A study on the petrography and the geochemistry was done by Robert Harrison.

4		Géologiques m 1981)						
Catégorie	Niveau	Tonnage	Nb2O5 (%)	Ta ₂ O ₅ (ppm)				
Semi-Mesuré + Indiqué	-50 m	11 983 171	0,177	203				
Semi-Mesuré + Indiqué	-100 m	3 207 357	0,23	216				
Semi-Indiqué	-200 m	4 115 024	0,197	207				
Semi-Indiqué	-300 m	13 649 636	0,186	197				
Total		32 955 188	0,187	201				

Table 2: Historical resources by SOQUEM in 1981 (not 43-101 compliant)

5.1.6 1982

A research program was established in collaboration with Laval University of Quebec to explore the possibilities to concentrate the pyrochlore using flotation and testing different new chemical reagents.

An exploitation study was prepared to compare the advantages of beginning the operation by open pit or by underground mining methods. This study was done on the south-eastern area where reserves were in the order of 100 000 tonnes per vertical metre. The proposed production was 1 000 000 tonnes per year. The open pit operation was more attractive for the first three years. The deposit could be put in operation within 8 months compared to 36 months for the underground option, and all open pit costs were much lower.

5.1.7 1983

The pyrochlore concentration results from the research tests at Laval University, that lasted 15 months, were in general deceptive, and there was no follow-up to these tests. It is important to mention that these tests were done by students without expertise in pyrochlore treatment.

5.18 1986

A feasibility study using the 1981 resources concluded that the commodity prices used and a poor processing recovery were responsible for marginal project economics.

5.1.9 2002

A large drilling campaign was conducted by Cambior on the known mineralized zone stimulated by elevated tantalum price. The objectives were to verify the previous geological interpretation, to confirm the historical assaying and to prepare new resource estimation. The campaign took place in the fall of 2002 and was carried out on lenses #1 and #2 of the main zone of the Crevier complex. A total of 6 082.4 metres were drilled on 33 holes. 1 212 samples were collected and assayed for tantalum and niobium content, and also for uranium, thorium, zirconium and the more abundant rare earths.

This campaign has reduced the spacing of the drilling grid and has confirmed the previous results. The campaign has also given a better understanding of the geological behaviour of the mineralized zone.

+ The reader is invited to look into 2009 Technical report metallurgical testing section 15 for an extensive review of the past work of the mineralization of the Crevier nepheline syenite porphyry dyke.

+ The historical geophysical works are not presented in this document (FUGRO & LAMBERT), the computer file format available being from an older software, the data will need reprocessing for visualization and it was not part of the mandate of SGS Geostat Ltd. to carry such works. The geophysical survey works apparently assisted in the discovery and delineation of the mineralized zone and surrounding showings.

+ From the Fugro survey, we know that total magnetic field with gradient, electromagnetic in addition to the radiometric surveys were measured. The helicopter survey was done in October with a DIGHEMv-dsp electromagnetic probe and Fugro AM102 magnetometer with Geometrics G822 sensor and base station with multiple channels including Exploranium model GR820. Flight lines were controlled by radar altimeter and double GPS with video. The barometric pressure and temperatures were also measured.

The following figure from Lambert's report shows the total field magnetic survey. Anomalies are very impressive and indicate additional high potential of discovery in the untested areas of the property. The axial anomaly related to the dyke seems to extend further south of the old exploration grid., It extends to the north but seems to get split in two. One more important point is the presence of a similar anomaly parallel to the existing known structure to the south in the center zone.







Figure 8: Geophysical Total field survey map





Figure 9: Exploration targets to be tested



5.2 Present cost (2008) of past exploration works

An estimation of the costs, at today's value, was done for all previous exploration works, excluding metallurgical tests. The estimation includes a total of 17,124m of diamond drill in 105 holes plus all the exploration works such as: line cuttings, geophysics, mapping, drilling, surveying and engineering studies. The cost estimate would be between 4.5 and 5.0 million Canadian dollars. <u>+ The property has never been in production</u>.

5.3 2008-2009

A data compilation and independent sampling of previous drilling campaign was conducted by Crevier Minerals Inc with SGS Geostat on the known mineralized zone. The objectives were to verify the previous geological interpretation, to confirm the historical assaying and to prepare a NI 43-101 new resource estimation. The work took place in 2008-2009 of the main zone of the Crevier complex. During the site visit in July 2008, ten grab samples from blasted trenches were taken and the core shack located at Niobec Mine facilities in St-Honoré was visited. A total of 39 independent samples were taken from two witness holes drilled by SOQUEM and CAMBIOR: Hole 10-745-46 from 100 to 134.5 meters and hole CV-02-82 from 223.9 to 246.8 meters.

Independent sampling by Geostat has lead to the resource estimation using the two different sources of historical data for the same sector. The results have shown a significant difference which has been investigated. In a conservative approach, SGS Geostat has capped the outliers in the standardized composites prior to estimation of resources. From studies done during this evaluation, SGS Geostat has reduced the Nb₂O₅ grades by 19% and the Ta₂O₅ grades by 13% for all the SOQUEM composites used in the estimation.

SGS Geostat completed a Mineral Resource estimate for the property using all the historical data with corrected SOQUEM diamond drill hole grades (Drill hole name series 10-745-xxx). The following table presents the new current 43-101 compliant mineral resource estimate:

CREVIER MINERALS INC. Mineral resources Crevier Niobium & Tantalum deposit in Quebec					
Zone	Tonnage	Nb_2O_5	Ta_2O_5		
	metric tons	%	ppm		
All (3)	30 940 000	0.168	183		
INFERRED					
Zone	Tonnage	Nb_2O_5	Ta_2O_5		
	metric tons	%	ppm		
All (3)	28 850 000	0.122	166		
Mineral resources	s within geological ore	body with cut-off	at 0.1% Nb_2O_5		
INDICATED					
Zone	Tonnage	Nb_2O_5	Ta_2O_5		
	metric tons	%	ppm		
All (3)	25 750 000	0.186	199		
INFERRED					
Zone	Tonnage	Nb_2O_5	Ta_2O_5		
	metric tons	2%	ppm		
All (3)	16 880 000	0.162	204		
Notes: $\%Nb_2O_5$ capped	at 0.5%				
Ta_2O_5 in ppm cap	oped at 550				
SG: 2.63					
Soquem composi	tes corrected				

Table 3: First NI 43-101 resource compliant statement 2009
6- Geological Setting

This section is extracted from previous reports; the most relevant information has been translated from French to English language mainly from Antoine Fournier report.

6.1 Regional geology

The Crevier intrusive complex was put in place inside the gneisses of the *Central Granulites Terrane* (CGT) of the Grenville province (Wynne-Edwards, 1972). More recently, these formations were regrouped within the *"lAllochtonous Monocyclic Belt"*, ABT (Rivers et al., 1989). This zone contains mainly quartzo-feldspathic gneisses with biotite and hornblende, and also gneisses with garnets and sillimanite, forming a belt parallel to the Grenville Front. Even if their origin is uncertain, they are generally considered as uplifted deep Archean basement rocks. In smaller areas, some narrow quartzite bands (debris), marbles and paragneisses cut across the orthogneisses and could be the remaining of middle proterozoic supracrustal sequences equivalent of the *Central metasedimentary belt* (1700 to 1200 Ma).

It is generally admitted that the complex was injected along the Waswanipi-Saguenay lineament,, a projection of the Saguenay aulacogen, oriented west-north-west from the St.Lawrence River towards the Superior and extending to the south limit of James Bay (Moorhead et al, 1999). Many alkaline injections are located along this axis, mainly St-Honoré, Crevier, the Dolbeau carbonatites dykes, the Montviel, Shortt Lake and Grevet carbonatites. Finally, there is also a series of kimberlitoids, such as the Desmaraisville dyke which appear to be linked to this lineament.

The following figure shows the regional geology from the Quebec Ministry of Mines. The location of the property is shown by a black square.



Figure 10: Regional geology from Quebec Ministry of Mines (Property location: Black Square)

6.2 Property Geology

Geology of the Crevier alkaline complex

The geology of the complex was studied with various mapping and drilling campaigns as well as by university research projects (Aubertin, 1976; Bonneau, 1977; Bergeron and Laplante, 1983). All these works have defined the numerous facies and their relations.

The Crevier complex most likely contains four (4) separate units. Firstly there is, on the southeastern part, a near circular injection of nepheline syenite with variable biotite content going from traces to some percentages (Unit #2). A petrologic separation was established between the phase without biotite (SN) and the one showing biotite up to 10% (SNb).

This unit is cut by a second phase having an oblong shape with the main axis parallel to the Wasnanipi-Saguenay corridor, from north-west toward south-east (320° az). The silicate bands are mainly composed of plagioclases with a more calcitic composition (An20) plus biotite-, and higher calcite content (SBc). The carbonatite phases have a medium to coarse grain size and are showing inclusions of rhomboidal calcite crystals. The secondary phases are inside the interstices of the calcite crystals and include apatite and dolomite having as accessories biotite, plagioclases and pyrochlore. Bergeron (1980) believes that the carbonatites are hydrothermal in origin while Birkett (1998) believes that the origin is intrusive followed by intense fenite alteration involving an important transfer of elements toward the host rock (1998).

In the south-west part of the intrusive there is a smaller mass of syenite with almost no nepheline. This mass, even though identified by two (2) drill holes, was isolated from the remaining of the complex and was extrapolated by geophysics which describes its contour, therefore giving what is defined as Unit #3.

There is also a period of alkaline metasomatism that has affected the host gneisses (Unit #4). The aegirine, a sodic pyroxene seems to be the main witness of this event which has happened before the intrusion of the complex (Bergeron, 1980).





Figure 11: Simplified property geology as per Cambior, 2002 with Crevier property boundary of 2009.



7- Deposit Types

The igneous alkaline Crevier complex, covering 25 km^2 , is located inside a gneissic Grenville formation. The origin, according to some authors is associated to the major Saguenay Graben structures, and its intrusion apparently caused an alkaline metasomatic rim to the host Grenville rocks.

The alkaline complex is divided in three main lithologic units (units 1 to 3), the 4th unit being the host gneisses. These main units are composed of many specific distinct lithological units, defined by local mapping and diamond drill holes.

The first unit represents the major north-western part of the complex; his elongated shape is aligned along a North 320° axis. The composition is an alternation between bands of biotite-carbonate syenites, nepheline syenites, nepheline syenites with biotite and carbonatites with an orientation between North 300° and North 340°.

The second unit mainly covers the south of the complex, but is also present in a 300 meters thick band surrounding the first unit. The composition is mainly of nepheline syenite with nepheline-biotite syenite dykes cutting across the formations at North 320°.

The third unit is very small and is located in the south-western part of the complex, inside the second unit and is characterized by large amounts of syenite.

The chronologic sequence of the deposition of this complex is as follows:

- 1. Alkaline metasomatism preceding the complex intrusion.
- 2. Deposition of the nepheline-biotite syenites.
- 3. Emplacement of carbonate-biotite melanosyenite.
- 4. Carbonatite injection.
- 5. Intrusion of nepheline syenite dykes and biotite syenites.

Two main mineralisation types with economic interest are present inside the Crevier complex. The first type of uranium-niobium mineralisation is mainly located inside the first unit inside an uranopyrochlore unit. This mineral consists of idiomorphic grains, millimetric in size disseminated inside the rock, and less commonly along the fractures.

The second mineralization type is one of niobium-tantalum and is associated with a pegmatitenepheline syenite dyke located inside the second unit and also inside the first unit. The mineralization is encountered as pyrochlore grains millimetre in size. The typical pyrochlore composition is: Nb₂O₅ 60.8%, Ta₂O₅ 6.5% and U₃O₈ 0.1%. When compared to Niobec, the pyrochlore is of larger size and does contain fewer inclusions, but is tantalum bearing.

Apatite is found in few areas inside the complex but is mainly located in the center part. The apatite rich zones are along the contacts inside the carbonatite dykes and inside the nepheline syenites. The highest diamond drill concentrations show 5% to 8% P_2O_5 (10% to 17% apatite) over sections of some twelve metres long. The presence of a lake, recreational installations combined to the rather low grade are diminishing its economic potential.

The dyke is separated in four segments stretching over 4 km and has an average thickness of 20 meters. It has been drilled down to 300 meters below surface. Exploration works aimed at defining the exact position and grade of the nephyline syenite porphyry dyke.



8- Mineralization

8.1 Mineralization summary

Two mineralization types have been identified on the property. The first one is associated to a horizon 1 000 metres long and 30 to 80 metres wide contained inside the nepheline syenite and in the carbonatites. The presence in small quantities of uranopyrochlore in these rocks could explain the high values of Nb, Ta and U obtained during the first drilling program in 1976. The best intercept of this zone was 135 ppm U_3O_8 , 425 ppm Nb_2O_5 and 125 ppm Ta_2O_5 over 24.4 m in hole 10-745-14.

The second type was first drilled in 1978 and represents the most interesting zone. The tantalum and niobium mineralization is contained inside the pyrochlore associated with a late pegmatite injection cutting across the host nepheline syenite of No 2 Unit located in the south-west part of the alkaline complex. This mineralization type (also called nepheline pegmatitic syenite dyke) was tested by drilling and is extending over 3 kilometres with an average width between 15 and 20 metres and down to a depth of 400 metres. Many areas were stripped, mapped, sampled and a bulk sample of 873 tonnes was collected by Cambior in 1981 for metallurgical tests.

8.2 Mineralization of interest

The mineralized tantalum-niobium zone is located in the southern part of the Crevier alkaline intrusive. Previous stripping, geological mapping, trench sampling and diamond drilling have contributed to ascertain this mineralization over more than three kilometres long.

The mineralization of the niobium-tantalum type is associated with a porphyritic nepheline syenite dyke. As shown in the figure below this dyke is composed of a minimum of four sections or distinct segments. The contacts with the host rocks are nice and can be easily seen. The dyke is generally composed (95%) of nepheline syenite of pegmatitic texture containing large feldspar crystals and nepheline having variable grain sizes from a few centimetres to close to one meter in specific areas. Many secondary minerals are observed, mainly: biotite, magnetite, pyrrhotite, pyrite, zircon, sodalite, cancrinite, ilmenite, carbonates and pyrochlore.

The main dyke also contains 5% of secondary dykes and host rocks. The thickness of the secondary units varies from centimetres to meters.

The dyke is oriented North 320 ° and is 20 metres thick on average. It dips to the north at 80° to 85°. The thickness is regular, showing some enlargements locally caused by the presence of large inclusions or by parallel lenses. The dyke extends from the surface down to at least 300 metres below surface. The overburden thickness varies from two to three metres and can reach 12 metres locally. Large zones have been stripped and numerous rock trenches have been cut during 1980-1981 to fully map and to sample this mineralized zone.





Figure 12: Compilation map from Cambior with the location of the lenses

Following are the lens definitions as per Cambior which we agree to keep for geological purposes:

8.2.1 Lens #1

This lens is the most southern one and is located between sections 9700N and 11200N.

This is the best known of all lenses, having been diamond drilled with 24 holes and geologically mapped over more than 600 metres. Moreover, two bulk samples of 100 tonnes (1980) and 876 tonnes (1981) have been processed for metallurgical testing. The thickness varies from 3 to 25 metres, the average being 19 metres.

8.2.2 Lens #2

This relative small size lens (400 metres long) is located to the north of the #1 lens and appears as having been relocated. The average thickness is 25 metres, and has been intersected by four diamond drill holes, one of them at a depth of 372 metres. On the northern part, there has been stripping and trench sampling done.

8.2.3 Lens #3

This lens is around 1 200 meters long and has been drilled on a grid varying from 200 to 300 metres spacing horizontally. Seven drill holes have intersected it at a maximum depth of 70 metres. The lens is 20 metres thick and "interlaced" relation with the #2 lens.



Three drill holes 300 metres apart and four exploratory trenches have delineated this lens which is more than 900 metres long. Its thickness varies from 8 to 36 metres (average 29 metres) and is still open to the north.

8.3 General

The separation of the mineralization in the four lenses is locally very sharp while it may be relatively subjective since the separation between the identified lenses is diffuse and interwoven.

Detailed mapping presented in the next figure shows inclusions inside the dyke that are taken into account in the analysis. The mapping shows porphyritic Nepheline Syenite (SNp) in grey with Nepheline Syenite (SN) inside with cover of overburden in white.



Figure 13: Historical detailed mapping of mineralized lenses (dyke) between 11200N and 11100N

In general all identified mineralized portions in core have been analyzed for Ta and Nb content. The sample length for assaying varied from 1.0 to 1.8 metres with an average of 1.5 metres. The assayed results do not show important variations and the dyke appears to contain even mineralization from side to side without any apparent cross-section zoning. However the average niobium content of the mineralized intersections diminishes progressively from south to the north. However, the content of Ta₂O₅ is quite regular and does not seem to vary from south to north or vertically.



8.3 Petrology

The observations on the rocks show the same major phases already known in the alkaline complex; therefore the previous references are the result of mineralogical variations inside the rocks. In order to keep a consistency, the reference terms used by SOQUEM during previous works was retained, and considered acceptable. Cambior added only one lithological unit over SOQUEM which was the coarse nepheline syenite in order to describe one large unit which has been cut by numerous lithologies. The use of this added unit to define an assembly of units has simplified the core logging. The nepheline syenite is a medium grain size rock and is composed of 2 parts of albite to one part of nepheline and less than 5% biotite. It generally contains small amounts of magnetite or other mineral phases. It is by far the most homogeneous unit.

The coarse nepheline syenite, when compared to the previous one, is certainly the most heterogeneous unit. The difference was established to describe a unit slightly coarser than the previous one but invaded or including many injections of various compositions, some parts richer in biotite, more carbonated and also a unit called micropegmatite. All these units have no clean contacts and are not parallel to the host rock. The micropegmatite is composed of albite and nepheline crystals (in 2:1 proportions) sometimes up to 3 to 4 centimetres and forming horizons some metres thick. This unit contains small quantities of pyrochlore as shown from the assay results. The nepheline and biotite syenite is the retained term describing a nepheline syenite having more than 10% biotite. The added biotite inside the syenite appears to diminish the nepheline content. At the limit conditions, the rock is then a biotite syenite that often contains a certain amount of interstitial calcite. The biotite content can reach 50%. This rock is generally strongly magnetic resulting from large quantities of magnetite and pyrrhotite disseminated in small grains.

Only the rocks having calcite content over 50% and showing greenish apatite crystals, disseminated or forming incomplete bands quite often along the contacts were identified as carbonatites. When there is no apatite, we used the term calcite veins and when the calcite content was lower than 50%, according to the convention, the retained term was silicocarbonatite.

The pegmatite (or dyke of pegmatitic nepheline syenite) was the target of the Cambior campaign in 1992. The composition is mainly albite and nepheline with very large crystals (several cm in size), also in proportions close to 2:1. The other minerals are biotite, zircon, pyrochlore, magnetite, pyrrhotite and less frequently sodalite and cancrinite.

Figure 14: Mineralization observed in core prior to core splitting by Cambior CV-02-91



Figure 15: Detailed aspect of the mineralization in CV02-92 with blue Sodalite at a depth of 122m

SGS Canada Inc.



Pyrochlore grains are disseminated between the Porphyric Nephiline crytals and are observed within sodalite. When sodalite is observed, pyrochlore grains are observed in visible percentage. Ore grains of size between 0 and 3mm with an average around 1mm were frequently observed during core review at Niobec in July 2008.

Mineralogy

An ore petrography study indicate that niobium and tantalum are both contained in pyrochlore only, and apparently not partitioned into other accessory minerals.



8.4 Other mineralization

Uranium Niobium – Tantalum mineralization is present on the property. One is labelled East U-Nb-Ta showing which is north of the main dyke in the southern part of the property while the other is labelled South U-Nb-Ta showing which lays South West of the main dyke lens #1.

No significant Apatite mineralization was observed or highlighted from work by SOQUEM near Lac à la Truite.



9- Exploration

In summer 2009, under recommendation from SGS, Crevier Minerals carried a systematic drilling campaign aiming to improve the quality of their resource estimate, from indicated to measured. While the initial Soquem drill pattern was irregular, Cambior infilled this pattern in order to have systematic 100 metres spaced profiles.

Crevier Minerals has drilled between these sections to have the main lens covered on an approximate 50m x50m drill pattern.

10- Drilling

10.1 Historical Drilling

Historical drilling on the property consisted of BQ diamond drill hole. There has been some small percussion holes used to blast material near surface for the bulk sample tests.

The exploration holes from SOQUEM are prefixed with 10-745 while CAMBIOR diamond drill holes are prefixed CV-02. They were obviously drilled primarily for geological purposes (testing targets and mapping stratigraphy) and to initially outline the distribution of the mineralized dyke. In the SOQUEM drill holes, the first set of holes was not exactly perpendicular to the mineralization while the rest of the drilling campaign was mainly drilled perpendicular to mineralization, from northeast to southwest.

Seventy-two of these holes, for a cumulate length of 11,000 metres, where drilled by SOQUEM from mid 1970's to mid 1980's. Coordinates and logs with assays for most of these holes are available on maps.

Thirty three holes totalling 6000 metres were drilled by CAMBIOR in 2002. Coordinates and logs with assays for most of these holes are available on digital format.

Most of the holes were drilled toward south-west and almost perpendicular to the true thickness near surface while apparent thicknesses were measured at depth due to the sub-vertical attitude of the mineralized dyke. The general orientation of the mineralized structure is well known. True thickness varies from 5 to 35 meters with an average of 20 meters. Core samples were generally 1.5 meters in length.

Old maps also present the location of the shallow (1.5m to 2m) percussion holes used for blasting with associated average grade by row. These holes could be computerized to increase sampling density near surface in order to bring the resources in this sector to the measured category.

Witness core from both campaigns are stored at the Niobec mine owned by IAMGOLD in St-Honoré. SGS Geostat has visited the storage facility and has taken independent samples for data verification in 2009.

The drilling pattern was generally done with 100m hole spacing on sections perpendicular to the dyke and with 50 to 75m hole spacing on sections in lenses 1 & 2. Drill hole spacing further north is 200 to 300m in lenses 3 and 4. Drill hole depth varied from 50 to 475m.

Crevier Minerals Inc. – MDN Inc. has drilled between these sections to have the main lens covered on an approximate 50m x50m drill pattern

Most Cambior's drilling site were located and surveyed by a chartered land surveyor on bejalf of Crevier Minerals. Inversely, most of Soquem drilling site were not located and reliance to previous report is needed



10.2 Drilling of 2009

Crevier Mineral 2009 drill program provided infill sections to complete a 50 metres spacing over the main deposit length, plus 2 sections to the south and 4 twins of former Soquem's holes. Two exploration holes were also drilled at Lac à la Truite, for a total of 160 metres, not material to the current resource definition program. Four short channels were sampled from former outcrop stripping on location where metallurgical bulk samples were collected, not considered material in regard of resources evaluation.

Forty-six (46) holes were drilled during the summer 2009 campaign (*map 1*), for a total of 6123.7 metres length, excluding the two exploration holes. Drilling, carried by "Forage Rouiller inc", spanned from June 6 to October 30.

Drill hole location and parameters were calculated by I. Camus, from SGS-Canada, and were implemented within a few metres in the field with the use of a differential GPS. Half-line, along which most of the drill sections are located, were not cut nor chained, requiring the use of UTM coordinate system (NAD-83, zone 18), plus verification with the use of chains from former line pickets. Grid coordinates refer to former Cambior grids, which was refreshed from former Soquem grid, providing a consistent grid coordinate system. All holes were drilled with a moderate to steep angles toward south-west, parallels to lines and perpendicular to the mineralized zone, NQ in size. Deviations were measured with the use of a Reflex device with a maximum spacing of 50 metres. Collar location were surveyed with the use of a differential GPS by Henri-Paul Caouette, chartered land surveyor for Caouette, Thériault et associés, from Dolbeau-Mistassini. Holes aimed intersecting the mineralized zones typically at depth of 50 and 100 metres.

Holes purposes were:

- 38 holes (CR-09-105 to CR-09-142) are located on half-lines, two holes per profiles, from L98+50N to L117+50N, with the exception of line L112+50N *(appendix 2)*, for a total of 5073 metres, with the purpose to infill the drilling pattern on a 50 metres spacing.
- Two sections on lines L97+00 and L96+00 for 4 holes (CR-09-143 to Cr-09-146) and 583 metres, with the purpose to test the extension of the mineralized zone to the south-east.
- Two holes (CR-09-147 to CR-09-148) for a total of 246 metres, in order to twin the holes on profile N103+00 (hole S10-745-50 and S10-745-51).
- Two holes (CR-09-149 and CR-09-150) for a total of 222 metres aimed to twin two previous Soquem holes (S10-745-56 and S-10-745-43).
- Two holes (CR-09-151 and CR-09-152) for a total of 360 metres were exploration holes near Lac-à-la-Truite.

Core was logged at the camp by C. Martel, P Eng or M. Block P.Geo either on paper or directly on computer. Database, integrating sampling and assay results were provided in Geotic-Log® and Surpac ® (Gemcom) formats. Lithological descriptions were simplified into main facies, using the former Soquem and Cambior nomenclature:



- SN: Nepheline syenite is composed of 40-60% albite, 25-40% nepheline (pink to brown *"eleonite"*) and low abundance of biotite. Typically unmineralized.
- SN-g: Coarse nepheline syenite is similar to nepheline syenite but coarser grained. It is the most abundant rock in core, hosting other subsidiary facies and typically not mineralized.
- SNp: Pegmatitic nepheline syenite is the most significant unit in regard of the Nb-Ta mineralization, being the main carrier of pyrochlore. It can easily be recognized by its distinctive pegmatitic texture.
- SNb: Biotite-nepheline syenite is a secondary unit generally observed within the coarse grained nepheline syenite and the pegmatitic nepheline syenite units. Pyrochlore is typically associated with biotite aggregates.
- SNc: Carbonate-nepheline syenite is not a common unit. It is always observed as decimetric or metric units within the coarse grained nepheline syenite and the pegmatitic nepheline syenite units. Zircon and sulphides are typically abundant.
- SB: Biotite syenite , SBc: Biotite carbonate syenite and C: Carbonatite (Sövite) were found mainly in the exploration holes, being only minor lithologies in the main deposit.



Figure 16: Pegmatitic nepheline syenite.





Figure 17: Pyrochlore crystals hosted in albite, or in contact with nepheline crystals.



Figure 18: Cancrinite in relation with sodalite.

In prevision for pit design, the following geotechnical parameters were noted or measured according to RMR ("Rock mass rating") protocol indicated by Metchem representative:

- Core recovery
- RQD ("Rock quality description") and facture density per types of joints
- Joint descriptions, joint density and presence of water, core angle.
- Hardness, foliation type.

Detailed sections were generated with the use of Surpac® software, edited into Microstation®, and provided in **appendix 3.** Mineralized intersections, as indicated on the sections, were extracted with Surpac® application, and may differ from the one generated by SGS in the course of their resource calculation



Main conclusions from this drilling program are:

- A steady increase of the average grades in niobium and tantalum is observed toward the south-east of the deposit
- Slight undulation of the pegmatitic nepheline syenite dyke are noted and may have been acquired during its emplacement. The dyke may have also been affected by secondary fault zones or shears.
- Dyke thickness decrease to the south-east. However, considering the increase in grade, the metal factor (thickness x grade) is relatively constant.
- Drill holes CR-09-145 and CR-09-146 (L96+00N) on the last section to the south-east indicate a dyke thickness of 14.20 metres and 21.60 metres respectively. The mineralized zone is considered open for further drilling to the south, where the best grades were encountered.
- The distribution of the mineralization in the pegmatitic nepheline syenite dyke is variable. The mineralization is present as a few decametre-wide zones, as several metre-wide zones, or as a single interval encompassing the whole dyke thickness.
- Exploration drill holes CR-09-151 and CR-09-152 did not yield expected results and we do not conclude that the economic zone might extend to the north of Lac-à-la-Truite at this stage.

11- Sampling Method and Approach

11.1 Approach used by previous owners

The Crevier deposit has been sampled in the previous years by BQ diamond drill hole. The drill hole spacing varied from 50 to 300 meters. The cross section spacing varies from 100 meters to 300 meters. On section, the hole spacing is generally 50 meters while in sections intersecting mineralization at depth (i.e. 300m below surface) the distance from the top last intersection is about 100 meters.

Sampling of the half core was done with a core splitter, the sample length is generally 1.5 meter. The deposit is recognized over a length of 4km and the tabular structure has an average true thickness of about 20 meters.

The rock is competent and core recovery is extremely good. The samples are of good quality and are representative of the intersected rock.

The mineralized rock being coarse to pegematitic in texture, the larget the samples are, the better the reliability. SGS Geostat does not recommend to drill smaller than NQ diameter due to porphyry texture and the mineralization being relatively coarse with pyrochlore grains of millimetresize

The mineralisation with grade of interest is within the syenite porphyry dyke or nepheline syenite pegmatitic dyke. This dyke has some inclusions of finer grain syenite that has some mineralisation of lower grade. The decision to sample must have been based on sample near the contacts and within the porphyry structure.

High-grade mineralization is sometimes associated with sodalite that is a noticeable nice blue mineral within the pinkish dyke. The samples were taken continuously across the whole mineralized dyke, sampling both high grade and low grade portions.

The maximum Ta_2O_5 grade analysed is 2715 ppm on a 1.5 meter sample, the Nb₂O₅ grade is 0.33% for this sample in hole S10-745-18. The maximum Nb₂O₅ grade analysed is 1.05% on a 0.5 meter sample and the Ta₂O₅ grade is 1045 ppm for this sample in hole CV02-72.

11.2 Sampling and chain of custody 2009

Once described, drill core was carried from lodge camp to IOS secured facilities at Chicoutimi by trucks. The mineralized intervals, plus a few metres of the footwall and hangingwall, were sampled systematically, typically leaving no unsampled intervals. Core was evenly cut in half with a diamond saw, and sampled according to usual industry practice under supervision of IOS professional geologist. Shipment to laboratories and reference material insertion was carried by a professional chemist, one hole per shipment and certificate. Samples were shipped by road carrier to Actlabs laboratory in Ancaster, Ontario. Typical samples represent 1 metre of core length, for about 2 kilograms. Reference core is currently stored at IOS facilities, but most mineralized intersections were resampled for metallurgical testing and only quarter split or even eighth of core remains. A total of 2500 samples (2033 samples from drilling, 414 control materials, 40 channel samples and 13 samples collected from bulk sampling site) have been submitted for assaying.

12- Sample Preparation, Analyses and Security

12.1 Sample preparation and analysis historical works from past project owners SOQUEM and Cambior.

The historical work records by previous owners SOQUEM and CAMBIOR include descriptions of numerous samples collected from the property. These samples in the archive records consist of:

- + Surface grab samples
- + Channel samples
- + Pit samples and bulk samples
- + Test drill hole cutting samples
- + Diamond drill core samples

It has not been possible to find complete descriptions of sampling methods and approach for all these sample types, however some information exists and are summarized in this section.

In the report of SOQUEM's summer 1978 first drilling campaign, surface grab sample weight where in the range of one half to one pound each of fresh rock randomly selected on outcrops. Standards and duplicate were inserted and a list is provided.

The BQ core was separated in two with a core splitter, witness core was preserved.

For Cambior, the core was also separated in two with a core splitter, witness core was preserved and pictures were taken prior to splitting. Pictures of core are available in the Crevier Minerals archives from IAMGOLD.

At the beginning of the exploration program, emphasis was on U_3O_8 , Nb_2O_5 and Ta_2O_5 . The additional works mainly aimed at defining a mineral resource of Nb_2O_5 and Ta_2O_5 .

12.1.1 Sample preparation at the laboratory

Detailed information about laboratory preparation for 1976 to 1978 data is not available; we assume that standard commercial methods of the time were used.

Cambior has used standard commercial preparation procedures as stated in their internal work report.





12.1.2 Analyses at the laboratory

The laboratories used initially were: Bondar-Cleg, Ecole Polytechnique, X-Ray Lab, Metriclab and C.E.A.C. .Cambior has mainly use Actlab for Nb₂O₅ and Ta₂O₅.

Some analytical results were presented in oxides while some were expressed by element, in percent or ppm.

12.1.3 Quality control program

In the early stages of the project, previous owners started quality control programs; there have been important issues on results of the same sample from different laboratories. The table below presents the kind of variations encountered at that time early in the project. Since the analysis of these metals was not common in the seventies many labs were put to contribution. However SGS Geostat has not found a specific report presenting all the investigations with a general compilation. The information is presented under various analyses from various sources.

Standard (S1)			Standard (S2)				
Laboratoires	U308 ppm	Ta ₂ 05 ppm	Nb205 ppm	Laboratoires	U308 ppm	Ta205 ppm	Nb ₂ 05 ppm
Bondard-Clegg (FRX) (moyenne)	<u>61.1</u>	244.1	<u>181.1</u>	Bondard-Clegg (FRX) (moyenne)	212	267.4	242.2
Ecole Polytech- nique (FRX)	<u>90</u>	<u>52</u>	<u>430</u>	Ecole Polytech- nique (FRX)	320	<u>60</u>	<u>740</u>
X-Ray Lab (FRX)	100	Nil	400	X-Ray Lab (FRX)	300	Nil	500
Metriclab (FRX)	40	< 100	450	Metriclab (FRX)	140	<100	550
C.E.A.C. (act. neutron.)	82.5			C.E.A.C. (act. neutron.)	319		
Ecole Poly. (act. neutron.)	86			Ecole Poly. (act. neutron.)	268		
Ledoux (échange ionique)	100	2800	600	Ledoux (échange ionique)	200	2000	800
C.E.A.C. (act. neutron.)	80			C.E.A.C. (act. neutron.)	309		

TABLEAU DES RESULTATS DES STANDARDS D'ANALYSE 1977

page suivante





12.1.4 Security

There are no reasons to believe that the assays or samples were tampered with. In SGS Geostat opinion, the work has been done in a professional way. SOQUEM and Cambior geologists are a team of professionals had a good reputation for their standard work of the time as shown in the previous table, where they identified and addressed their concerns quickly about the high variations between laboratories for standards.

12.2 Laboratory proficiency test 2009

Obtaining reliable niobium and tantalum assays is challenging due to the low grades, proximity of detection limits and refractoriness of most mineral species. A proficiency test involving reputed commercial laboratories has been carry prior to submit any regular core samples for assaying.

Ten (10) certified and internal reference materials *(table 5)* were submitted to ALS-Chemex, Corem and Activation Laboratories', in order to be assays with all their respective analytical methods *(table 6)*. A lengthily discussion of these results is not pertinent for the current report, but the following conclusions were draw:

- Niobium is best analyzed by X-ray fluorescence on fused metaborate beads. This allows a low detection limits and excellent accuracy and is the usual method in most niobium production facilities. All laboratories provided acceptable results.
- Tantalum, at a targeted grade of 200 ppm, require instrumental neutron activation analysis to be properly analyzed, which is only available at Activation Laboratory.
- Tantalum can be measured by X-ray fluorescence which is plagued by higher detection limits. It has been obtained along with niobium assays which results were compared to INAA results and proved to be almost as accurate in spite of the proximity of detection limits.
- ICP-OES or ICP-MS method did not proved reliable due to digestions issues and erratic.
- The selected method and laboratory us for the 2009 campaign was the same as Cambior choosed in 2002, and results shall be comparables.

¹ Similar set of samples were also submitted to SGS-X-Ral, but were subsequently cancelled.



Standard	Number of standard	Description
TAN-1	1	Certified material Canmet
OKA-1	1	Certified material Canmet
SARM3	1	Certified material Mintek
SARM48	1	Certified material Mintek
Quartz powder	1	IOS blank
Quartz sample	1	IOS blank
NbTaMRI09	2	Internal material IOS
Std 18-01	1	Certified material Labortechnik
Std 18-02	1	Certified material Labortechnik
Std 18-03	1	Certified material Labortechnik

Table 5: List of reference material used for the laboratory proficiency test..

Laboratory	Analytical method	Description
ALS Chemex	ME-XRF05	Pressed pellet-wavelength dispersive XRF
	ME-MS81	Fusion (Li metaborate), ICP-MS
	ME-MS61	Four acid near-total Digestion-ICP-MS or
		ICP-AES
Corem	A21-2	X-Ray Fluorescence and LOI
Actlabs	FUS-MS	Fusion (Li metaborate), ICP-MS
	AR-MS	Aqua regia digestion, ICP-MS
	INAA	Instrumental Neutron Activation Analysis
	FUS-XRF	Borate bead, XRF

Table 6: List of laboratories and analytical methods tested

12.2.1 Analytical protocol 2009

Samples from the 2009 were submitted to Activation Laboratories ("Actlabs") to be analyzed by X-ray fluorescence on a fused metaborate bead for niobium (detection limit of 10 ppm), tantalum, zirconium, uranium, thorium, phosphorus and iron, and by instrumental neutron activation (INAA) for tantalum (detection limit 1 ppm), uranium, thorium and seven (7) rare earth. Detection limits are indicated on *tables 7* and *8*.

For XRF, samples were molten with lithium metaborate/tetraborate in platinum crucibles and cast into a glass disc. These diske are analyzed on a Panalytical Axios Advanced wavelength dispersive XRF.



Instrumental Neutron Activation Analysis (INAA) is an analytical technique that measures gamma radiation induced in the sample by irradiation with neutrons. The primary source of neutrons for irradiation is usually a nuclear reactor, here the research reactor at McMaster University. Each activated element emits a "fingerprint" of gamma radiation which can be measured and quantified. Numerous corrections need to be taken onto account, which makes this method less precise than XRF.

Samples were submitted to the laboratory as half core in sealed bags. They were crushed to 75% < 2 mm, aliquoted to 250 grams and pulverized to $95\% < 105\mu$ m in a mild steel shatter box.

Element	Detection
	Limit
	(%)
Ta_2O_5	0.003
U_3O_8	0.003
ThO_2	0.005
$Fe_2O_3(T)$	0.005
P_2O_5	0.010
ZrO_2	0.010
Nb_2O_5	0.003

Table 7: Fusion XRF detection limit

Element	Detection
	Limit (ppm)
Та	0.50
Th	0.20
U	0.50
La	0.50
Ce	3.00
Nd	5.00
Sm	0.10
Eu	0.20
Yb	0.20
Lu	0.05

Table 8: INAA detection limit



13- Data Verification

The author has verified the database assay table against the original logs and analytical reports on a random basis and did not found major discrepencies.

13.1 IOS 2009 quality control

In the course of 2009 drill campaign, quality control material was inserted following this procedure:

- Each hole constitutes an individual shipment;
- Generally, at the beginning of holes : successively a blank, a niobium and a tantalum certified reference material, a second blank;
- A blank is inserted approximately each 15 to 30 samples;
- An internal reference material (NbTaMRI09) is inserted approximately every 25 samples.

Two certified reference material were used, OKA-1 and TAN-1, each of which analyzed 49 times. Both certified reference material are commercially available from "Canada Centre for Mineral and Energy Technology (CANMET)". The certified reference material OKA-1 is a carbonatite ore sample from Oka, Canada. The certified value for Nb is $0.37\% \pm 0.01\%$ ($0.530\% \pm 0.015\%$ Nb₂O₅), with negligible grade of tantalum. The certified reference material TAN-1 is a tantalum ore sample, typical of the deposit of the Tanco Tantalum Mining Corporation of Canada Limited at Bernic Lake, Manitoba, Canada. The certified value for Ta is $0.236\% \pm 0.005\%$ (2360 ± 50 ppm) or $0.288\% \pm$ 0.006% for Ta₂O₅ with negligible amount of niobium.

Discrepancies between analyses and reference values are nil for niobium and underestimated by 1.4% for tantalum, indicating excellent accuracy. Variation coefficients are less than 1.5%, well within the expected precision of the method (*table 9*).

	OKA-1	Tan-1	NbTaMRI09	
	Nb_2O_5	Ta (ppm)	Nb_2O_5	Ta (ppm)
Cert. Value	0.530%	2360 ppm	na.	na.
Number	49	49	126	126
Average	0.531%	2327 ppm	0.176%	176 ppm
Std-dev	0.006%	30.7 ppm	0.008%	9.2 ppm
Var. Coef.	1.13%	1.32%	4.45%	5.23%
Maximum	0.550%	2370 ppm	0.204%	211 ppm
Minimum	0.522%	2260 ppm	0.159%	151 ppm
Avg/Cert	100.2%	98.6%		

Table 9: Statistics on reference materials

Other reference materials used for the proficiency test were either too expensive, hard to accede, without a suitable matrix or out of targeted grade to be used on a systematic manner. A total of 190 blanks have been inserted among samples. The quartz used for blanks is from a grenvillian high purity vein. It has been carefully washed into oxalic acid, brushed and bagged as



usual samples. This material have been analyzed thousands of time with various methods through time. Only one aliquot returned niobium value above detection limit, while tantalum reached up a negligible 4.7 ppm. No contamination is detected.

A total of 126 internal reference material samples (NbTaMRI09) have been inserted among regular samples. The material has been prepared from 100 kilogram of rock collected from blasted trenches on the project. No erroneous values were obtained on internal reference material analysis. Higher variation coefficient for NbTaMRI09 internal reference material relates to its coarseness.

No samples twins, duplicates or replicates were introduced. No reanalysis by a second laboratory has been requested. All analytical data are testified by IOS certified chemist, Karen Gagné. No significant quality problem has been detected and the results can be used with confidence.

13.1.1 Actlabs internal quality control

Actlabs introduces and discloses, at the beginning of each analytical run, both for fusion XRF and INAA analyses, a blank sample plus a set of reference materials. Results upon these reference materials were compiled and analytical data certified. No significant problem was detected.

About 7% (180 samples) of the analyses were re-run as duplicate by Actlabs for fusion XRF and about 6% (142 samples) for INAA. These replicates allow the estimation of the instrumental stability and fusion/encapsulation quality. They do not detect problems from preparation such as contamination. Two assays are thus available for each of the replicated and no significant discrepancy is noted.

13.1.2 Tantalum issue

Tantalum is analyzed by both Fusion XRF and INAA. Fusion XRF offers commercial detection limits (24 ppm Ta or 0.003% Ta₂O₅) which are too close to the expected grade of 0.03%, and thus not considered adequate for the current project. However, INAA, which offers detection limits near to two order of magnitude lower, is reputed less stable and precise. Correlation between both set of analyses is presented on next figure, and is excellent (1:0.992, R²=98.5%), within instrumental precision. Both set of data are considered as equally adequate for the current project, and routine INAA analysis is not recommended furthermore in subsequent drilling or sampling program. Resources calculation can be performed with the use of either talum dataset.

The lack of erratic values on this diagram suggests that no samples inversion happened between both methods neither is flaws related to fusion or irradiation affecting individual samples.



Figure 16: Binary diagram opposing INAA grades as measured by INAA and XRF. Is spite of the high detection limits for XRF, results are perfectly correlated, and both data sets considered interchangeable.

13.2 Duplicates by SGS-Geostats

On October 28, an audit of the project was made by Mr. Claude Duplessis Ing, from SGS-Geostats, who has been hired for resources calculation. In the course of this visit, Mr Duplessis collected quarter-splits of the mineralized core in holes CR-09-125 and CR-09-135, samples which were submitted to SGS laboratory facilities at Lakefield for analysis. Samples grades are similar to the ones obtained by IOS laboratories and confirm the reliability of the new database analytical results for resources estimation.

Extensive independent sampling and analysis has been done in previous assignment, details can be found in SGS Geostat technical report of 2009.





14- Adjacent Properties

According to MRNQ Gestim claim management system, Mr. Senechal holds the adjacent claims North East of Crevier Minerals property. No public information of these claims is available. No mineralization is reported within this property, which is not considered as an hindrance to the current project.

Neither the author nor employees of SGS Geostat's staff or IOS have direct or indirect mining interest in the sector.

The identified adjacent properties other than the North East block of Mr Senecal are located to the south and are held respectively by: Christian Lefebvre, Jean-Francois Dallaire et Robert Gagnon.



Figure 17: Property map of the area surrounding the Crevier project, as extracted from Gestim.



15- Mineral Processing and Metallurgical Testing

Extensive metallurgical testing are in progress and tests are not completed yet, the results will be presented with the on-going pre-feasibility report. The following section is copied from Met Chem PEA of March 2010 which reflects current status of mineral processing.

The current process flow sheets and design criteria are based primarily on the test work reports from SGS Lakefield Research Limited (SGS Lakefield) and the operating experience of Met-Chem personnel. The technical information comes mainly from three (3) SGS Lakefield reports.

The grinding and beneficiation flow sheet was developed from the SGS Lakefield report written in 2003. SGS Lakefield reviewed the test work in 2008 and arrived at the same flow sheet. The leaching, solvent extraction, stripping and precipitation flow sheet was determined by examining the SGS Lakefield reports from 2001 and 2002 related to the refinery section of the process.

The main concern in the development of the process was the amount of test work done on an unconventional ore body. In the 2008 report, SGS Lakefield recommended that more test work should be done to optimize comminution, flotation and refining process. SGS Lakefield reported that during laboratory flotation testing there were pH control problems in the Nb-Ta rougher circuit. SGS Lakefield suspected calcite interference. Met-Chem supports SGS Lakefield recommendations that future test work should focus on minimizing potential unstable operating plant conditions.

Metallurgical test work completed by SOQUEM and Cambior, demonstrates that a niobium (pyrochlore) concentrate can be produced by a combination of standard industrial processes or treatment.

The current expected metallurgical recovery at the flotation circuit for this ore based on laboratory test work averaged 70%. The series of tests indicate that recovery might range between 60% and 80%. The refining recovery is expected to be 96% from the concentrate and an overall recovery of 67.2%. According to information provided by Crevier, pyrometallurgical processing was previously evaluated but later discarded for the Project due to higher investment costs.

Metallurgy

Review of Beneficiation Test Work

The SGS Lakefield 2008 report is a review of all previous test work and technical reports concerning the Project. The flotation test work selected by Crevier for this study was performed by SGS Lakefield in 2003.

SGS Lakefield test work results show that flotation of pyrochlore can be achieved with recovering about 70% metal from the ore at the bench scale level. SGS Lakefield used Test # 9 and Test # 12 to produce the preliminary flow sheet design and the preliminary reagent scheme. The major problems noted during these two (2) tests were with the pH control in the Nb-Ta flotation circuit.



Only 13 flotation tests were performed and thus the optimal flotation conditions have probably not been established.

Very little information on comminution is available and this area requires significantly more test work prior to expanding the accuracy of the mill design and layout.

Items that require more investigation include:

Basic comminution test work and other test work

Prior to the next study level such basic tests as Crusher Work Index Test, SAG Mill Work Index, Ball Mill Work Index and possibly re-do the Rod Mill Work Index are required. Abrasion tests would be very helpful, but are not critical. Furthermore, settling tests have to be done if at all possible for thickener selection.

De-sliming

SGS Lakefield has performed all the flotation tests after de-sliming. It would be interesting to evaluate flotation results without de-sliming. In Section 3.2 of the SGS Lakefield 2003 report, it is stated that: "The fineness of the grind in the range tested had no effect on the Nb-Ta recoveries." This is not completely accurate. The table lists the rougher recoveries quite similar indeed, but the finer ground material had about 10% more niobium oxide and tantalum oxide removed prior to flotation.

The relative rougher flotation feed recovery is thus significantly higher for the finer flotation feed. If de-sliming is not absolutely necessary, a 5 to 6 % increase in recovery could be anticipated based on SGS Lakefield preliminary test work. Another item to be looked into is that if de-sliming is essential, can the slime material be re-processed separately to recover the lost niobium and tantalum minerals.

Flow sheet development Nb-Ta cleaner flotation tailings

Met-Chem's simplified flow sheet presents a more practical solution. The changes made were to the Nb-Ta 2nd Cleaner Tailings which now goes to the Nb-Ta 1st Cleaner Feed rather than the Nb-Ta Rougher Feed, and similarly the Nb-Ta 3rd Cleaner Tailings now goes to the Nb-Ta 2nd Cleaner Feed rather than the Nb-Ta 1st Cleaner Feed.

Specialty collectors

SGS Lakefield had created its own specialty collectors to obtain good flotation results. Simplification of the flotation process by using existing commercial collectors that get similar or better results should be investigated.

Flow sheet development Nb-Ta flotation concentrate

The final Nb-Ta concentrate undergoes two-stage magnetic separation; the nonmagnetic material is now sent to a pre-leach thickener and does not undergo additional separation treatment.



Nb-Ta Flotation Concentrate Magnetic Separation

The fourth cleaner Nb-Ta concentrate undergoes magnetic separation. According to the test work, the fourth cleaner concentrate contains 17.4% Fe2O3, 21.17% Nb2O5 and 2.617% Ta2O5. After magnetic separation, the non-magnetic concentrate contains 16.8% Fe2O3, 22.43% Nb2O5 and 2.767% Ta2O5. This is not a very significant upgrading increase. However, the Nb2O5 and Ta2O5 recovery decreased by 6.6 and 6.7% respectively. New test work will have to demonstrate that the iron removal step is indeed critical for the downstream process; otherwise the cleaner concentrate magnetic separation steps should be removed.

Concentrate Thickener and Filtration System

Met-Chem added a concentrate thickener and filtration system in the design since there was no bridge between the beneficiation and refining processes. The refining process involving leaching, solvent extraction, stripping and precipitation will be treated as a separate section and therefore the thickener underflow will be stored in a filter stock tank with approximately one-day holding capacity.

Final Tailings Treatment

The tailings from the mill and the refinery will be treated prior to discharge to the tailings pond. Lime will be added to precipitate potentially problematic by-products. Test work has to be done to ensure that the proper treatment is chosen.

Review of Refinery Test Work

The refinery test work was designed to examine whether the classical hydrometallurgical method of metal recovery and separation of niobium and tantalum would be suitable for the concentrates. The work investigated refining the concentrate by $\rm HF/H_2SO_4$ leach and solvent extraction.

The test work established that the HF/H_2SO_4 leaching process is suitable for the concentrate and achieved high leach extraction levels for niobium and tantalum. The work showed less success in solvent extraction, stripping and metal compound precipitation. Further test work must be done in these areas. Results generated little useful information for process equipment design or sizing.

The test work mandate was limited in scope and the followings items will help to complete the test work program:

- A further test work program should be carried out, designed on the basis of the results of the scoping work, and focusing on solvent extraction, stripping and precipitation;
- The Nb and Ta extraction isotherms should be confirmed by a continuous, small scale extraction test to give better information on stage requirement and equipment sizing;
- The sensitivity of Nb loading on MIBK with HF concentration could be used to investigate alternative extraction regimes;



The stripping steps should be investigated to decrease cross-contamination and improve product quality;

Precipitation work should be repeated.

It is SGS Canada Inc. understanding that metallurgical testing results will be disclosed when received and should be part of the next technical report summarizing feasibility study.

16- Mineral Resource and Mineral Reserve Estimates

There are no mineral reserves 43-101 compliant at this stage on this project.

16.1 Resources

16.1.1 Computerized drill hole database used for resources

The final drill hole database used for the resource estimation update of the Crevier project is in *file AllCrevier2010(local)_2.mdb* dated May 21st, 2010. That database has information for 153 drill holes from the entire Crevier project with 4 channels coded as horizontal drill hole totalling 157 collars.

The data provided by IOS in Excell format has been transferred and integrated to SGS Geostat GEOBASE Microsoft Access format.

The assay results in the database were first randomly verified against the certificates of analysis. The results were the same in the assay certificate reports and the database provided. SGS consider this database to be appropriate for resource modelling and estimation.

+ That database has information for 153 drill holes from the entire Crevier property(157 with channels).

- + Total drill holes length in database is 23,665.77 meters.
- + There are 6,868 assay records for %Nb₂O₅ and Ta₂O₅ in ppm
- + There are 732 deviation records
- +There are 2354 lithology records



16.1.2 Grids used on the property- survey

At the beginning of exploration works a layout of cut lines was prepared to cover the property. Afterward a surveyed local grid system was put in place using total station. The north of the local grid is oriented Northwest along 321°.



Figure 18: Layout of old line cuttings (red) and local grid(grey)





Figure 19: Topographical map with local grid, property boundary at time of survey by JLC

In 2002 Jean-Luc Corriveau (JLC) legal surveyor has surveyed the lines, drill holes casings in UTM and local grid, these values are used in the database.

The updated resource model uses the local grid system and the surveyed topography model of that time.


16.1.3 Mineralized envelope

In order to adequately define the mineralized envelopes, a mineralized solid is defined using geological description and grade information along the drill hole core.

The mineralized envelopes are built on sections and are subsequently connected and sliced on levels.

The updated interpretation of the mineralized structures (Lens / Porphyry Syenite dykes) started from well documented cross sections and interpretation from SGS Geostat QP.

Survey topography and overburden thickness are taken into account in the creation of the solids. Solids are extended above topography to make sure partial blocks are taken into account

In SGS Geostat mineralized envelope interpretation there are 3 lenses instead of 4. Cambior Lenses #1 & #2 are together since they merge and are relatively continuous while the lenses #2 and #3 correspond to Cambior 3 & 4 respectively. In SECTCAD envelope number 3 separated in 3 parts.

- + South lens #1 from 9500mN to 11750mN local grid (in BLKCAD label PART2)
- + Center lens #2 from 11600mN to 12800mN local grid (in BLKCAD label PART1)
- + North lens #3 from 12100mN to 13400mN local grid (in BLKCAD label PART0)

The following figures present typical interpretation on sections which has been meshed afterward in SECTCAD and then loaded in BLKCAD for regular block model resource estimation purposes.

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Figure 20: Drill hole layout in plan view south sector local coordinates (Y being north of local grid 321° North)





Figure 21: Cross section 10100N with Lens 1(part 2)



Figure 22: Cross section 11700N with Lens 1(part 2-left) & Lens 2 (part 1-right)





Figure 23: Cross section 10300N SOQUEM+CAMBIOR+CREVIER DDH cutting Lens 1



Figure 24: Longitudinal view of sectional interpretation footprint looking East(local)



The structure having an average horizontal thickness about 20m, it is easy to miss it, as shown here from the exploration data, when it is known, new holes between section hit very closed to scheduled target. Moreover it is important to mention that satellite lenses are not taken in account in the resource estimation, they may be defined on sections if they do not connect to the main lenses, then the tonnage is not taken in account in the resource statement.





Figure 25: The 3 mineralized zones at elevation 9800 and isometric view

The above figure presents the 3 zones as modelled by SGS Geostat. The following figure shows the lens looking East as a longitudinal projection.





Figure 26: Longitudinal view of the mineralized lenses as per SGS Geostat

The Nb-Ta mineralization is recognized along a 3.8 km strike length and down to 480m below surface, it is open in both directions and at depth.



16.1.3.1 Twin hole comparison

In order to increase confidence new holes were positioned to twin existing mineralization from previous campaign.



Figure 27: Twin holes on section 10300N



Hole	Ta2O5 ppm	Nb2O5%	Core Length(m)
S10-745-50	225.9	0.255	19.55
CR09-147	259.9	0.22	18.1
S10-745-51	285.6	0.42	14.98
CR09-148	315.2	0.28	14.4
S10-745-43	217.8	0.287	27.89
CR09-150	226.2	0.165	27.3
S10-745-56	313	0.378	19.7
CR09-149	265	0.21	19.0

Table 10: List of twin holes Crevier vs SOQUEM

The mineralization width were confirmed and Tantalum corrections on SOQUEM data proved to be irrelevant while SOQUEM %Nb2O5 grades where significantly higher and unfortunately correction needs to be maintained.



16.1.4 Mineralized intersections

Mineralized intersections are that part of drill holes or channel samples inside the interpreted limits of mineralized zones. Most intersections in drill holes are complete (start and end points at zone limits). In this update attention was put at excluding low grade material below 0.1 %Nb2O5 in the dyke when located on edge of dyke in a continuous manner.

A total of 148 intersections have been defined from the 157 holes, some holes having intersected more than one zone.

The following table is the list of the intersection limit file used for the creation of standard length composites. The grades on the list below are original, no correction or capping applied.

Hole Number	From	То	Ta2O5	Nb2O5
	(m)	(m)	ppm	%
CV02-77	77.5	90.4	230.84	0.28
CV02-74	28.5	49.5	208.96	0.25
CV02-75	88	114.2	198.46	0.22
CV02-76	221.3	238.3	269.71	0.3
CV02-72	126.4	139.2	394.66	0.43
CV02-73	38.7	55.7	230.3	0.26
CV02-73	24.3	28.1	86.66	0.16
CV02-72	109.7	113.3	132.84	0.12
CV02-91	76.2	107.9	302.44	0.3
CV02-92	105.1	122.2	215.36	0.24
CV02-93	237.9	260.1	244.69	0.27
CV02-80	87.8	104.8	196.56	0.22
CV02-79	186.3	205.8	241.84	0.24
CV02-81	124.3	140.8	256.43	0.26
CV02-83	110.7	133.6	160.97	0.16
CV02-84	110.3	128.3	212.43	0.21
CV02-85	57.3	85.8	182.35	0.19
CV02-87	122.8	148.7	202.25	0.16
CV02-87	96.3	101.2	173.75	0.15
CV02-90	31.3	61	200.71	0.15
CV02-88	74.6	97.1	185.71	0.17
CV02-88	52.7	58.7	163.38	0.14
CV02-89	121.4	132.6	113.6	0.09
CV02-89	154.7	177.8	153.69	0.15
CV02-94	119.5	139.1	158.95	0.16
CV02-95	73.7	97.8	161.12	0.15
CV02-96	138.4	163.7	113.14	0.11
CV02-97	275.4	294.5	276.17	0.18
CV02-98	225.6	254.1	170.28	0.13



CV02-99	58.6	92.5	195.72	0.15
CV02-99	10.1	25.4	178.69	0.13
CV02-100	66.1	78.3	149.95	0.13
CV02-100	114.2	148.8	292.43	0.22
CV02-101	162.1	179.5	119.96	0.11
CV02-101	238.7	264.7	240.11	0.15
CV02-102	106.4	139.1	195.82	0.17
CV02-103	24.9	28.7	312.08	0.31
CV02-104	70.6	76.9	103.21	0.11
CV02-104	97.5	140.7	174.04	0.17
CV02-103	43.2	88.4	141.2	0.14
CR09-150	60.2	87.5	226.23	0.16
CR09-146	147.1	168.7	290.83	0.26
CR09-142	123.9	151.9	225.61	0.24
CR09-139	52	69.7	268.02	0.27
CR09-140	109.2	136.2	268.19	0.25
CR09-137	58.6	75.3	252.57	0.25
CR09-138	109.3	136.5	224.93	0.22
CR09-135	71.4	88.7	244.45	0.23
CR09-136	122.6	142.9	254.14	0.23
CR09-133	57.4	78.5	172.51	0.16
CR09-132	111.8	125	308.56	0.29
CR09-129	65.8	78.5	261.5	0.22
CR09-130	102.3	117.7	224.16	0.2
CR09-127	57.2	73	243.73	0.19
CR09-128	105.7	124.8	244.45	0.18
CR09-125	56	72	352.94	0.29
CR09-126	109	126	290.18	0.25
CR09-123	55.4	72.6	240.47	0.2
CR09-124	108.2	125.3	186.43	0.15
CR09-150	60.2	87.5	226.23	0.16
CR09-121	69.4	84.4	266	0.22
CR09-122	118.7	141.5	265.53	0.2
CR09-119	60.4	80.4	241.55	0.18
CR09-120	109.2	129.5	269.06	0.2
CR09-117	52.9	69.9	271.76	0.21
CR09-118	108.9	132.3	252.52	0.21
CR09-115	79	96.9	274.41	0.2
CR09-116	123	143.9	300	0.23
CR09-113		010	295.58	0.2
	58.6	82.8	295.50	0.2
CR09-114	58.6 108.7	82.8 138	269.08	0.17



CR09-112	120.9	142.9	235.27	0.15
CR09-109	49.1	79.6	260.13	0.18
CR09-110	94.5	138	219.72	0.15
CR09-107	60.1	69.1	236.11	0.14
CR09-107	130.3	145	180.68	0.13
CR09-108	110.5	128.5	187.22	0.13
CR09-108	212.3	221.3	298.89	0.2
CR09-105	102.5	125.8	204.51	0.14
CR09-106	165.1	199.5	199.71	0.15
CV02-78	11.6	23.6	179.89	0.26
CR09-144	133.8	161.3	200.91	0.19
CR09-143	72.2	98.5	187.47	0.19
CR09-145	94	110.2	220	0.21
CR09-141	68.7	86.5	269.66	0.26
CR09-148	109.7	124.1	315.14	0.28
CR09-147	58.4	76.5	259.94	0.22
CR09-131	56.9	71	272.91	0.26
CV02-97	238.2	251.7	228.36	0.19
CR09-149	53	72	265	0.21
CR09-134	113.9	137.5	191.06	0.16
CR09-111	99	106	257.14	0.19
CV02-96	170.3	181.4	203.81	0.18
CV02-95	103.7	112.7	168.57	0.14
CV02-78	28.2	32.9	154.88	0.17
CV02-77	93.4	97.5	66.85	0.13
S10-745-55	66.74	84.65	197.61	0.23
S10-745-55	48.37	52.54	230.4	0.29
S10-745-54	132	160.06	291.79	0.31
S10-745-53	30.62	54.64	224.5	0.23
S10-745-52	47.41	64.72	167.56	0.26
S10-745-51	115.75	130.73	285.64	0.42
S10-745-50	58.65	78.2	225.88	0.26
S81-745-67	521.9	541.77	164.18	0.18
S81-745-67	486.3	497.71	192.29	0.12
S10-745-23	96.01	111.25	176.46	0.16
CR-09-04	1.5	13.5	203.75	0.17
CR-09-03	0	11	375	0.33
S10-745-47	49.06	72.01	192.75	0.22
S10-745-48	87.38	121.17	172.79	0.19
S10-745-49	181.9	211.91	207.67	0.2
S10-745-44	53.75	75.11	235.23	0.28
S10-745-45	40.27	59.19	262.19	0.3



S10-745-46	99.96	127.67	249.75	0.25
CV02-82	223.9	241.9	199.99	0.18
S10-745-28	62.48	86.87	260.07	0.26
S10-745-43	57.99	85.88	217.86	0.29
S10-745-40	54.5	81.62	207.52	0.21
S10-745-41	96.05	127.4	215.64	0.2
S10-745-42	214.18	235.94	233.57	0.25
S10-745-09	118.87	140.21	261.57	0.26
S10-745-56	52.27	71.99	313.47	0.38
CR-09-02	1.5	16.5	267	0.21
CR-09-01	0	8.5	210.59	0.14
S10-745-21	15.24	41.15	204.33	0.19
S10-745-57	108.6	137.93	285.49	0.28
CV02-86	231.7	248.2	301.43	0.27
S10-745-58	39.97	50.66	111.18	0.09
S10-745-58	57.03	85.91	166.32	0.18
S10-745-59	91.2	122.64	182.17	0.17
S10-745-60	183.62	219.8	240.18	0.19
S10-745-62	52.25	88.87	181.38	0.15
S81-745-68	382.54	415.95	120.76	0.11
S81-745-68	444.97	452.74	191.9	0.13
S81-745-68	486.92	497.1	208.95	0.17
S10-745-63	46.1	87.17	246.58	0.2
S10-745-64	54.02	86.13	250.94	0.21
S10-745-65	8.3	11.98	315.55	0.21
S10-745-65	41.67	84.55	208.81	0.17
S10-745-66	21.1	24.3	333.92	0.41
S10-745-66	48.77	94.78	180.7	0.17
S10-745-61	39.65	42.02	246.79	0.22
S10-745-61	46.68	85.65	178.54	0.14
S10-745-07	170.69	176.17	385.22	0.17
S81-745-69	17.84	23.48	276.87	0.17
S81-745-69	34.15	43.17	298.66	0.2
S81-745-69	61.59	78.41	133.49	0.11
S81-745-70	34.45	62.8	213.28	0.14

Table 11: List of mineralized intersections for ore zone definition

Average core length mineralization is 20.2m.

16.1.5 Compositing of assay intervals within mineralized intercepts

Since original assay intervals do not have the same length, and higher assays tend to apply to rather short intervals, it is necessary to standardize the length of the grade "support" through numerical compositing before assigning grades to dimensionless "points" in the 3D space (the composite centers) in the block grade interpolation.

The majority of assay intervals have a length of 1.5m. The selectivity of 1.5m is not commonly achievable in bulk tonnage mining, therefore a 2.5m standard length has been elected. This also allows for internal smoothing and internal dilution, since it could be difficult and unrealistic in the Crevier context to exclude Syenite Nepheline inclusions of smaller dimension within a blast.

The capping analysis has been done after compositing in 2.5m length.

Compositing is done down hole from the start of mineralized intercepts. Missing assays are assumed to be zero grade. At the end of the mineralized intercepts, the last composite kept is the one with at least a 1.5 meter length. A total of 1265 valid 2.5 meter composites are defined in this manner for all zones. It is important to mention that only composites within the envelope and its vicinity have been used to estimate the mineralized zones. The composites are calculated from original uncapped samples.

Composite cumulative frequency diagrams where studied and the previous capping were maintained. $\%Nb_2O_5$ is capped at 0.5% and 550 ppm for Ta_2O_5 .

It is important to mention that capping is applied prior to correction of Soquem data.



Figure 28: Histogram of Ta₂O₅ in ppm



Figure 29: Cumulative frequency diagram of Ta₂O₅ in ppm



Figure 30: Histogram of %Nb₂O₅



Figure 31: Cumulative frequency diagram of logs of %Nb₂O₅

STATISTICS FOR		
Minimum Value	Regular 0.7000	Log 0.0000
Percentile 5%	69.2000	4.2370
16%	119.8800	4.7865
50%	205.0000	5.3230
84%	323.5800	5.7794
95%	442.9400	6.0934
Maximum Value	938.4800	6.8443
#Samples	1265	
Average	224.5168	
Variance	13402.2869	
Std. Dev. Coef of Var.	115.7682	
Skewness	0.5156 1.2253	
Kurtosis	6.0178	
KULCOSIS	0.0178	
#Log Samples	1265	
Log Average	5.2666	
Log Variance	0.3671	
Log Std. Dev.	0.6059	
Log Mean	232.7829	
Log Skewness	-1.7392	
Log Kurtosis	12.3663	
STATISTICS FOR		
STATISTICS FOR	Nb205	
STATISTICS FOR	Nb205	
STATISTICS FOR	Nb205 Regular 0.0000	Log -4.6052
STATISTICS FOR 	Nb205 Regular 0.0000 0.0500	Log -4.6052 -2.8134
STATISTICS FOR ====================================	Nb205 Regular 0.0000 0.0500 0.1000	Log -4.6052 -2.8134 -2.3026
STATISTICS FOR 	Nb205 Regular 0.0000 0.0500 0.1000 0.1800	Log -4.6052 -2.8134 -2.3026 -1.6607
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84%	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95%	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95%	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev.	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var.	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var. Skewness	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328 1.0711	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var.	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var. Skewness Kurtosis	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328 1.0711	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var. Skewness	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328 1.0711 4.8781	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var. Skewness Kurtosis #Log Samples	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328 1.0711 4.8781 1263	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var. Skewness Kurtosis #Log Samples Log Average	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328 1.0711 4.8781 1263 -1.7600	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var. Skewness Kurtosis #Log Samples Log Average Log Variance	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328 1.0711 4.8781 1263 -1.7600 0.3553	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var. Skewness Kurtosis #Log Samples Log Average Log Average Log Variance Log Std. Dev. Log Mean Log Skewness	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328 1.0711 4.8781 1263 -1.7600 0.3553 0.5960	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163
STATISTICS FOR Minimum Value Percentile 5% 16% 50% 84% 95% Maximum Value #Samples Average Variance Std. Dev. Coef of Var. Skewness Kurtosis #Log Samples Log Average Log Average Log Variance Log Std. Dev. Log Mean	Nb205 Regular 0.0000 0.0500 0.1000 0.1800 0.2900 0.4000 0.7300 1265 0.2003 0.0114 0.1067 0.5328 1.0711 4.8781 1263 -1.7600 0.3553 0.5960 0.2055	Log -4.6052 -2.8134 -2.3026 -1.6607 -1.2379 -0.9163

Table 12: Statistics of 2.5m composites for $\% Nb_2O_5$ and Ta_2O_5 in ppm



16.1.6 Spatial continuity of composite grades

In order to evaluate the continuity of grade in space, a semi variogram calculation was done. The figure below presents the results of variogram analysis of $\text{\%Nb}_2\text{O}_5$, the graph clearly shows a good continuity along the north direction along the strike of the Syenite Porphyry Nepheline dykes (SNp), the black line. One interesting aspect that still shows up from this analysis is the mathematical evidence of a grade continuity within the dyke plunging about 45 degrees to the north within the structure, the green line is as good as the blue line up plunge showing good continuity within 125m in all directions within the dyke while maximum variation is observed across the dyke.



Figure 32: Variogram of %Nb₂O₅ 2.5m composites all zones

The spatial analysis gives us a good level of confidence with the drilling spacing we have at the moment at Crevier in the upper part of lenses. Along the north axis going at 200m to use samples to estimate a block is reasonable while estimation within a 100m radius should have a very good level of confidence.



16.1.7 Specific gravity data

Specific gravity to convert volumes into tonnes was historically a fixed value of 2.6 t/m3. From the field visit of 2008 2009, SGS Geostat QP brought around 2.5 kg of mineralized rock pieces of 2 to 4 inches long. These samples were taken within all the blasted trenches. Our repeated measurements with the dry weight and water volume displacement gave 2.63t/m3. The property site has only hard fresh rock; there are no weathering zones which could affect the specific gravity.

In this report a specific gravity of 2.63 is used.

16.1.8 Resource block grade interpolation

The grades are estimated in each 2.5 m (EW) x 12.5 m (NS) x 5 m (Z) block of a new regular matrix of 201 columns (EW), 315 rows (NS) and 107 benches (Z) with its center within the limits of the mineralized zones. Altogether, we have estimated 129,130 blocks within the envelope (final block model grade corrected). The block model is cut by the topography made from overburden-rock profile on each section.

The average $\%Nb_2O_5$ and Ta_2O_5 in ppm grade of each block is interpolated by inverse of the square distance from the grades of nearby 2.5 m composites.

We have used interpolation parameters based on drill spacing, variogram, envelope extension and orientation.

Block Grid Settings			×
	×	Y	Z
Block Model Origin	9400	9500	10005
Block Size	2.5	12.5	-5
Model Extents	×	Y	z
Starting Coordinates Starting Block Indices	9400 1	9500 1	10005
Ending Coordinates Ending Block Indices	9900 201	13425 315	9475 107
		ОК	Cancel

Figure 33: Block model origin and extent



In this study four block models have been generated:

- 1) Using CREVIER composites only Lens #1 partial
- 2) Using SOQUEM composites only Lens #1 partial
- 3) Using CAMBIOR composites only Lens #1 partial
- 4) All composites with corrected SOQUEM data

The three first models were used to validate correction of SOQUEM data as previous study.

Composite and block model analysis of these groups(models 1, 2 & 3) has allowed SGS Geostat to remove previous correction on Ta2O5 for SOQUEM since new results proved to be similar to new 2009 data. Hence correction of SOQUEM Tantalum grade is not required and justified anymore.

However Nb2O5 grades of SOQUEM proved to be still above normal compared to Crevier and Cambior, the 19% correction is maintained. For a similar volume and tonnage we found Cambior & Crevier data for Nb₂O₅ to be 19% lower (i.e. 0.81 SOQUEM=Cambior or Crevier).

In this section, all directions are relative to North of the local grid.

In each pass the interpolation estimation for each lens was made with three runs:

- 1) First with a search ellipse of 150m, 75m, 5m maximum composite 8, minimum of 2, maximum from same hole 2.
- 2) Second with a search ellipsoid of 250m, 150m, 10m maximum composite 8, minimum of 2 maximum from same hole 2.
- 3) Third with a search ellipsoid of 300m, 200m, 15m maximum composite 8, minimum of 2 maximum from same hole 1.

Lens #1 long axis along 357 degrees with medium axis plunging 80 degrees to the East Lens #2 long axis along 360 degrees with medium axis plunging 80 degrees to the East Lens #3 long axis along 005 degrees with medium axis plunging 80 degrees to the East

All estimations are done with SGS Geostat BLKCAD block modelling and resource estimation software.



16.1.9 Updated final model 43-101 compliant

After capping and corrections of the SOQUEM $\%Nb_2O_5$ composites, the estimation procedures were run and a final resource model was prepared. The table below presents the new resource model with corrected SOQUEM data.

MDN Inc.	- Crevier	Minerals	Inc.	
Current 43-10				
	rces for public (disclosure		
	ım & Tantalum		Jebec	
June 2010		1		
Mineral resou	rces within geo	logical oreboo	ly with cut-off	at 0.1%Nb2O5
MEASURED				
Zone	Tonnage	Nb2O5	Ta2O5	
	metric tons	%	ppm	
All (3 dykes)	12,465,000	0.20	234	
INDICATED				
Zone	Tonnage	Nb2O5	Ta2O5	
	metric tons	%	ppm	
All (3 dykes)	12,904,000	0.19	234	
INDICATED + N	MEASURED			
Zone	Tonnage	Nb2O5	Ta2O5	
	metric tons	%	ppm	
All (3 dykes)	25,369,000	0.20	234	
INFERRED				
Zone	Tonnage	Nb2O5	Ta2O5	
	metric tons	%	ppm	
All (3 dykes)		0.17	252	
%Nb2O5 capp				
	capped at 550			
SG: 2.63		C.Duplessis	June _ 2010	
Soquem comp	osites Nb2O5 o	corrected		

Table 13: Resource model, final model 43-101 compliant June 2010



Figure 34: Isometric view of block model with color codes on %Nb₂O₅

The image above allows us to see the higher grade of the south lens. It is important to note that not all the blocks within the envelope have been estimated at depth of lens #1.

This sector represents potential for additional drilling at depth; the south end is open with high grade. The file is Model10m2010_cd7.BCD.

16.1.9 Resource classification

The classification method is the simple search ellipsoid technique, where classification is done by the amount of composites within a specific search radius of the block. In general for the project and drilling density, it shows reliable classification.

With the new drilling and survey of the surface dyke contacts, we are presenting measured resources.

+ For measured resource classification, a search ellipsoid of 90m North, 90m down dip 80 degrees, 30m across dip (East down 10 degrees) is used with a minimum of 8 composites with maximum of 2 from the same hole.

+ For indicated resource classification, a search ellipsoid of 200m North, 150m down dip 80 degrees, 15m across dip (East down 10 degrees) is used with a minimum of 6 composites with maximum of 2 from the same hole.

+ The remaining blocks are classified as inferred.



Figure 35: Longitudinal view looking East with color coded blocks according to classification

The above figure shows that most of the measured material in magenta lies in lenses #1 & #2 from 0 to 250m depth while the indicated makes the transition with the inferred, inferred resources are located at depth and in the northern part of the resource model.

17- Other Relevant Data and Information

17.1 PEA summary

A Preleminary Economic Assessment has been completed on March 2010 for Crevier, this section presents the summary of the report. Details can be found in the technical report by MetChem for MDN Inc. filled on SEDAR.

Met-Chem was mandated to look at various alternatives to mine the deposit based on SGS Geostat resource block model (effective date May 25, 2009).

The proposed mining production rate for the Project to be mined by open pit or underground mining methods has been established at 2,740 tonnes per day or 1.0 M tonnes per year.

Preliminary geotechnical parameters were developed using rock mass classification methods. Based on core and outcrop observations, all rock types are considered and qualified as competent rock. Based on RMR rock mass classification system, rock may be qualified as very good to excellent rock. Presence of shear or fault zones indicate that further investigations would be required for the interpretation of the structural features observed in the core.

For the preliminary open pit design, the recommended mining slope parameter is 55° interramp. This value is considered suitable at this stage of the study. However, the available information and data indicate possibility to increase it up to 60°, giving access to additional tonnage. However, in order to optimize the final pit wall or to increase slope angles, rock strength tests will be needed to confirm preliminary results.

The cut-off grade used for pit design is based on both the Nb2O5 and Ta2O5 content. Based on estimated mine and mill operating costs, estimated mill and refinery recovery and sales price, the resulting Nb2O5 equivalent cut-off grade is estimated at 0.1087 %.

The economic pit limits were evaluated using the EPIT optimizer module of MineSightTM mine planning software, based on 3D Lerch-Grossman algorithm. A final economic pit shell (ultimate pit), delineated 25.4 Mt of indicated and 0.9 Mt of inferred resources (at a stripping ratio of 5.8 to 1) amenable to open pit mining. From this pit shell an engineered pit complete with ramps, and catch benches was designed. The resulting engineered pit recovers 25.8 Mt (or 98.3%) of the economic pit resources and increases the waste to ore ratio to 6.4 (10% increase) due to placement of the main ramps.

A 25 year mine plan was developed from the design pit based on a production rate of about 1.0 Mtpy of ore, an external dilution factor of 5% (at zero grade) and a mineable recovery factor of 95% for uncontrollable losses during mining.

A review of the underground mining potential of the deposit was made early in this study. Mining of the portion of the ore below the economic pit limits as well as mining the entire orebody with underground methods was reviewed. It was determined that, based on sub-level open stoping



method and taking into consideration mining cost as well as the process and services costs and sales price, results showed a profit well below the profit for mining the same ore using open pit method. It was therefore decided not to pursue the underground mining option early in the study.

The current metallurgical flow sheets and design criteria are based primarily on the test work reports from SGS Lakefield Research Limited (SGS Lakefield) and the operating experience of Met-Chem personnel.

The main concern in the development of the process was the amount of test work done on an unconventional ore body. Met-Chem supports SGS Lakefield recommendations that future test work should focus on minimizing potential unstable operating plant conditions.

Metallurgical test work completed by SOQUEM and Cambior, demonstrates that a niobium (pyrochlore) concentrate can be produced by a combination of standard industrial processes or treatment.

The current expected metallurgical recovery at the flotation circuit for this ore based on laboratory test work averaged 70%. The tests indicate that recovery might range between 60% and 80%. The refining recovery is expected to be 96% from the concentrate and an overall recovery of 67.2%.

The plant capacity is designed to process 1 Mtpy of ore, while working 365 days per year, 24 hours per day with an overall plant availability of 96%.

Due to their characteristics, the tailings will be managed in two (2) separate tailings ponds. The first pond will receive the residue from the flotation process which will produce more than 95% of the tailings. Results of analysis of total metal content and leaching tests conducted on ore show that tailings generated in the flotation process are considered low risk of environmental contamination. The second pond will receive the residues from the refinery, which represents less than 5% of the tailings. Because of the type of process, the chemicals used and the expected quantities of fluorine associated with the process, the residues produced at the refinery are considered as higher environmental risks. However, it is to be noted that only ore sample has been characterized at this point. Thorough environmental characterization of both types of tailings will need to be confirmed to validate the method of tailings management.

The off-site infrastructure required for the Project includes:

A Class II access road to be built starting at km 30 from the end of pavement on Route R0206, opening an access to the site from the South, by way of 2.5 kilometers of road upgrading and 7.3 kilometers of road building. Some class IV roads exist but need to be upgraded or rebuilt.

A transmission line from Normandin substation about 90 km from the site. Since the Hydro-Québec study is not yet available, Hydro-Québec L rate was used in this Project. Based on this rate, the unit consumption cost for the Project is estimated at: \$0.04318/kWh.

The on-site infrastructure required for the Project includes:

Electrical sub-station and power distribution;

Office building and gatehouse;

Class IV service road to the tailings pond;



Assay laboratory;

Three (3) warehouses, two (2) for storage of chemical materials and one (1) for equipment and spare part storage;

A garage with four (4) maintenance bays;

Satellite antenna at the mine to provide telephone communications and internet access;

A pumping station near Lake Kapapapmeutanu for an estimated of 20 m3/h process water requirement;

Domestic water from a pumping station at Lake Kapapapmeutanu for human use such as shower, toilette, etc.;

Bottled potable water;

Two (2) large diesel tanks for one week consumption and one small gasoline tank for light vehicles complete with a supply station and a concrete containment basin fitted with an oil separator;

A domestic wastewater treatment system comprised a septic tank and infiltration bed.

The following comments on the environment apply to the Project:

According to information obtained from the Department of Natural Resources and Wildlife (MRNF) and the Ministry of Sustainable Development, Environment and Parks (MDDEP), no mention of plants threatened, vulnerable or likely to be so designated is reported for the area covered by the Project. No exceptional forest ecosystem is listed in the study area;

Regarding land use, in addition to forestry activities, the area under study is used for vacation and for hunting and fishing while the Mistassini River is used for various recreational activities including canoe-camping;

Federal procedures do not apply to the Project. The rate of ore mining and processing proposed for the Crevier Project is less than the current threshold for submission to the Environmental Impact Assessment and Review Regulation (7,000 t/d) and less than the proposed new threshold published in the Québec Mineral Strategy, released June 29, 2009 (3,000 t/d); therefore an evaluation study and review of environmental impacts will not be required;

However, as per Article 22 of the Environment Quality Act, an application for a certificate of approval will have to be sent to the Saguenay-Lac-Saint-Jean Regional bureau of the Department of Sustainable Development, Environment and Parks (MDDEP). This application must be accompanied by an environmental assessment sufficiently detailed and meeting the requirements of Directive 019 of the mining industry so that the MDDEP can rule on the acceptability of the Project. This type of approval process does not require public hearings;

Three (3) rocks samples (2 waste rocks and one ore) representatives of waste rocks and ore to be mined were characterized. The waste rock and the ore samples analyzed are not considered generators of acid mine drainage. Results regarding total metal content indicate that the three (3) samples, according to Directive 019, waste rock and ore are considered as low-risk. Results regarding leaching tests performed on the three (3) samples indicate that only cadmium, lead and zinc exceeded the criterion of resurgence in the surface waters of the Soil Protection and Contaminated Land Rehabilitation Policy. Radioactive elements should not be an issue in the context of this Project;



Preliminary mitigation measures have been identified for the following Project activities:

Management of overburden for protection against erosion;

Management of waste rock;

Tailings management;

Water management.

A rehabilitation and restoration plan is required for submission to the Minister for approval before commencing mining activities;

The mining property is located in the traditional ancestral territory (Nitassinan) of Pekuakamiulnuatsh (Montagnais du Lac-Saint-Jean). It is the subject of land claims by the First Nation of Mashteuiatsh;

The Agreement-in-principle, signed in March 2004, includes several references to the exploitation of natural resources, including minerals, but it does not provide for payment of additional royalties (i.e., other than those already paid to the Government of Quebec). Instead, the Innu tshishe utshimaut, the future Innu government will be entitled to a share (no less than 3%) of the royalties collected by Quebec on the natural resources of Nitassinan;

Regarding Innu land use, the mining property is located in the Roberval beaver reserve. In a later phase, contacts should be established to identify the Ilnu families managing the territory corresponding to the mining property.

The schedule to complete the remaining studies (metallurgical tests works, environmental studies, geotechnical investigation, feasibility study) and execute the EPCM is estimated at 34 months.

The capital cost estimate that covers the Project for niobium and tantalum production includes the work required to develop the mine, built the ore processing facilities and establish all the site and off-site infrastructure and services necessary to support the mine site. The cost estimate is based on Met-Chem's standard methods applicable for a scoping study to achieve an accuracy level of \pm 35%. The base date for the cost estimate is the third quarter of 2009.

The initial capital cost for the scope of work is \$267.1 M of which \$185.1 M are direct costs and \$82.0 M are indirect costs.

Operating costs are subdivided into manpower, electrical power, reagents and consumables. These costs were derived from supplier information, Met-Chem's database or factored from similar operations. The process operating cost is estimated at 29.00 / t.

The general and administration costs for the Project are estimated at \$3.2 M/y of operation and include costs for manpower as well as costs for material and services.

Mine operating costs were established by Met-Chem for ore mining, as well as overburden and waste removal. These costs were estimated based on information provided by suppliers and on manpower rates provided by the client. The mining operating cost average is estimated at 2.39/t.



A pre-tax Project cash flow analysis has been completed for the Crevier Scoping Project based on a production rate of 2,740 tpd. The model reflects fourth quarter 2009 pricing. Some scenarios were prepared to improve the Project economics and analyze the Project sensitivity to the niobium selling price, the power line impact, the flotation recovery and the production rate.

The following Table ES 1 lists the main technical assumptions used in the Base Case cost estimate. The initial capital cost for the Project is estimated at \$267 M.

Total ore mined (LOM)	000 ' t	25,838
Average grade to mill Nb2O5	%	0.170
Average grade to mill Ta2O5	ppm	180.5
Processing Rate	t/d	2,740
Flotation Recovery	%	70
Refinery Recovery	%	96
Recoverable product Nb2O5	000 ' kg	29,462
Recoverable product K2TaF7	000 ' kg	3,134

Table ES 1 – Technical Assumptions

The Net Present Value (NPV) at a 5% discount rate and the Internal Rate of Return (IRR) for the Base Case (70% flotation recovery and 96% refinery recovery) were calculated from the cash flow statement. The economic analysis indicates a positive NPV at a 5% discount rate of \$103.8 M and an IRR of 7.7% for the Base Case using a sales price of US\$51.50 per kilo for oxide niobium product and an initial capital cost that includes construction cost of the power line.

Efforts have been made to identify additional scenarios to improve the economics of the Project. Three (3) additional scenarios to the Base Case (niobium oxide selling price of US\$51.50 and power line cost included) were added to the analysis based on increased production rates of 3,500 t/d, 4,000 t/d and 4,500 t/d.

Capital and operating costs estimates were factorized for the different production rates and used to develop corresponding cash flows. These data should be used only to have an order of magnitude. An amount corresponding to \$ 1.0 M was added to the production rate scenarios Indirect Costs to cover for the Environmental Impact Assessment that is expected to be required for these cases.

Results based on the production rate scenarios are presented in Table ES 2.

The results at a flotation recovery of 70% indicate that the Base Case at a NPV of \$103.8 M may not be an optimized scenario. As shown on the table, for an additional 10% of capital cost, the NPV is almost doubled at the 3,500 t/d scenario. The 4,000 t/d scenario indicates that for an additional \$15 M in capital investment the gain on the NPV is an additional \$30 M.

As shown in the Table ES 2, a flotation recovery of 72% increases the IRR by approximately one point.



The economic analysis indicates a positive NPV at a 5% discount rate of \$233.5 M and an IRR of 12.7% based on a flotation recovery of 70% and a production rate of 4,000 t/d while the NPV and IRR increase to \$271.9 M and 13.9% for a flotation recovery of 72% and the same production rate.

Table ES 2 – NPV Sensitivity (Production Rates Scenarios)

Production	rate:	4,000 t/d

Production rate: 4,500 t/d

		I I
CAPEX	OPEX	NI Flota
CAD	\$/t CAD	NPV @
267,149,714 \$	39.85\$	103,805
290,212,263 \$	38.25 \$	197,685
305,649,961 \$	37.08\$	233,451
322,234,345 \$	36.16\$	265,861

Nb ₂ O ₅ @ US\$51.50 Flotation Recovery 70%				
CAD				
	-			
3,805,368 \$	7.7%			
7,685,693 \$	11.2%			
,,+				
3,451,170\$	12.7%			
5,861,839\$	14.1%			

Nb ₂ O ₅ @ US\$51.50			
Flotation Recovery 72%			
NPV @ 5% CAD	IRR		
135,997,984\$	8.5%		
234,119,827 \$	12.3%		
271,907,681 \$	13.9%		
305,989,173 \$	15.4%		



17.2 Market for the commodities

The actual public value of Tantalum may be obtained from the Northern Miner and other specialized metals web sites. However the Niobium market is mainly controlled by CBMM of Brazil. From contacts within IAMGOLD, actual producer of Niobium, the following price ranges were provided by MDN Inc.:

 Nb_20_5 : between 40 & 50 US\$ per kg. Ta₂0₅ : between 110 & 140 US\$ per kg.

Hence the average value of in situ mineralization at Crevier at 0.1%Nb₂O₅ cut-off indicated resources for one tonne of mineralized material can be converted as:

0.186% per metric tonne Nb₂O₅ * 1000kg * 45US\$/kg= US\$83.70

199 ppm or 0.0199% per metric tonne $Ta_2O_5 * 1000kg * US124/kg = US24.68 Total in situ value average grade using these parameters is 108.38\$US/tonne or 130.06\$Can /tonne using a conversion factor of 1.2\$Can for 1\$US. Using 60% metallurgical recovery and a 96% refining recovery, this present a potential recovered average in situ value of 74.91\$Can/tonne.

The Nb₂O₅ to Ta₂O₅ ratio is around 10 to 1 in general.

0.1% per metric tonne Nb₂O₅ * 1000kg * 45US\$/kg= US\$45.00 99 ppm or 0.0099% per metric tonne Ta₂O₅ * 1000kg * US124/kg= US\$12.28 Total in situ value average grade using these parameters is 57.28\$US/tonne or 68.74\$Can /tonne using a conversion factor of 1.2\$Can for 1\$US.

A market study is in progress.

18- Interpretation and Conclusions

+ New drilling by MDN Inc at Crevier have encountered mineralization where supposed and quality of resources has increased to measured level.

- + The new resource estimation is suitable for the completion of the feasibility study.
- + Resources have been extended to the south
- + The project deserve continuing project development

19- Recommendations

SGS Geostat makes the following recommendations that focus on two aspects: The continuation of project development and the drilling for expansion to the south and at depth of the mineral resources.

19.1 Work Program to develop the project

MDN Inc. with Crevier Minerals has developed a work program in 2008-2009 and this program is actually in progress

The proposed Phase 1 program was made of:

A) In 2009, prepare a preliminary economic assessment to prepare documentation for environmental permitting and in order to proceed to the feasibility level in 2010. (status: Done)

B) A detailed topographical survey of the property with DGPS or equivalent method.(Status: Just completed in July 2010)

C) A diamond drilling program of 5,000 m of NQ drilling. The program has 3 goals: (partially completed)

1) geotechnical characterization of the rock for open pit slope design and drilling between existing sections to increase the confidence level.

2) recover mineralized material for metallurgical tests.

3) exploration to extend known mineralization and test targets

D) A geotechnical assessment for mine design (in progress)

E) A market study (in progress)

F) Design the underground mine (Done in PEA but will not be considered in the current project development in the FS)

G) Develop Process engineering Flowsheet and Pilot plant tests (in progress and test schedule for November 2010 at SGS Lakefield)

H) Environmental characterization (in progress)

I) Site/ Tailing/ Waste dump characterization with progressive reclamation plan(in progress)

J) Develop infrastructure plans (Engineering)(in progress)

K) Review legal considerations & permitting (in progress)

L) Prepare environmental management plan in accordance with the progressive reclamation plan (in progress)

M) Validate the economics and financing research (will be address with FS results)

+ Crevier Minerals should prepare a technical report at the end of each phase of exploration providing full description of the program and results with recommendations

+ SGS Canada Inc. Geostat group formally recommends continuing the development of the project



	Total
S coping S tudy-P releminary E conomic Assessment	\$250 000
S ite topography	\$100 000
Geotechnic and resources validation drilling	\$800 000
Mine Geotechnical Assesment	\$100 000
Design mining Open Pit	\$200 000
Market S tudy	\$100 000
Design underground mining	\$200 000
Processing Eng Flowsheet development Pilot Plant	\$1 700 000
Environmental charaterization	\$500 000
Site /taliling/waste Dump Charaterization	\$500 000
Infrastructure (Engineering)	\$1 000 000
Legal consideration/Permitting	\$250 000
Environmental management	\$200 000
E conomics Financing	\$200 000
S ub T otal	\$6 100 000
Contengency 10%	\$610 000
Total	<mark>\$6 710 000</mark>

Existing and ongoing work program and associated cost

Out of the ongoing program 2 million dollars have been invested in 2009 while 3 to 4 million dollars should be spend in 2010 on the project. The completion of the Feasibility is scheduled for March 2011.

20- References

- Database MS Excell IOS
- Geological report IOS
- Analytical report ALS-Chemex
- Report METCHEM PEA Crevier March 2010
- Morin-Ka, Sidy, 2010, Distribution de tantale et de niobium dans un dyke de syénite à néphéline del'intrusion alcaline de Crevier, Québec Rapport de stage, Hivers 2010, Université François Rabelais de Tours (France) et Université du Québec à Chicoutimi, 15 pages.

21- Certificate of qualification

Certificate of Claude Duplessis, Eng.

To Accompany the Report entitled: Technical report – Niobium and Tantalum resource estimation update of the Crevier deposit North of Lac St-Jean, Quebec, Canada. Dated July 29th and effective June 14th 2010.

I, Claude Duplessis, eng., do hereby certify that:

I reside at 3 du Carabinier, Blainville, Quebec, Canada, J7C 5B8.

I am a graduate from the University of Quebec in Chicoutimi, Quebec in 1988 with a B.Sc.A in geological engineering and I have practised my profession continuously since that time.

I am a registered member of the Ordre des ingénieurs du Québec (Registration Number 45523). I am also a registered engineer in the province of Alberta. I am a Member of the Canadian Institute of Mining, Metallurgy and Petroleum and member of the Prospector and Developers Association of Canada. I am a Senior Engineer and Manager of SGS Geostat Ltd.

I have worked as an engineer for a total of 20 years since my graduation. My relevant experience for the purpose of the Technical Report is: Over 16 years of consulting in the field of Mineral Resource estimation, orebody modelling, mineral resource auditing and geotechnical engineering.

I have read the definition of "qualified person" set out in the National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be an independent qualified person for the purposes of NI 43-101.

I have prepared and written the technical report (exception of the section on metallurgy, other relevant data for which I rely on other expert and section 10 to 13) to which this certificate is attached. I have personally visited the site on July 2th of 2008 for one day and I have personally taken independent samples at Niobec Mine core shack facilities on July 3rd of 2008. I also visited the site on October 21st 2009 and I have personally taken independent samples at IOS core shack facilities on October 22nd of 2009.

I have no personal knowledge as of the date of this certificate of any material fact or material change, which is not reflected in this report.

I am independent of Crevier Minerals Inc. applying all of the tests set forth in section 1.4 of NI 43-101 and section 3.5 of NI 43-101 Companion Policy.

I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with NI 43-101 and Form 43-101F1; and have prepared the report in conformity with generally accepted Canadian mining industry practice, and as of the date of this certificate, to the best of my


knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Signed at Blainville, Quebec this 29th of July , with effective date 14th of June, 2010 Claude Duplessis, Eng.

all fin -

Certificate of RÉJEAN GIRARD, PROFESSIONNAL GEOLOGIST

I. Réjean GIRARD. P. Geo., do hereby certify that:

- I am currently employed as a senior geologist by: IOS Services Geoscientifiques inc. 1319, Boulevard St-Paul Chicoutimi, Québec, G7J 3Y2
- I graduated with a degree in geology from Université Laval in Ste-Foy, Québec, in 1985. In addition, I completed 5 years of graduate studies in mineral resources at Université du Québec à Chicoutimi.
- 3. I am a member of the Ordre des géologues du Québec, n°521.
- 4. I have worked as a geologist for 25 years since my graduation from university.
- 5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI-43-101") and certify that by reasons 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 purpose of NI-43-101.
- 6. I am responsible for the preparation of part of the technical report entitled "Niobium and Tantalum resource estimation update of the Crevier deposit "Project, Saguenay-Lac St-Jean area Québec, Canada: A Ni-43-101 compliant technical report", dated July 29th, 2010, relating to Crevier property, more specifically on item 10 to 13 relating to the 2009 drill campaign. I last visited the property on May 19, 2010.
- 7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report of which the omission to disclose would make the Technical Report misleading.
- 8. I am independent of the issuer, having applied all the tests in section 1.5 of National Instrument 43-101.
- 9. I have read National Instrument 43-101 and Form 43-101-F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 10. I consent to the filing of the Technical Report with any stock exchange or other regulatory authority, and any publication of the Technical Report by them on their publicly accessible websites. I also consent to the use of excerpts of the report as long as it does not alter the contents or the meaning of the report.

Dated July 29th, 2010

Réjean Girard, P. Geo. OGQ nº521



Appendix 1: List of Claims forming the Crevier property

SNRC sheet	Row	Column	Title type	Title number	Title status	Inscription date	Expiry date	Area (Ha)	Accrued work	Required work	Mining duties	Title Holder
32H07	24	27	CDC	1027966	Active	19/11/2001	27/12/2010	56	1213,3	2500	52	Les Mineraux Crevier inc
32H07	24	28	CDC	1027967	Active	19/11/2001	27/12/2010	56	1213,3	2500	52	Les Mineraux Crevier inc
32H07	24	29	CDC	1027968	Active	19/11/2001	27/12/2010	56	1213,3	2500	52	Les Mineraux Crevier inc
32H07	24	30	CDC	1027969	Active	19/11/2001	27/12/2010	56	1213,3	2500	52	Les Mineraux Crevier inc
32H07	24	31	CDC	1027970	Active	19/11/2001	27/12/2010	56	1213,3	2500	52	Les Mineraux Crevier inc
32H07	25	27	CDC	1027973	Active	19/11/2001	27/12/2010	55.99	1213,3	2500	52	Les Mineraux Crevier inc
32H07	25	28	CDC	1027974	Active	19/11/2001	27/12/2010	55.99	1213,3	2500	52	Les Mineraux Crevier inc
32H07	25	29	CDC	1027975	Active	19/11/2001	27/12/2010	55.99	265679,19	2500	52	Les Mineraux Crevier inc
32H07	25	30	CDC	1027976	Active	19/11/2001	27/12/2010	55.99	230092,2	2500	52	Les Mineraux Crevier inc
32H07	25	31	CDC	1027977	Active	19/11/2001	27/12/2010	55.99	1213,3	2500	52	Les Mineraux Crevier inc
32H07	26	25	CDC	1027978	Active	19/11/2001	27/12/2010	55.98	1213,3	2500	52	Les Mineraux Crevier inc
32H07	26	26	CDC	1027979	Active	19/11/2001	27/12/2010	55.98	1213,3	2500	52	Les Mineraux Crevier inc
32H07	26	27	CDC	1027980	Active	19/11/2001	27/12/2010	55.98	6660,61	2500	52	Les Mineraux Crevier inc
32H07	26	28	CDC	1027981	Active	19/11/2001	27/12/2010	55.98	431621,76	2500	52	Les Mineraux Crevier inc
32H07	26	29	CDC	1027982	Active	19/11/2001	27/12/2010	55.98	302645,64	2500	52	Les Mineraux Crevier inc
32H07	26	30	CDC	1027983	Active	19/11/2001	27/12/2010	55.98	1213,3	2500	52	Les Mineraux Crevier inc
32H07	26	31	CDC	1027984	Active	19/11/2001	27/12/2010	55.98	1213,29	2500	52	Les Mineraux Crevier inc
32H07	27	25	CDC	1027985	Active	19/11/2001	27/12/2010	55.97	1213,29	2500	52	Les Mineraux Crevier inc
32H07	27	26	CDC	1027986	Active	19/11/2001	27/12/2010	55.97	1213,29	2500	52	Les Mineraux Crevier inc
32H07	27	27	CDC	1027987	Active	19/11/2001	27/12/2010	55.97	44380,22	2500	52	Les Mineraux Crevier inc
32H07	27	28	CDC	1027988	Active	19/11/2001	27/12/2010	55.97	128426,97	2500	52	Les Mineraux Crevier inc
32H07	27	29	CDC	1027989	Active	19/11/2001	27/12/2010	55.97	1213,29	2500	52	Les Mineraux Crevier inc
32H07	27	30	CDC	1027990	Active	19/11/2001	27/12/2010	55.97	1213,29	2500	52	Les Mineraux Crevier inc
32H07	28	24	CDC	1027992	Active	19/11/2001	27/12/2010	55.96	1213,29	2500	52	Les Mineraux Crevier inc
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32H07	28	26	CDC	1027994	Active	19/11/2001	27/12/2010	55.96	1213,29	2500	52	Les Mineraux Crevier inc
32H07	28	27	CDC	1027995	Active	19/11/2001	27/12/2010	55.96	1213,29	2500	52	Les Mineraux Crevier inc
32H07	28	28	CDC	1027996	Active	19/11/2001	27/12/2010	55.96	1213,29	2500	52	Les Mineraux Crevier inc
32H07	29	24	CDC	1027999	Active	19/11/2001	27/12/2010	55.95	1213,29	2500	52	Les Mineraux Crevier inc
32H07	29	25	CDC	1028000	Active	19/11/2001	27/12/2010	55.95	1213,29	2500	52	Les Mineraux Crevier inc
32H07	29	26	CDC	1028001	Active	19/11/2001	27/12/2010	55.95	1213,29	2500	52	Les Mineraux Crevier inc
32H07	30	23	CDC	1028006	Active	19/11/2001	27/12/2010	55.94	1213,29	2500	52	Les Mineraux Crevier inc
32H07	30	24	CDC	1028007	Active	19/11/2001	27/12/2010	55.94	54602,96	2500	52	Les Mineraux Crevier inc
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32H10	1	24	CDC	1028013	Active	19/11/2001	27/12/2010	55.93	1213,29	2500	52	Les Mineraux Crevier inc
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32H07	23	27	CDC	2153567	Active	21/05/2008	20/05/2012	56.01	13,3	1200		Les Mineraux Crevier inc
32H07	23	28	CDC	2153568	Active	21/05/2008	20/05/2012	56.01	13,3	1200		Les Mineraux Crevier inc
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32H07	23	31	CDC	2153571	Active	21/05/2008	20/05/2012	56.01	13,3	1200		Les Mineraux Crevier inc
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32H07	24	25	CDC	2153575	Active	21/05/2008	20/05/2012	56	13,3	1200		Les Mineraux Crevier inc
32H07	24	26	CDC	2153576	Active	21/05/2008	20/05/2012	56	13,3	1200		Les Mineraux Crevier inc
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32H07	25	32	CDC	2153581	Active	21/03/2008	20/05/2012	55.99	13,29	1200		Les Mineraux Crevier inc
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32H07 32H07	25	23	CDC	2153583	Active	21/05/2008	20/05/2012	55.99	13,29	1200		Les Mineraux Crevier inc
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32H07	27	37	CDC	2186592	Active	05/08/2009	04/08/2011	55.97	0	1200	52	Les Mineraux Crevier inc
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32H07	28	37	CDC	2186594	Active	05/08/2009	04/08/2011	55.96	0	1200		Les Mineraux Crevier inc
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32H07	27	34	CDC	2196467	Active	03/12/2009	02/12/2011	55.97	0	1200		Les Mineraux Crevier inc
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32H07 32H07	20	34	CDC	2190472 2222152	Active	27/04/2010	26/04/2012	55.95	0	1200		Les Mineraux Crevier inc
32007	29	54	LDC	2222152	ACTIVE	27/04/2010	20/04/2012	55.95	0	1200	52	Les Willieraux Crevier Inc

221107	20	25	CDC	2222452	A ativa	27/04/2010	20/04/2012	55.05	0	1200	53	Les Mineraux Crevier inc
32H07	29	35	CDC	2222153	Active	1 - 1	26/04/2012	55.95	-		-	
32H07	29	36	CDC	2222154	Active	1 - 1	26/04/2012	55.95	0			Les Mineraux Crevier inc
32H07	29	37	CDC	2222155	Active		26/04/2012	55.95	0			Les Mineraux Crevier inc
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32H07	20	28	CDC	2223802	Active	29/04/2010		56.04	0			Les Mineraux Crevier inc
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32H07	20		CDC	2223803	Active	29/04/2010		56.04				Les Mineraux Crevier inc
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32H07	20	31	CDC	2223805	Active	29/04/2010		56.04	0			Les Mineraux Crevier inc
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32H07	20	33	CDC	2223807	Active	29/04/2010	28/04/2012	56.04	0	1200	52	Les Mineraux Crevier inc
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32H07	20	35	CDC	2223809	Active	29/04/2010	28/04/2012	56.04	0	1200	52	Les Mineraux Crevier inc
32H07	20	36	CDC	2223810	Active	29/04/2010		56.04	0			Les Mineraux Crevier inc
32H07	20	37	CDC	2223811	Active	29/04/2010		56.04	0			Les Mineraux Crevier inc
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32H07	21	31	CDC	2223819	Active	29/04/2010	28/04/2012	56.03	0			Les Mineraux Crevier inc
32H07	21	32	CDC	2223820	Active	29/04/2010	-1-1-	56.03	0			Les Mineraux Crevier inc
32H07 32H07	21	33	CDC	2223820	Active	29/04/2010	28/04/2012	56.03	0			Les Mineraux Crevier inc
									-		-	
32H07	21	34	CDC	2223822	Active	29/04/2010		56.03	0			Les Mineraux Crevier inc
32H07	21	35	CDC	2223823	Active	29/04/2010	28/04/2012	56.03	0		-	Les Mineraux Crevier inc
32H07	21	36	CDC	2223824	Active	29/04/2010		56.03	0			Les Mineraux Crevier inc
32H07	21	37	CDC	2223825	Active	29/04/2010	28/04/2012	56.03	0			Les Mineraux Crevier inc
32H07	21	38	CDC	2223826	Active	29/04/2010	28/04/2012	56.03	0	1200	52	Les Mineraux Crevier inc
32H07	22	26	CDC	2223827	Active	29/04/2010	28/04/2012	56.02	0	1200	52	Les Mineraux Crevier inc
32H07	22	27	CDC	2223828	Active	29/04/2010	28/04/2012	56.02	0	1200		Les Mineraux Crevier inc
32H07	22	28	CDC	2223829	Active	29/04/2010	28/04/2012	56.02	0			Les Mineraux Crevier inc
32H07	22	28	CDC	2223823	Active	29/04/2010		56.02	0			Les Mineraux Crevier inc
32H07	22	30	CDC	2223831	Active	29/04/2010		56.02	0			Les Mineraux Crevier inc
32H07	22	31	CDC	2223832	Active	29/04/2010		56.02	0			Les Mineraux Crevier inc
32H07	22	32	CDC	2223833	Active	29/04/2010		56.02	0		52	Les Mineraux Crevier inc
32H07	22	33	CDC	2223834	Active	29/04/2010	28/04/2012	56.02	0	1200	52	Les Mineraux Crevier inc
32H07	22	34	CDC	2223835	Active	29/04/2010	28/04/2012	56.02	0	1200	52	Les Mineraux Crevier inc
32H07	22	35	CDC	2223836	Active	29/04/2010	28/04/2012	56.02	0	1200	52	Les Mineraux Crevier inc
32H07	22	36	CDC	2223837	Active	29/04/2010	28/04/2012	56.02	0	1200	52	Les Mineraux Crevier inc
32H07	15	24	CDC	2223839	Active	29/04/2010	28/04/2012	56.08	0			Les Mineraux Crevier inc
32H07	15	25	CDC	2223840	Active	29/04/2010	28/04/2012	56.08	0			Les Mineraux Crevier inc
									0			
32H07	16	21	CDC	2223841	Active	29/04/2010	28/04/2012	56.07	-			Les Mineraux Crevier inc
32H07	16	22	CDC	2223842	Active	29/04/2010		56.07	0			Les Mineraux Crevier inc
32H07	16	23	CDC	2223843	Active	29/04/2010	28/04/2012	56.07	0			Les Mineraux Crevier inc
32H07	16	24	CDC	2223844	Active	29/04/2010	28/04/2012	56.07	0	1200	52	Les Mineraux Crevier inc
32H07	16	25	CDC	2223845	Active	29/04/2010	28/04/2012	56.07	0	1200	52	Les Mineraux Crevier inc
32H07	16	26	CDC	2223846	Active	29/04/2010	28/04/2012	56.07	0	1200	52	Les Mineraux Crevier inc
32H07	17	21	CDC	2223847	Active	29/04/2010	28/04/2012	56.06	0	1200	52	Les Mineraux Crevier inc
32H07	17	22	CDC	2223848	Active	29/04/2010	28/04/2012	56.06	0	1200	52	Les Mineraux Crevier inc
32H07	17	23	CDC	2223849	Active	29/04/2010		56.06	0		-	Les Mineraux Crevier inc
32H07	17	24	CDC	2223850	Active	29/04/2010		56.06	0			Les Mineraux Crevier inc
32H07 32H07	17	24	CDC	2223850	Active	29/04/2010	28/04/2012	56.06	0		52	
									-			
32H07	17	26	CDC	2223852	Active	29/04/2010		56.06	0			Les Mineraux Crevier inc
32H07	17	27	CDC	2223853	Active	29/04/2010		56.06	0			Les Mineraux Crevier inc
32H07	18	21	CDC	2223854	Active		28/04/2012	56.05	0	1200		Les Mineraux Crevier inc
32H07	18	22	CDC	2223855	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	18	23	CDC	2223856	Active		28/04/2012	56.05	0			Les Mineraux Crevier inc
32H07	18	24	CDC	2223857	Active	29/04/2010	28/04/2012	56.05	0	1200	52	Les Mineraux Crevier inc
32H07	18	25	CDC	2223858	Active	29/04/2010	28/04/2012	56.05	0		52	Les Mineraux Crevier inc
32H07	18	26	CDC	2223859	Active	29/04/2010		56.06	0			Les Mineraux Crevier inc
32H07	18	20	CDC	2223860	Active		28/04/2012	56.06	0			Les Mineraux Crevier inc
32H07	18	27	CDC	2223860	Active	29/04/2010		56.06	0			Les Mineraux Crevier inc
32H07 32H07	10	20	CDC	2223861	Active	29/04/2010		56.04	0			Les Mineraux Crevier inc
						29/04/2010						
32H07	19	23	CDC	2223863	Active			56.04	0			Les Mineraux Crevier inc
32H07	19	24	CDC	2223864	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	19	25	CDC	2223865	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	19	26	CDC	2223866	Active		28/04/2012	56.05	0			Les Mineraux Crevier inc
32H07	19	27	CDC	2223867	Active	29/04/2010	28/04/2012	56.05	0	1200	52	Les Mineraux Crevier inc
32H07	19	28	CDC	2223868	Active		28/04/2012	56.05	0	1200		Les Mineraux Crevier inc
32H07	19	29	CDC	2223869	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	19	30	CDC	2223870	Active		28/04/2012	56.05	0			Les Mineraux Crevier inc
32H07	19	31	CDC	2223870	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	19	32	CDC	2223872	Active		28/04/2012	56.05	0			Les Mineraux Crevier inc
32H07	19	33	CDC	2223873	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	19	34	CDC	2223874	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	19	35	CDC	2223875	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	19	36	CDC	2223876	Active	29/04/2010	28/04/2012	56.05	0	1200	52	Les Mineraux Crevier inc
32H07	19	37	CDC	2223877	Active	29/04/2010		56.05	0	1200		Les Mineraux Crevier inc
32H07	19	38	CDC	2223878	Active	29/04/2010		56.05	0			Les Mineraux Crevier inc
32H07	15	21	CDC	2223901	Active		28/04/2012	56.08	0			Les Mineraux Crevier inc
32H07	15	21	CDC	2223901	Active	29/04/2010		56.08	0			Les Mineraux Crevier inc
521107	15	22	CDC	2223902			28/04/2012	56.08				
32H07			CDC	2223903	Active	29/04/2010	28/04/2012	56.08	0	1200	52	Les Mineraux Crevier inc

Appendix 2: General location plans





Appendix 3: Cross sections presenting new drilling





















































