



# NI 43-101 TECHNICAL REPORT AND REVIEW OF THE PRELIMINARY MINERAL RESOURCE ESTIMATE FOR THE PITT GOLD PROJECT DUPARQUET TOWNSHIP ABITIBI REGION, QUEBEC, CANADA 32/D/6

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#### 1.0 SUMMARY

In March, 2016, First Mining Finance Corp. (First Mining) announced that it had entered into an agreement to acquire the Pitt Gold property from Brionor. First Mining completed the purchase in April, 2016 and in May, 2016 First Mining asked Micon to review its previous Pitt Gold Technical Report dated June 10, 2011 (2011 Technical Report), for Brionor and review and update the mineral resource estimate as a result of the transaction.

The 2011 Technical Report was prepared by Micon International Limited (Micon) when Brionor Resources Inc. (Brionor) requested it prepare an independent Technical Report on Brionor's Pitt Gold Property in the Duparquet Township of the Abitibi Region of the Province of Quebec. The 2011 Technical Report included an audit of the initial polygonal resource estimate for the Pitt Gold Property, conducted for Brionor by Mr. Pierre O'Dowd.

The term "Pitt Gold Project" refers to the mineral concessions on which Brionor has conducted its exploration program. The term "Pitt Gold Property" refers to the entire land package previously acquired or held by Brionor, in the Duparquet Township and now owned by First Mining.

Micon does not have nor has it previously had any material interest in Brionor or First Mining, and/or related entities. The relationship with Brionor and First Mining was/is solely a professional association between the client and the independent consultant. Micon's report is prepared in return for fees based upon agreed commercial rates and the payment of these fees are in no way contingent on the results of the report.

This report includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material.

This report is intended to be used by First Mining subject to the terms and conditions of its agreement with Micon. That agreement permits First Mining to file this report as a Technical Report with the Canadian Securities Administrators (CSA) pursuant to provincial securities legislation or with the Securities and Exchange Commission (SEC) in the United States. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

The conclusions and recommendations in this report reflect the authors' best independent judgment considering the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.



## **1.1 PROPERTY DESCRIPTION**

The Pitt Gold Property is situated 35 km north of the town of Rouyn-Noranda and 7 km east of the village of Duparquet.

The property is accessed from Rouyn-Noranda via paved roads to within approximately 500 m of the northern mineral claims. Access on the property is comprised of both gravel roads and dirt all-terrain vehicle (ATV) trails. Rouyn-Noranda's airport provides direct access to Montreal via daily flights on several airlines.

On a regional basis, the Pitt Gold Property is located on Canadian Map Sheet NTS 32D/06, approximate UTM 5372036N, 638747E, N.A.D. 83 Zone 17.

#### 1.2 OWNERSHIP

The property, now owned by First Mining, consists of 24 contiguous mineral claims covering an area of 384 hectares. Work credits which have been accumulated on the mineral claims are sufficient to keep the property in good standing for more than 100 years.

In 2011 Brionor was the successor company to Normabec Mining Resources Limited (Normabec). In September, 2009, Normabec entered into a definitive agreement with First Majestic Silver Corp. (First Majestic) whereby the shareholders of Normabec received shares of First Majestic and a newly formed public company (2528255 Canada Inc.) which was renamed Brionor. The new public company acquired 100% of Normabec's assets in Quebec by exchanging one share in the new company for every four shares of Normabec. At the close of the transaction in November, 2009, Brionor owned 100% of the Pitt Gold Property.

The original owners were the Cotnoir-Beauchemin group (consisting of Jeanne Cotnoir, Maude Cotnoir, Alain Cotnoir and Jacques Beauchemin), who staked the mineral claims in 1978, and continue to hold a royalty equivalent to a 2% Net Smelter Return (NSR), of which 1% can be bought back by First Mining for \$800,000. In addition, any mining operation on the property is to be called the Gaston Cotnoir mine.

Other previous owners, La Societe Quebecoise D'Exploration Miniere (SOQUEM) and Geonova Exploration Inc. (Geonova), each retain a royalty equivalent to 1% NSR. Half of the royalty (1%) can be bought back from the two parties for \$1 million.

#### 1.3 HISTORY

On the Pitt Gold Property, the first showing was discovered in a drill hole by Beattie Gold Mines in 1939. In 1944, the property was acquired by Fleming-Thomson which completed 19 drill holes for a total of 3,152 m (FT-7 to FT-25). From 1945 to 1947, Pitt Gold Mining Ltd. (Pitt Gold Mining) drilled 43 additional holes for 13,432 m (P-26 to P-71) which led to the discovery of the Pitt Gold showing close to the Porcupine-Destor break. No activity is recorded for the period between 1948 and 1974. In 1975, Louvem acquired the property and carried out



IP and pedogeochemical surveys, as well as 2 drill holes (311 m), without any encouraging result.

In 1978, the claims were staked by Cotnoir and associates and the property was successively optioned to the following companies:

- Camflo Mines Ltd. (1981 to 1982), which conducted line cutting, IP, magnetometer and VLF surveys and 3 diamond drill holes for a total of 832 m.
- Lacana Exploration (1987 to 1988), which conducted line cutting, magnetometer and VLF surveys and 14 diamond drill holes for a total of 2,607 m.
- Santa Fe Canadian Mining Ltd. (Santa Fe) (1995 to 1997), which drilled 24 holes for a total of 16,692 m.
- Geonova (1998 to 1999).
- SOQUEM (2000 to 2004), which conducted line cutting and 6 diamond drill holes for a total of 1,707 m.

In the course of the drilling programs, numerous gold-bearing intersections were identified, especially during the periods of exploration by Pitt Gold (1945 to 1947) and Santa Fe (1995 to 1997). The best intersections are related to two areas of interest which Santa Fe referred to as the Pitt Main and Stinger zones. Although the geometry of the two zones is still not well understood, the main intersections are confined to the central parts of mineral claims 370944-3 and 370944-4.

#### 1.4 GEOLOGY AND MINERALIZATION

#### 1.4.1 Geology

The Pitt Gold Property is located within Archean mafic rocks belonging to the southern volcanic zone of the Abitibi Belt. More specifically, it is located at the contact between the Blake River Group (to the south) and the Kinolevis Group (to the north). The contact itself is represented by the Porcupine-Destor deformation zone (PDDZ), along which are observed the Temiscamingue type rocks of the Duparquet Formation, lenses of graywacke belonging to the Kewagama Group and ultramafic units that might be related to the Malartic Group, to the east, or the Stoughton-Roquemaure Group, to the west. The local section of the PDDZ hosts the Duparquet sedimentary formation which is believed to represent a pull-apart basin. The main movement along the fault is dextral.

An important geological feature for the Pitt Gold Project is the presence of subsidiary faults in the local portion of the PDDZ. These secondary faults have been known historically to channel gold-bearing hydrothermal fluids at other projects. Locally, lithological contacts and intrusive rocks (such as quartz feldspar porphyries (QPF) and syenites) represent favourable areas of contrasting rock competency. In addition to the Holt-McDermott (production: 5.1 Mt @ 5.8



g/t gold), the Lightning/Holloway (production: 5.2 Mt @ 7.9 g/t gold), the Beattie-Donchester-Central Duparquet (production: 9.63 Mt @ 4.1 g/t gold) and the Duquesne mines (production: 136,585 tonnes @ 10 g/t gold), the area hosts approximately 60 gold showings with grades greater than 1 g/t gold (Goutier et Lacroix, 1992).

The main gold showing on the Pitt Gold Property is found in its central-eastern portion (mineral claims 370944-3 and 370947-1) where approximately sixty holes have been drilled throughout the last decades of exploration. The area hosting the main showing is very close to the neighbouring Duquesne West Property, where close to 100 holes have been drilled within the same vein system. Gold is related to quartz veinlets and strongly sericitized and carbonatized deformation zones within felsic porphyry dykes and ultramafic units.

#### 1.4.2 Mineralization

Most of the mineralized intersections have been obtained to the north of the Porcupine-Destor Break. A few isolated values were obtained in sediments to the south of the break and a few more within schist material (chlorite, sericite, carbonate, fuchsite) representing the break itself but, although the assay values could be quite high, no continuity could be established.

North of the break, gold intersections are numerous but not necessarily easy to correlate, since they are not found within very distinctive structures or units. Although porphyry intrusions are prominent north of the Porcupine-Destor Break, their relationship with the gold is not clear. The intrusions were probably emplaced along the same dilatational structures that enabled movement of the gold-bearing fluid, but the gold is not restricted to the porphyries and there appears to be a cross-cutting relationship between the gold-bearing structures and the porphyries, as well as all of the volcanic units.

The mineralized structures are diffuse and far from being clearly defined. Their physical expression is represented by zones of silicification (and locally albitization) and dark grey quartz veining (locally graphitic) exhibiting significant fine pyrite (5 to 10%) in the veinlets, as well as the altered host unit. Mineralized intersections vary from a few centimetres up to several metres. Gold content is quite erratic and can locally reach bonanza grade (hundreds of g/t gold). Visible gold was only observed once. It would appear that the gold is closely related to the pyrite and is probably within the pyrite crystals. Areas of better alteration (silicification) and fine pyrite content are associated with higher gold grades. These areas of silicification and fine pyrite content appear to be traceable in the drilling and have been correlated into Veins 1, 2 and 3 by Brionor, with the Main zone identified by Santa Fe as a possible fourth vein.

#### **1.5 EXPLORATION**

In 2006, Normabec realized that the eastern mineral claim boundary as indicated on the government maps did not correlate with the evidence of the boundary as depicted in the field and it commissioned an initial independent survey to address the discrepancies. As part of the 2010 exploration program, Brionor finalized the surveying of the eastern boundary of the mineral claims to address the previously noted discrepancies. The 2010 survey confirmed the



work of the earlier survey by Normabec and, as a result, a report was filed with the appropriate government agency.

Seven drill holes totalling 2,655 m were drilled in the upper portion of the deposit (above the 300 m level) during the winter 2010 program. Brionor's exploration expenditures for the 2010 program totalled approximately \$322,000.

The results obtained during the 2010 winter drilling program were generally below expectations and below the previous drilling results obtained from 2005 to 2009. Previous drill programs on the property had indicated that Zone 2 is the one that can be best traced along strike, as well as up and down dip. However, in 2010, the style of mineralization appeared different to that encountered in earlier drilling programs. Brionor still encountered large halos of low grade mineralization (hundreds of ppb) but these were not related to the narrower high grade intersections encountered deeper in the deposit.

Drilling in the upper portion of the deposit during the 2010 exploration program did not confirm the geological model previously developed by SOQUEM. Therefore, Brionor decided that a new interpretation of the mineralization was necessary and it undertook this process during the spring of 2010. The primary changes in the new model related to the interpretation of the dips of the various geological units, which are now thought to be steeper than previously believed. However, the strikes and dips of the various interpreted gold-bearing structures did not change substantially from the old model and only the geological contacts were significantly remodelled.

To check its new interpretation in 2010, Brionor hired Mr. Cliff Duke to construct a 3-D model of the mineralization as a comparison against its sectional hand-drawn interpretation. Mr. Duke's interpretation basically confirmed that Brionor's interpretation is the best one possible at that time. Brionor was surprised at this outcome, as it had hoped that the exercise would generate an alternative interpretation and potential new targets. As a result of the 2010 drilling, Brionor conducted a review of the past drilling outside the main mineralized area. This review indicated that the western portion of the Porcupine-Destor Break has only seen shallow drilling and, while no significant intersection was obtained, the drilling below 200 m is sparse.

In addition, the review noted that numerous anomalous to sub-economic gold intersections were obtained in the northern portion of the property. These intervals appear to define a broad east-west striking corridor that has been only sporadically drilled. SOQUEM drilled a few holes to follow up IP anomalies in this area just before Normabec optioned the property. The best intercept is 5.43 g/t gold over 1.2 m but a few larger low grade intercepts were also obtained in holes 1299-01-01 and -02 (0.6 g/t gold over 14.9 m, etc.). This mineralized corridor is located just south of a government interpreted structure, the Lepine Lake Fault. Brionor proposed that it would begin to drill test this structure as part of its 2011 exploration program.

Since the acquisition from Brionor of the Pitt Gold Project, First Mining has been assessing the exploration potential of the project.



First Mining's near term objective will be to re-assess earlier plans to systematically drill test the western portion of the Porcupine-Destor Break vertically below 200 m, to either define a further gold resource or reach the conclusion that no economic deposit can be found along these potential zones. An initial budget of \$1,000,000 was proposed that would provide for 7,000 m of drilling (approximately 15 holes).

The Pitt Gold Property should be considered as an advanced stage exploration property if First Mining continues to explore the possibility of expanding the existing resource base near the Porcupine-Destor Break, and as a mid-stage exploration property for the purposes of general surface exploration. It is Micon's opinion that First Mining's programs of compilation and analysis of the existing data, in addition to its proposed focused exploration program which will follow-up on the known occurrences and anomalies, were both warranted and justified.

Micon has reviewed First Mining's proposal for further exploration on the Pitt Gold Property and recommends that First Mining conducts the exploration program as proposed, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

#### **1.6 MINERAL RESOURCE ESTIMATE**

In 2011, Pierre O'Dowd conducted a preliminary mineral resource estimate, for the mineralization encountered north of the Porcupine-Destor Break on the Pitt Gold Project for Brionor. Micon audited the original January 31, 2011 estimate and the estimate has been economic parameters were reviewed again by Micon when it prepared this report for First Mining.

Once First Mining completed the purchase of the Pitt Gold Project in 2016, it asked Micon to review the previous Pitt Gold Technical Report dated June 10, 2011 (2011, Technical Report), for Brionor and review and update the mineral resource estimate as a result of the transaction. Due to the introduction of the new 2014 CIM definitions for mineral resources the previous indicated mineral resources were downgraded to inferred resources given the lack of project-specific density and metallurgical recovery testing of Pitt core. The previous classification relied on analogous metallurgical recoveries and densities from similar projects or historical projects within the mineral district to declare indicated resources.

In June, 2016 Micon undertook a review of the technical data and parameters used for the mineral resource estimate. Based upon its review of the parameters and data the resource estimate remains valid and has an effective date of December 15, 2016.

The preliminary mineral resource estimate was conducted from first principles, using the polygonal method on vertical projections (longitudinal sections) of the veins. A set of cross-sections and longitudinal sections of Veins 1, 2 and 3 were constructed for use in conducting the resource estimate. Polygons were then drawn on the longitudinal sections. The areas of



the individual polygons were measured using computer software and the horizontal thickness was used to obtain the volume of each polygon.

Table 1.1 summarizes the parameters used for the mineral resource estimate.

Description	Parameter	Comments
Cut-off grade	3 g/t gold	Minimum grade per block for resources.
Recovery	90%	Based upon recovery in area mines with similar metallurgy
US Gold Price per ounce	\$1,350/oz	
Minimum block width	1.5 m	Based on minimum underground mining width.
Dilution grade	0 g/t	Grade used to bring blocks up to minimum width.
Capping grade	35 g/t	
Specific gravity	2.7	Commonly used SG for quartz veins in vein type deposits.
Polygonal size	1/2 distance to	next drill hole to a maximum radius of 50 m.
Core length	Mineralization	a converted to horizontal true width.

 Table 1.1

 Parameters Used for Polygonal Pitt Gold Mineral Resource Estimate

Due to the nature of the resource estimate and the drill spacing involved, only inferred resources were estimated using the following criteria:

• The inferred mineral resources consist of primarily interconnected polygonal blocks which meet the requirements of a minimum width of 1.5 m and a cut-off grade of 3 g/t gold.

Any polygonal block that did not meet the requirements for classification as an inferred resource block was removed from the resource tabulation.

Table 1.2 summarizes the polygonal mineral resource estimate for the Pitt Gold Property.

Resource Classification	Vein Number	Average Horizontal Width (m)	Tonnage	Gold Grade (g/t)	Gold Ounces
	1	2.34	400,000	5.40	70,000
Inferred	2	2.06	486,000	9.19	143,000
	3	1.63	190,000	7.16	44,000
Total	1 to 3	2.01	1,076,000	7.42	257,000

 Table 1.2

 Summary of the Polygonal Pitt Gold Mineral Resource Estimate

The process of mineral resource estimation includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material. The resource figures in Table 1.2 have been rounded to reflect that the numbers are estimates. Mineral resources that are not mineral reserves do not have demonstrated economic viability. There are currently no mineral reserves on the Pitt Gold property.



The mineral resources for the Pitt Gold Project have an effective date of December 15, 2016.

Micon believes that no environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues exist which would adversely affect the mineral resources estimated above.

Micon has reviewed the polygonal classification in sections and plan and is satisfied that based on grade and geological continuity that the classification satisfies the May 10, 2014 CIM Definition standards.

Micon is of the opinion that using a metallurgical recovery of 90% and a bulk density of 2.7  $t/m^3$  is a fair assumption for the estimation of inferred mineral resources and that, while the recoveries may vary upon the conclusion of actual testwork, it is fairly safe to assume that the recovery will not drop significantly below 90% for this style of mineralization based on past experience with similar deposits in the district. Micon is of the opinion that with additional drilling, the majority of the inferred mineral resource could be upgraded to indicated mineral resources.

#### 1.7 CONCLUSIONS AND RECOMMENDATIONS

Through its acquisition of the Pitt Gold Property, First Mining has acquired a property with the potential to yield significant gold mineralization. After auditing the geological model and mineral resource estimate generated by Brionor, Micon finds the methodology to be acceptable for use on the Pitt Gold Project and makes the following recommendations for improvements to be applied to future estimates:

- 1) That First Mining adds field duplicates to its QA/QC program, as opposed to having the assay laboratory conduct the duplicate sampling, in order to provide blind duplicate samples.
- 2) That First Mining adds a secondary assay laboratory to its QA/QC program as a check against the results of its primary laboratory.
- 3) That First Mining reviews the electronic database used to create the 3-D model, makes any appropriate corrections to the database and uses the database and model as the basis for its next resource estimate.
- 4) That First Mining adds to the database the information gathered for any additional mineralized zones on the Pitt Gold Property and models these data for use in the estimation of any additional resources which may be identified on the property.



#### 2.0 INTRODUCTION

In March, 2016, First Mining Finance Corp. (First Mining) announced that it had entered into an agreement to acquire the Pitt Gold property from Brionor. First Mining completed the purchase in April, 2016 and in May, 2016, William F. Tanaka, Vice President, Technical Services for First Mining asked Micon to re-address the Pitt Gold technical report dated June 10, 2011 (the 2011 Technical Report) for Brionor to First Mining as a result of the transaction.

The 2011 Technical Report was prepared by Micon International Limited (Micon) when Brionor Resources Inc. (Brionor) requested it prepare an independent technical report on Brionor's Pitt Gold Property in the Duparquet Township of the Abitibi Region of the Province of Quebec. The 2011 Technical Report included an audit of the initial polygonal resource estimate for the Pitt Gold Property, conducted for Brionor by Mr. Pierre O'Dowd.

In May, 2012, Xmet Inc. (Xmet) announced that it had entered into an agreement to purchase the Pitt Gold property from Brionor. At that time, Micon was retained by Mr. Charles Beaudry, President and Chief Operating Officer of Xmet, to re-address the 2011 Technical Report to Xmet to reflect Xmet's acquisition of the Pitt Gold property. Xmet was subsequently unable to complete its purchase of the Pitt Gold Property and the property was returned to Brionor.

The 2011 Technical Report was prepared under the former National Instrument 43-101 (NI 43-101) format for such reports. As part of the process involved in re-addressing the 2011 Technical Report to Xmet, the 2011 Technical Report was updated (the Revised 2011 Technical Report) to comply with the new technical report format which was introduced as of June 30, 2011.

Micon has written this Technical Report for First Mining using its previous 2011 Technical Report on as the basis for most of the material in this report and updated it accordingly where applicable. Micon has reviewed and added material to the original 2011 Technical Report written for Brionor and where it was necessary to provide further clarification.

The geological setting of the property, mineralization style and occurrences, and exploration history were originally described in reports that were prepared by Normabec, Brionor and previous operators, as well as in various government and other publications listed in Section 28 "References". The relevant sections of those reports are reproduced herein and Micon has reviewed and takes responsibility for the information reproduced from such reports.

The term "Pitt Gold Project" refers to the mineral concessions on which Brionor conducted its exploration program. The term "Pitt Gold Property" refers to the entire land package acquired or held by Brionor, in the Duparquet Township, which is now owned by First Mining.

All currency amounts are stated in Canadian dollars with costs and commodity prices typically expressed in US dollars. Quantities are generally stated in Système International d'Unités (SI) units, the standard Canadian and international practice, including metric tons (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area,



grams (g) and grams per metric tonne (g/t) for gold and silver grades (g/t Au, g/t Ag). Wherever applicable, any Imperial units of measure encountered have been converted to SI units for reporting consistency. Precious metal grades may be expressed in parts per million (ppm) or parts per billion (ppb) and their quantities may also be reported in troy ounces (ounces, oz.), a common practice in the mining industry. Table 2.1 is a list of the various abbreviations used throughout this report. Appendix 1 contains a glossary of mining terms.

Micon's site visit to the Pitt Gold Property was conducted from April 25 to 29, 2011. Micon was accompanied during the visit by Mr. Pierre O'Dowd, the Project Geologist who oversaw the project for both Brionor and Normabec. Micon has not conducted a subsequent site visit to the Pitt Gold Property as no further work has been conducted on the Project since the previous 2011 Technical Report was written and therefore, there has been no change in the scientific or technical data.

In conjunction with the site tour, the offices of Brionor were also visited in Montreal, where the review covered various aspects related to the exploration program and further work. Micon has reviewed the resource estimate for this report and is of the opinion that the parameters used for the mineral resource estimate contained in the 2011 Technical Report are still valid and that the resource estimate can be considered current.

Micon has not carried out any independent exploration work, drilled any holes or conducted any extensive program of sampling and assaying on the property. However, during the 2011 site visit, Micon did collect 7 samples to verify the mineralization, the results of which are discussed in Section 12 of this Technical Report.

Micon is pleased to acknowledge the helpful cooperation of First Mining's management and personnel, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material when writing the original report and subsequent re-addresses.

The Qualified Persons responsible for the preparation of this report and the opinion on the propriety of the proposed exploration program are William J. Lewis, B.Sc., P.Geo., a senior geologist and Ing. Alan J. San Martin, MAusIMM(CP), mineral resource specialist both with Micon in Toronto. Mr. Lewis conducted the site visit to the Pitt Gold Property where various documents were reviewed and discussions held concerning the exploration programs and the Quality Assurance/Quality Control (QA/QC) program. In addition, a number of drill sites and mineralized zones were visited.

Mr. San Martin conducted the review of the 2011 Gemcom database which Brionor had setup for the Pitt Gold Project, in 2011, and found that the data were relatively free of errors and sufficient to model the data obtained from the exploration programs. The database has been acquired by First Mining and will form the base upon which First Mining will conduct further exploration on the Project. However, Mr Lewis conducted the audit of, and is responsible for, the mineral resource estimate.

#### Table 2.1 List of Abbreviations

Description	Abbreviation	Description	Abbreviation
Activation Laboratories Ltd.	Actlabs	Milligram(s)	mg
Brionor Resources Inc.	Brionor	Millimetre(s)	mm
Canadian Institute of Mining, Metallurgy and Petroleum	CIM	Ministère des Ressources Naturelles et de la Faune du Quebec	MRNF
Canadian National Instrument 43-101	NI 43-101	National Topographical System	NTS
Canadian Securities Administrators	CSA	Net present value	NPV
Centimetre(s)	cm	Net smelter return	NSR
Corriveau and Associates	Corriveau	Normabec Mining Resources Limited	Normabec
Cubic metres per day	m <sup>3</sup> /d	Not available/applicable	NA
Degree(s)	0	Parts per billion	ppb
Degrees Celsius	°C	Parts per million	ppm
Dollar(s), Canadian and US	\$, CDN\$ and US\$	Percent(age)	%
Electromagnetic	EM	Pitt Gold Mining Ltd.	Pitt Gold Mining
Environmental Information Report	EIR	Porcupine-Destor deformation zone	PDDZ
Environmental Impact Assessment	EIA	quartz feldspar porphyries	QPF
First Majestic Silver Corp.	First Majestic	Quality Assurance/Quality Control	QA/QC
First Mining Finance Corp.	First Mining	Rocklabs Ltd.	Rocklabs
Geonova Exploration Inc.	Genova	Rock Quality Designation	RQD
Gestion des titres miniers	Gestim	Santa Fe Canadian Mining Ltd.	Santa Fe
Global Positioning System	GPS	Second	S
Globex Mining Enterprises Inc.	Globex	System for Electronic Document Analysis and Retrieval	SEDAR
Gram(s)	g	Specific gravity	SG
Grams per metric tonne	g/t	Square kilometres	km <sup>2</sup>
Hectare(s)	ha	Système International d'Unités	SI
Kilogram(s)	kg	Tonne	t
Kilometre(s)	km	Tonne per day	t/d
La Societe Quebecoise D'Exploration Miniere	SOQUEM	Total Magnetic Intensity	TMI
Litre(s)	L	TSL Laboratories Inc.	TSL
Metre(s)	m	Universal Transverse Mercator	UTM
Micon International Limited	Micon	Vertical-Axis Time Domain Electromagnetic	VTEM
Million tonnes	Mt	Xmet Inc.	Xmet



Micon does not have nor has it previously had any material interest in First Mining and Brionor or any related entities. The relationship with First Mining and Brionor is solely a professional association between the client and the independent consultant. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

This report includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material.

This report is intended to be used by First Mining subject to the terms and conditions of its agreement with Micon. That agreement permits First Mining to file this report as a Technical Report with the Canadian Securities Administrators (CSA) pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

The conclusions and recommendations in this report reflect the authors' best judgment in light of the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

The requirements of electronic document filing on SEDAR necessitate the submission of this report as an unlocked, editable pdf (portable document format) file. Micon accepts no responsibility for any changes made to the report after it leaves its control.

The photographs contained in this report were either supplied by Brionor or were taken by William Lewis during the Micon site visit. In the cases where photographs, figures or tables were supplied by other individuals or Brionor and remain valid for the original 2011 report, they are referenced below the inserted item.



#### 3.0 **RELIANCE ON OTHER EXPERTS**

Micon not qualified to comment on issues related to legal agreements, royalties, permitting, taxation and environmental matters. Micon has therefore relied upon the representations and documentations supplied by the First Mining's management and third parties where necessary.

All data used in this report was originally provided by Brionor and was confirmed by First Mining in June 2016. Micon has reviewed and analyzed this data and has drawn its own conclusions therefrom, augmented by its direct field examination in 2011.

The purchase agreement between First Mining and Brionor has not been reviewed by Micon and Micon has relied on First Mining's public statements (press releases) in March and April 2016 and subsequent summaries for the details regarding the agreement.

The various agreements under which First Mining holds title to the mineral claims comprising the Pitt Gold Property have not been reviewed by Micon and Micon has relied on statements originally from Brionor and confirmed by First Mining in June 2016 with respect to such matters. Micon offers no legal opinion as to the validity of the mineral title claimed.

Micon has not carried out an independent review of mineral titles, but has relied on information originally provided by Brionor and confirmed by First Mining in June 2016. An independent verification of land title and tenure was not performed. Information on tenure and permits was obtained from First Mining.



#### 4.0 **PROPERTY DESCRIPTION AND LOCATION**

#### 4.1 LOCATION

The Pitt Gold Property is located in Duparquet Township within the Abitibi region of the Province of Quebec, Canada. The Abitibi Region of Quebec is one of the most prospective and productive mineral regions in Canada with more than 100 years of continuous mining history and hosts a number of major Canadian mines.

The property is accessed from the town of Rouyn-Noranda via paved roads to within approximately 500 m of the northern mineral claims. Access on the property is comprised of both gravel roads and dirt all-terrain vehicle (ATV) trails. Rouyn-Noranda's airport provides direct access to Montreal via daily flights on a number of airlines.

The property is situated 35 km north of Rouyn-Noranda and 7 km east of the village of Duparquet.

On a regional basis, the Pitt Gold Property is located on Canadian National Topographical System (NTS) Map Sheet 32D/06. Approximate Universal Transverse Mercator (UTM) coordinates are 5372036N, 638747E, N.A.D. 83 Zone 17.

Figure 4.1 is a location map of the Pitt Gold Property in relation to Rouyn-Noranda and surrounding communities.

#### 4.2 PITT GOLD PROPERTY

#### 4.2.1 Land Tenure

The property consists of 24 contiguous mineral claims covering an area of 384 hectares. The details for each of the claims is included as Table 4.1. Figure 4.2 is a location map of the mineral claims.

In Quebec, the mineral claim gives its holder the exclusive right to search, for a two-year period, within its defined territory, for any mineral substances which are in the public domain except for oil, natural gas, sand and all surficial mineral substances.



Mineral Claim Number	Date Staked	Expiry Date	Renewal DateArea of Mineral Claim (ha)Work Credits on the Claim (CND\$)		Annual Fees (CND\$)	Amount of Annual Work Required (CND\$)*	
CL 3709441	March 16, 1978	February 23, 2017	2016-12-24	16.00	24,419.87	30.51	650.00
CL 3709442	March 16, 1978	February 23, 2017	2016-12-24	16.00	8,404.32	30.51	650.00
CL 3709443	March 16, 1978	February 23, 2017	2016-12-24	16.00	1,059,372.40	30.51	650.00
CL 3709444	March 16, 1978	February 23, 2017	2016-12-24	16.00	1,981,480.79	30.51	650.00
CL 3709445	March 16, 1978	February 23, 2017	2016-12-24	16.00	463,559.42	30.51	650.00
CL 3709451	March 16, 1978	February 26, 2017	2016-12-27	16.00	0.00	30.51	650.00
CL 3709452	March 16, 1978	February 26, 2017	2016-12-27	16.00	43,645.50	30.51	650.00
CL 3709453	March 16, 1978	February 26, 2017	2016-12-27	16.00	16,851.69	30.51	650.00
CL 3709454	March 16, 1978	February 26, 2017	2016-12-27	16.00	31,395.34	30.51	650.00
CL 3709455	March 16, 1978	February 26, 2017	2016-12-27	16.00	0.00	30.51	650.00
CL 3709461	March 16, 1978	February 24, 2017	2016-12-25	16.00	0.00	30.51	650.00
CL 3709462	March 16, 1978	February 24, 2017	2016-12-25	16.00	9,100.29	30.51	650.00
CL 3709463	March 16, 1978	February 24, 2017	2016-12-25	16.00	0.00	30.51	650.00
CL 3709464	March 16, 1978	February 24, 2017	2016-12-25	16.00	80,196.14	30.51	650.00
CL 3709465	March 16, 1978	February 24, 2017	2016-12-25	16.00	32,765.34	30.51	650.00
CL 3709471	March 16, 1978	February 26, 2017	2016-12-25	16.00	197,446.69	30.51	650.00
CL 3709472	March 16, 1978	February 26, 2017	2016-12-25	16.00	12,199.57	30.51	650.00
CL 3709473	March 16, 1978	February 26, 2017	2016-12-25	16.00	0.00	30.51	650.00
CL 3709474	March 16, 1978	February 26, 2017	2016-12-25	16.00	0.00	30.51	650.00
CL 3709475	March 16, 1978	February 26, 2017	2016-12-25	16.00	0.00	30.51	650.00
CL 5137545	March 13, 1995	March 12, 2017	2017-01-10	16.00	0.00	30.51	650.00
CL 5137546	March 13, 1995	March 12, 2017	2017-01-10	16.00	0.00	30.51	650.00
CL 5137547	March 13, 1995	March 12, 2017	2017-01-10	16.00	0.00	30.51	650.00
CL 5137548	March 13, 1995	March 12, 2017	2017-01-10	16.00	17,640.32	30.51	650.00
Total				384	3,975,477.68	732.24	15,600

 Table 4.1

 Detailed List of the Mineral Claims for the Pitt Gold Property

Table provided by First Mining Finance Corp.

\*Work required reduced by 35% for the period December 31, 2015 to December 31, 2017.



Figure 4.1 Location of the Pitt Gold Project



Figure taken from the original 2011 Technical Report.



Figure 4.2 Pitt Gold Property Claim Map



Figure provided by First Mining Finance Corp., dated November, 2016



#### 4.2.1.1 Mineral Claim Acquisition

Map staking is the main mode of mineral claim acquisition. The acquisition is made on the basis of first come, first served. When the notice of map staking is accepted, the mining registrar inscribes the claim in the register and delivers a certificate of inscription confirming its existence and the date of staking. Map staking can only be conducted on those territories determined by the Ministry of Natural Resources and Fauna. The area and the shape of the claim are reproduced on topographic maps kept at the registrar's office. In surveyed territories, the shape of the claim corresponds to the shape of a lot.

Field staking consists in delineating an area using pickets to obtain a claim. The claim staker must own a valid prospecting license which he carries with him while staking any claims. A claim can be obtained by field staking within certain territories established for this effect (staking parks). These territories are also indicated on topographic maps kept at the registrar's office.

#### 4.2.1.2 Renewing a Mineral Claim

The holder of a mineral claim can renew its title for a period of two years. To do so, the holder must:

- Deposit its renewal request at least 60 days before the expiry date.
- Pay the required fee which varies according the area, and provide the location of the title and the date of receipt of the request.
- Deposit the statutory work report and the declaration of mining work requested at least 60 days before the expiry date of the claim. When work completed exceeds the minimum requested, the surplus work can be used to renew claims located within a radius of 4.5 km from the centre of the claim on which surpluses are registered and for all future renewals.

To renew its claims, the holder must complete the form "Demande de renouvellement de claims".

The work credits that have accumulated on the Pitt Gold Property mineral claims are sufficient to keep the property in good standing for more than 100 years.



#### 4.2.2 Location of the Mineralization

It is noted that the claim location according to the Gestion des Titres Miniers (Gestim), the provincial government system, does not seem to correspond with the field evidence and claim posts in the eastern portion of the property. Independent surveying carried out in 2006 by Corriveau and Associates (Corriveau) for Normabec, using the field evidence, proposed a new boundary for that portion of the property. It was concluded that all mineralized zones discovered by Normabec since 2005 are clearly located within the perimeter of the Pitt Gold Property. In 2010, Brionor commissioned second survey which was also conducted by Corriveau to finalize the process with the Quebec government. A final report was filed with the Ministère des Ressources Naturelles et de la Faune du Quebec (MRNF) which confirmed the 2006 initial survey.

#### 4.2.3 Royalties, Agreements and Encumbrances

On March 7, 2016, First Mining issued a press release to announce that they had entered into an agreement to purchase the Pitt Gold property from Brionor. In exchange for 100% ownership of the Pitt Gold Property, First Mining agreed to pay Brionor an aggregate purchase price of CDN \$1,250,000 of which CDN \$1,000,000 was to be satisfied by the issuance of 2,535,293 common shares of First Mining and the remaining CDN\$250,000 was to be paid in cash.

On April 28, 2016, First Mining announced that the Pitt Gold property had been successfully purchased from Brionor.

In May 2012, Xmet had announced that it had entered into a purchase agreement with Brionor to acquire the 24 contiguous mineral claims which comprise the Pitt Gold Property. However, Xmet was unable to complete the purchase and the property was returned to Brionor.

Brionor is the successor company to Normabec Mining Resources Limited (Normabec). In September, 2009, Normabec entered into a definitive agreement with First Majestic Silver Corp. (First Majestic) whereby the shareholders of Normabec received shares of First Majestic and a newly formed public company (2528255 Canada Inc.) which was renamed Brionor. The new public company acquired 100% of Normabec's assets in Quebec by exchanging one share in the new company for every four shares of Normabec. At the close of the transaction Brionor owned 100% of the Pitt Gold Property.

The original owners were the Cotnoir-Beauchemin group (consisting of Jeanne Cotnoir, Maude Cotnoir, Alain Cotnoir and Jacques Beauchemin), who staked the mineral claims in 1978, and continue to hold a royalty equivalent to a 2% Net Smelter Return (NSR), of which 1% can be bought back by First Mining for \$800,000. In addition, any mining operation on the property is to be called the Gaston Cotnoir mine.



Other previous owners, La Societe Quebecoise D'Exploration Miniere (SOQUEM) and Geonova Exploration Inc. (Geonova), each retain a royalty equivalent to 1% NSR. Half of the royalty (1%) can be bought back from the two parties for \$1 million.

SOQUEM is a company created by a special law of the Government of Quebec and is wholly owned by the Province of Quebec.

#### 4.2.4 Surface Rights and Access Agreements

When land is not privately owned, it primarily belongs to the Crown and, in most relevant instances, this is the Government of Quebec. In the case of Crown land, access is generally unlimited.

If land is privately owned, then access to the area has to be agreed to with the surface land owner. In the case of the Pitt Gold Property, there is no privately owned land overlying the mineral claims.

#### 4.2.5 Environmental Liabilities

Micon is not aware of any environmental liabilities on the Pitt Gold Property.

No permit is needed if mapping, sampling and geophysical surveys are to be conducted on the property, as long as there is no disturbance of the natural environment.

A regular "Permis d'intervention en Forêt" is required to be obtained from the MRNF in order to conduct drilling, trenching, stripping or any other surface disturbance on the property. This permit needs to be obtained each time any surface disturbance is contemplated. To obtain the permit, the claim holder has to indicate the location and type of work that will be conducted in detail on the application. This permit can usually be obtained within two weeks. As of the date of this Report, First Mining has not requested a permit for the next phase of drilling or work.

Further permitting and environmental studies would be required if the project were to advance beyond the exploration stage.

#### 4.2.6 Micon Comments

Micon is not aware of any significant factors or risks besides those discussed in this report that may affect access, title or right or ability to perform work on the property by First Mining or any other party which may be engaged to undertake work on the property by the legal holder of the mineral claims.



#### 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

#### 5.1 ACCESSIBILITY

The Pitt Gold Property is located 35 km north of the town of Rouyn-Noranda and 7 km east of the village of Duparquet. It is easily accessible by paved highways, beginning with provincial highway 101 linking Rouyn-Noranda to the town of LaSarre, then by provincial highway 393 leading to Duparquet. Provincial highway 393 passes about 500 m north of the property, approximately 5.9 km from the intersections of the two highways.

A system of dirt all-terrain vehicle (ATV) trails covers most of the property, with snow mobile access on some of the trails in the western portion of the property. In the summer of 2007, Normabec constructed approximately 700 m of gravel road over the main mineralized area in order to be able to carry out drilling for most of the year. The north-south trail leading to the centre of the property was also greatly upgraded to enable vehicle access throughout most of the year. Figure 5.1 shows the access from provincial highway 393.



Figure 5.1 A View of the Access to the Pitt Gold Property from Provincial Highway 393

In addition, the Lanaudière River crosses the access road and a permanent bridge has been built to provide access for equipment and supplies. Figure 5.2 is a view of the permanent bridge.

Rouyn-Noranda's airport provides direct access to Montreal via daily flights on a number of airlines. Rouyn-Noranda is well connected to other parts of the Provinces of Quebec and Ontario through a series of paved highways.



Figure 5.2 A View of the Permanent Bridge Built to Enable Access for Equipment and Supplies



### 5.2 CLIMATE, TOPOGRAPHY, ELEVATION AND VEGETATION

Climate is typical of the Abitibi region with long cold winters and short and relatively dry summers. The general topography is quite flat with the northern portion of the property slightly elevated and dominated by conifers (pine, spruce). The southern half is somewhat lower and wetlands (swamps) are widespread, making it difficult to travel in an ATV. That lower area is the location of the majority of the drilling and, given the type of vegetation, very few trees have had to be cut to mobilize and setup the drill rigs onto their drill sites. Figure 5.3 is a view of the wetlands from the northern portion of the property

Hunters are numerous in the region and, during the moose hunting season, it can be both difficult and dangerous to work on the property. Figure 5.4 shows a hunter's tree stand in the distance as viewed from the drilling platforms.

#### 5.3 INFRASTRUCTURE AND PROXIMITY TO POPULATION CENTRES

Rouyn-Noranda is the closest large town and one of the community centres for the Abitibi Region. The other service centre for the region is Val d'Or, which is located approximately 120 km from Rouyn-Noranda.

The Abitibi Region has a very active mining sector and the communities can provide both the services and manpower required for any mining project. There are several past producing and producing mines in the area, as well as a number of exploration projects. The mining sector and related spin-off industries provide the majority of the jobs in the area.







Figure 5.4 A View of a Hunter's Tree Stand Behind the Line of Drill Stations along the Road





#### 6.0 HISTORY

#### 6.1 GENERAL HISTORY (REGIONAL)

The Abitibi and Témiscamingue areas together form Quebec's northwest frontier and are still somewhat frontier regions today. These areas are the ancient home the Algonquin and James Bay Cree indigenous peoples and this vast territory was among the first inland areas of North America to be explored by the Europeans, as well as one of the last to be permanently occupied.

In 1686, France and England were locked in a bitter war for control of the Canadian fur trade. Rival companies in Hudson's Bay and James Bay had been stealing each other's furs and burning down each other's forts for more than 20 years. Setting out from Montreal, a French expedition led by Chevalier Pierre de Troyes followed the Outaouais River north to roust the English-owned Hudson's Bay Co.

About 70 Canadians and 30 French soldiers, including the future founder of Louisiana, Pierre Le Moine d'Iberville, paddled upstream through the forest, stopping to build a makeshift fort at Lake Témiscamingue and then proceeding to Abitibi. Here, the south-flowing Outaouais watershed meets the Harricana River, which runs north to James Bay. Abitibi literally means "where the waters part". A series of ever-larger forts were built where Lake Témiscamingue narrows at Ville-Marie and, as exploration and commerce expanded westward over the next century, Témiscamingue became a gateway to the fur trade.

Lumber merchants rediscovered these areas in the 19<sup>th</sup> century and the town of Témiscaming grew up around the rapids where timber rafts were assembled for the annual log-drive south. By 1880, the first farms had started to appear in the clearings.

The first Abitibi settlers came in 1910 with the arrival of the National Transcontinental Railway. The first settlers were railway maintenance crews and their families who were posted every few miles along the track. Loggers began cutting their own homesteads out of the wilderness at approximately the same time. In 1926, the opening of the Horne mine and foundry triggered a mining rush which lead to the development of Quebec's leading mining district.

During the Great Depression of the 1930s, thousands of poor families from hard-hit urban parishes in the south were resettled in the Abitibi as farmers.

Gold, copper and zinc abound in the region's subsoil with approximately 25 percent of the population's work force deriving their revenue directly or indirectly from the mining industry. In 1998, 25 mines were in operation, generating yearly incomes of close to 2 billion dollars. The fortunes of the mining industry have waxed and waned with metal prices but, within recent years, higher metal prices have led to renewed exploration and mine openings in the region.



## 6.2 GENERAL PROPERTY HISTORY

Mining exploration in the Duparquet area started at the beginning of the past century and reached its peak between the 1930s and 1950s with the start of production at the Beattie mine in 1933 (Davidson and Bandfield, 1944).

On the Pitt Gold Property, the first showing was discovered in a drill hole by Beattie Gold Mines in 1939. In 1944, the property was acquired by Fleming-Thomson which completed 19 drill holes for a total of 3,152 m (FT-7 to FT-25). From 1945 to 1947, Pitt Gold Mining Ltd. (Pitt Gold Mining) drilled 43 additional holes for 13,432 m (P-26 to P-71) which led to the discovery of the Pitt Gold showing close to the Porcupine-Destor break. No activity is recorded for the period between 1948 and 1974. In 1975, Louvem acquired the property and carried out IP and pedogeochemical surveys, as well as 2 drill holes (311 m), without any encouraging result.

In 1978, the claims were staked by Cotnoir and associates and the property was successively optioned to the following companies:

- Camflo Mines Ltd. (1981 to 1982), which conducted line cutting, IP, magnetometer and VLF surveys and 3 diamond drill holes for a total of 832 m.
- Lacana Exploration (1987 to 1988), which conducted line cutting, magnetometer and VLF surveys and 14 diamond drill holes for a total of 2,607 m.
- Santa Fe Canadian Mining Ltd. (Santa Fe) (1995 to 1997), which drilled 24 holes for a total of 16,692 m.
- Geonova (1998 to 1999).
- SOQUEM (2000 to 2004), which conducted line cutting and 6 diamond drill holes for a total of 1,707 m.

In the course of the drilling programs, numerous gold-bearing intersections were identified, especially during the periods of exploration by Pitt Gold (1945 to 1947) and Santa Fe (1995 to 1997). The best intersections are related to two areas of interest which Santa Fe referred to as the Pitt Main and Stinger zones. Although the geometry of the two zones is still not well understood, the main intersections are confined to the central parts of mineral claims 370944-3 and 370944-4.

Between 2000 and 2002, SOQUEM completed 25 km of line cutting at 100 m spacing, then prospecting followed by two drill programs totalling 6 holes and 1,707 m of core. All the drilling was performed in the northern portion of the property, away from known mineralization. SOQUEM's drill core was stockpiled with Santa Fe's on a property owned by



Jack Stoch, a local geologist and entrepreneur. That storage facility now hosts all core drilled by Normabec since 2005.

#### 6.2.1 Normabec 2004 Program

In 2004, Normabec completed a data compilation of the property in order to define drill targets for the 2005 winter drilling program. In 2005, Normabec carried out a limited surveying program along the eastern border of the claims to ensure that all mineralized zones that were being drilled were located within the property boundary. As a result of the survey, that portion of the property appeared quite different from the government claim map. However, the actual surveyed field data, such as the claim posts, define the official boundaries and not the placement on government maps. Normabec also built a permanent bridge over the Lanaudière River, as requested by the government, due to the large amount of exploration which was being conducted on the property.

#### 6.2.2 Normabec 2005 to 2006 and 2007 Programs

In 2005 and 2006, Normabec completed 19 NQ drill holes totalling 10,761 m in the main mineralized area of the Pitt Gold Property. The objectives of the company were to check areas of known high grade mineralization, obtain a better understanding of the geological setting, verify potential extensions to the known structures and explore for new mineralized structures.

During the winter of 2007, Normabec completed a further 7,129 m of NQ drilling on the property, due to the successful nature of the 2005 and 2006 drilling program in realizing its objectives.

Starting with the 2006 drilling program, drill casing was left in the collars of all holes. Not all drill collars were surveyed in to a fixed point, but all collars have been located using a Global Positioning System (GPS) instrument. Most holes also had a down-hole survey conducted during the drill program in order to accurately determine the deviation of the drill hole. A single shot Reflex of Flexit survey instrument was used to conduct the surveys and measurements were conducted down the hole every 50 m.

Core recovery for the drilling program conducted by Normabec was good with an average of 90% or better.

The 2005, 2006 and 2007 drilling programs completed by Normabec are summarized in Tables 6.1 to 6.4.



Drill Hole	UTM Co	ordinates	Azimuth	Dip	Duill Hala Langth (m)	Commonto
Number	Northing	Easting	(°)	(°)	Drin Hole Length (iii)	Comments
PG2005-01	5372036	638747	N004	-70	636	
PG2005-02	5371977	638941	N005	-77	573	
PG2005-03	5372020	639064	N008	-70	509.5	
PG2005-04	5371947	638990	N012	-71	600	
PG2005-05	5371950	639025	N015	-82	748	
PG2005-06	5371950	639025	N025	-75	651	
PG2005-07	5371986	638578	N014	-77	600	
PG2005-08	5372023	639122	N008	-70	500	
PG2005-09	5372115	638946	N015	-88	600	
PG2005-10	5372026	639169	N008	-70	500	
PG2005-11	5372023	639122	N008	-75	550	
PG2005-12	5372025	639169	N008	-77	550	
PG2005-13	5372029	639222	N008	-70	501	
PG2005-14	5371973	639172	N008	-77	527	
PG2005-15	5371973	639172	N008	-80	377.5	Hole abandoned
PG2005-16	5372029	639222	N008	-80	550	
PG2005-17	5372023	639122	N008	-85	351	Hole stopped
PG2006-01	5371850	638842	N012	-78	864.6	
PG2006-03	5371899	639046	N012	-69	572	
Total					10,760.6	

Table 6.1Hole Summary for the Normabec 2005 and 2006 Drilling Program

Table taken from the original 2011 Technical Report.

 Table 6.2

 Summary of the 2005 to 2006 Significant Drilling Results

Drill Hole		Assay Results			
Number	From	То	Width	True Width	Gold (g/t)
PG2005-01	392	393.57	1.57	1.30	4.03
DC2005_02	53.8	56.7	2.9	2.11	6.83
PG2005-02	241	242.4	1.4	1.05	1.76
DC2005_02	167.45	168.45	1.0	0.83	3.30
PG2005-05	428.5	430	1.5	1.30	6.06
	423.2	423.9	0.7	0.63	14.16
	485.5	487	1.5	1.36	5.78
PG2005-04	561.15	561.6	0.45	0.41	2.22
	562.7	563.3	0.6	0.54	6.70
	568.5	569.13	0.63	0.57	2.95
PG2005-05	544.9	546.5	1.6	1.19	3.55
PG2005-06	537.7	538.5	1.6	0.66	2.37
DC2005_07	313.2	313.9	0.7	0.59	1.54
PG2005-07	372.6	373.3	0.7	0.60	1.41
	136.8	138	1.2	0.98	3.53
DC2005 08	427.35	427.95	0.6	0.52	3.82
PG2003-08	433.1	434.1	1.0	0.87	5.82
	450.7	452.1	1.4	1.22	7.86
	57.6	60	2.4	1.48	4.2
PG2005-09	402.05	403	0.95	0.62	1.79
	488.75	489.8	1.05	0.69	2.02
	506.65	511.25	4.6	3.02	36.25
	124.3	125.55	1.25	1.03	1.23
PG2005-10	455.5	456.9	1.4	1.22	2.02
	460.95	461.45	0.5	0.43	3.70
PG2005-11	454.55	457.5	2.95	2.50	9.02



	472.2	473.65	1.45	1.23	14.49
	528.7	530.1	1.4	1.20	9.05
DC2005 12	148.5	150.0	1.5	1.17	2.13
PG2005-12	462.0	463.5	1.5	1.25	5.66
PG2005-13	216.75	218.15	1.4	1.22	5.49
DC2005 14	207.2	209.6	2.4	2.01	1.00
PG2005-14	486.0	487.4	1.4	1.22	3.39
DC2005 16	478.4	479.6	1.2	1.01	1.47
PG2005-10	485.5	486.65	1.15	0.96	1.54
PG2006-01	589.3	589.62	0.32	0.28	4.81
	717.4	718.13	0.73	0.64	63.84
	718.13	718.84	0.71	0.62	44.78
	718.84	720.0	1.16	1.01	0.246
	720.0	721.03	1.03	0.90	210.89
	721.03	721.98	0.95	0.83	88.40
average	717.4	721.98	4.58	4.00	82.88
	813.07	813.67	0.6	0.53	1.30
	813.67	814.42	0.76	0.66	16.31
average	813.07	814.42	1.35	1.19	9.69
	838.8	839.8	1.0	0.89	12.64
	840.7	841.4	0.7	0.62	1.13
	841.4	842.46	1.06	0.94	2.71
	843.1	844.3	1.2	1.06	2.77
average	838.8	844.3	5.5	3.51	3.59
DC2006.02	380.7	381.44	0.74	0.68	4.27
PG2006-03	488.11	488.61	0.5	0.47	1.902

Table taken from the 2011 Technical Report.

Table 6.3					
Hole Summary for the Normabec 2007 Winter Drilling Program					

Drill Hole	UTM Co	ordinates	Azimuth Din (°)		Drill Hole Length (m)		Commonto
Number	Northing	Easting	(°)	<b>Dip</b> (*)	From – To	Total Length	Comments
PG2006-01	5371850	638842	N012	-78	864 to 1,001	147	Hole deepening
PG2006-01a	5371850	638842	N012	-73	363 to 827	464	Wedged hole
PG2006-01b	5371850	638842	N012	-72	365 to 882	517	Wedged hole
PG2006-01c	5371850	638842	N012	-73	350 to 883	533	Wedged hole
PG2007-01	5371924	638800	N002	-73		867	
PG2007-02	5371924	638800	N002	-70		810	
PG2007-03	5371924	638800	N002	-65		816.5	
PG2007-04	5371935	638928	N012	-73		783.5	
PG2007-05	5371932	638750	N360	-73		747	
PG2007-06	5371922	638740	N005	-83		864	
PG2007-07	5371925	638840	N355	-80		580	
Total						7,129	

Table taken from the 2011 Technical Report.

Table 6.4						
Summary of th	e Significant	Drilling	Results	for the	2007	Program

Drill Hole		Assay Results			
Number	From	То	Width	True Width	Gold (g/t)
PG2006-01	898.5	899.25	0.75	0.66	1.44
PG2006-01a	526.25	527.15	0.90	0.78	1.34
	531.75	533.20	1.45	1.26	3.16
	575.10	577.75	2.65	2.32	5.65
	575.10	582.00	6.90	6.03	3.26
	575.10	585.00	9.90	8.66	2.72


Drill Hole		Assay Results			
Number	From	То	Width	True Width	Gold (g/t)
PG2006-01b	386.70	387.15	0.45	0.37	1.37
	512.60	513.50	0.90	0.79	1.08
	517.50	518.85	1.35	1.18	1.45
	531.25	532.20	0.95	0.84	2.85
	579.30	580.70	1.40	1.25	3.18
	583.90	585.00	2.10	0.98	5.13
	586.80	588.00	1.20	1.07	3.63
	588.00	589.15	1.15	1.02	1.47
	606 35	607.65	1 30	1.16	2.63
	640.00	640.85	0.85	0.76	1.58
PG2006-01c	506.90	508.00	1.10	0.70	29.28
1 02000 010	572.90	573.75	0.85	0.74	1 99
	574.80	580.10	5.30	4 59	5.41
	581.00	582.10	1.10	4.59	2 10
	582.15	584.30	1.10	1.86	2.19
	720.10	740.00	0.00	0.78	5.50
	739.10	740.00	0.90	0.78	7.12
	740.00	740.30	0.30	0.44	7.13
	744.80	745.50	0.70	0.61	2.43
	745.50	746.40	0.90	0.78	4.90
	/48.30	748.85	0.55	0.48	2.02
	/48.85	749.40	0.55	0.48	1.75
	760.70	761.30	0.60	0.52	1.10
	762.30	763.20	0.90	0.79	1.27
	773.70	774.15	0.45	0.39	20.28
	774.15	774.90	0.75	0.66	2.09
	776.00	776.80	0.80	0.70	3.98
	776.80	777.70	1.10	0.79	10.22
	804.00	804.90	0.90	0.79	10.42
	804.90	806.00	1.10	0.96	7.58
	813.70	814.90	1.20	1.05	3.02
	814.90	815.40	0.50	0.44	1.47
	837.40	837.80	0.40	0.35	2.02
	837.80	838.80	1.00	0.87	3.02
	846.90	847.50	0.50	0.52	1.23
PG2007-01	380.00	381.00	1.00	0.87	11.52
	470.70	471.60	0.90	0.80	7.47
	623.00	630.00	7.00	6.26	3.84
incl.	628.00	629.00	1.00	0.87	9.09
incl.	626.00	629.00	3.00	2.45	5.97
	650.00	651.00	1.00	0.90	12.35
	695.00	696.00	1.00	0.90	16.08
	709.00	710.00	1.00	0.90	8.09
PG2007-02	543.70	544.70	1.00	0.91	2.95
	549.77	550.80	1.03	0.93	3.85
	687.70	688.70	1.00	0.91	3.46
	708.00	708.80	0.80	0.73	3.70
	787.00	788.00	1.00	0.92	3.02
PG2007-03	501.90	503.80	1.90	1.80	16.75
1 02007 00	743.00	744.00	1.00	0.95	3,81
PG2007-04	561.95	563.90	1.00	1.65	9.12
1 32007 04	651.60	653.00	1.75	1.05	9.55
	769.80	770.70	0.90	0.76	1.5/
PG2007-05	503.7	505.1	1.40	1 32	1.57
PG2007-05	3/10 0	350.0	1.40	0.77	2 /7
1 02007-00	651.0	653.0	2.0	1.63	11.30
	701.0	79/ 0	2.0	2.05	1 51
PG2007-07	/91.0	/94.0	1.0	0.86	1.51
102007-07	404.0	403.0	1.0	0.00	1.31



Drill Hole		Assay Results			
Number	From To Width True Width				Gold (g/t)
	485.0	485.5	0.5	0.43	16.77
	485.5	486.0	0.5	0.43	300.72
	486.0	487.0	1.0	0.86	12.14
	487.0	488.0	1.0	0.86	2.33
	488.0	489.0	1.0	0.86	1.17
average	484.0	489.0	5.0	4.3	35.18
	514.0	516.0	2.0	1.71	1.75

Table taken from the 2011 Technical Report.

The wedges completed from pilot hole PG2006-01 did not duplicate the spectacular results obtained from the pilot hole itself. However, all holes returned significant mineralized intervals between 500 m and 600 m. These are tentatively correlated with Vein 2. In addition, the easternmost wedge (PG2006-01c) returned multiple mineralized intervals below the interpreted Vein 2. Most of these intervals can be correlated with mineralized structures intersected in drill holes PG2007-01 and PG2007-02. The mineralized structures do not appear in drill holes PG2006-01, -01a and -01b, indicating a lack of continuity towards the west.

Holes PG2007-01 to PG2007-05 were all drilled above pilot hole PG2006-01 and its wedges. As noted above, holes PG2007-01 and PG2007-02 returned a number of mineralized intercepts to the north of the known structures (Veins 1 and 2). In addition, Vein 2 is believed to have been identified in holes PG2007-02, PG2007-03 and PG2007-04. Finally, Vein 1 is present in holes PG2007-01 and PG2007-04, as well as in wedges PG2006-01a and PG2006-01b. Vein 3 is interpreted in hole PG2007-01 exclusively.

#### 6.2.3 Normabec 2008 Program

In 2008, Normabec completed approximately 10,160 m of NQ drilling in 16 drill holes. The 2008 drilling was mostly peripheral to the previous drilling completed by Normabec and most holes were drilled to cross-cut the mineralized structures above the known intervals (above the 400 m level). A few holes were designed to target the centre of the known mineralization In-fill drilling) and a few were targeted along both the western extension and down dip. The best results were obtained from those holes that were closer to the known mineralization and updip from it.

Deviation tests, using digital equipment (Reflex and Flex-it), were taken at every 50 m. Logging was performed by a junior geologist and all drafting work was performed using Autocad by an independent draft person. As with the previous programs, the core, pulps and rejects are stored outdoors in Rouyn-Noranda at a rented storage facility.

Core recovery for the drilling program conducted by Normabec was good with an average of 90% or better.

Tables 6.5 and 6.6 summarize the 2008 drilling program.



Drill Hole	UTM Coordinates		A minuth (0)	$\mathbf{D}$ := (°)	Duill Hole Longth (m)	
Number	Northing	Easting	Azimutn ()	Dip()	Driff Hole Length (m)	
PG2008-1	5371927	638940	N006	-66	340	
PG2008-2	5371924	638840	N013	-82	786	
PG2008-3	5371922	638744	N007	-72	825.5	
PG2008-4	5371931	639052	N338	-73	756	
PG2008-5	5371927	638940	N007	-58	666	
PG2008-6	5371773	638794	N359	-81	858	
PG2008-7	5371924	638840	N000	-65	651	
PG2008-8	5371930	639040	N000	-55	600	
PG2008-9	5371930	638940	N358	-59	597	
PG2008-10	5371925	638890	N355	-54	612	
PG2008-11	5371921	638700	N346	-83	900	
PG2008-12	5371921	638700	N009	-47	387	
PG2008-13	5371930	639040	N357	-43	548	
PG2008-14	5371111	638808	N003	-61	600	
PG2008-15	5372076	638976	N003	-56,5	532	
PG2008-16	5372076	638956	N003	-62	501	
Total					10,159.5	

 Table 6.5

 Hole Summary for the 2008 Normabec Drilling Program

Table taken from the 2011 Technical Report.

Table 6.6
2008 Drilling Program Significant Assay Results

Drill Hole		Assay Results			
Number	From	То	Width	True Width	Gold (g/t)
PG2008-01	277.0	279.00	2.0	1.78	1.53
	426.0	429.0	3.0	2.71	10.43
	443.0	477.0	34.0	30.77	1.61
including	443.0	449.0	6.0	5.42	3.30
and	466.0	477.0	11.0	9.96	2.31
	549.0	550.0	1.0	0.91	1.47
	570.9	572.7	1.8	1.64	11.11
PG2008-02	538.5	539.5	1.0	0.79	2.38
	630.0	632.0	2.0	1.59	2.32
	758.0	761.0	3.0	2.39	1.84
	766.5	769.5	3.0	2.39	8.42
PG2008-04	403.0	406.0	3.0	2.50	2.23
	514.0	515.0	1.0	0.84	9.02
	577.5	578.5	0.5	0.84	8.05
	593.0	595.0	2.0	1.69	7.12
	666.0	667.0	1.0	0.85	4.97
	675.0	676.0	1.0	0.85	2.26
	677.0	678.0	1.0	0.85	1.47
	680.7	682.1	1.4	1.19	3.26
PG2008-05	167.0	172.0	5.0	4.78	2.46
	331.0	332.0	1.0	0.97	1.51
	335.0	336.5	1.5	1.45	31.76
including	335.0	335.5	0.5	0.48	16.70
and	335.5	336.0	0.5	0.48	77.55
	373.0	374.0	1.0	0.97	2.64
	402.0	403.0	1.0	0.97	1.92
	439.0	442.0	3.0	2.91	6.55
including	441.0	442.0	1.0	0.97	12.69
	468.0	469.0	1.0	0.97	25.37



Drill Hole	Intersection Length (m)			Assay Results	
Number	From	То	Width	True Width	Gold (g/t)
	512.0	514.0	2.0	1.93	21.04
including	512.0	513.0	1.0	0.97	19.17
and	513.0	514.0	1.0	0.97	22.90
	538.5	539.0	0.5	0.48	2.85
PG2008-07	522.0	523.0	1.0	0.95	28.46
PG2008-08	341	342	1.00	0.97	1.645
	354	359	5.00	4.85	11.52
including	356	357	1.00	0.97	18.33
and	358	359	1.00	0.97	34.00
	443	444	1.00	0.97	1.178
	455.5	456	0.50	0.48	1.743
	505	506	1.00	0.97	1.123
PG2008-09	353	354	1.00	0.95	1.188
	451	462	11.00	10.55	9.13
including	452	453	1.00	0.96	16.5
and	454	455	1.00	0.96	12.9
and	456	457	1.00	0.96	5.9
and	460	461	1.00	0.96	8.37
and	461	462	1.00	0.96	43.6
	463	463.75	0.75	0.72	1,251
	509	511	2.00	1.92	11.05
including	509	510	1.00	0.96	21.03
	519	520	1.00	0.96	3.87
	592	593	1.00	0.96	5.96
PG2008-10	348	350	2.00	1.94	1.347
	501	502	1.00	0.97	1.754
	600	601	1.00	0.98	1.304
PG2008-11	745	746	1.00	0.79	1.395
PG2008-13	293	294	1.00	1.00	4,03
	436	438	2.00	2.00	3.18
	444	446	2.00	2.00	5.3
	452	453	1.00	1.00	1.58
PG2008-14	292	293	1.00	0.93	1.05
	415	418	3.00	2.82	1.09
	505	507	2.00	1.89	1.69
PG2008-15	146	147	1.00	0.94	1.32
	163	167.1	4.10	3.84	3.02
	314	315	1.00	0.94	1.79
	345	351.5	6.50	6.13	12.15
including	346	347	1.00	0.94	8.37
and	347	348	1.00	0.94	61.33
and	351	351.5	0.50	0.47	8.63
	366	367	1.00	0.94	3.5
PG2008-16	84	85	1.00	0.89	1.155
	190	191	1.00	0.91	1.146
	339	339.5	0.50	0.46	2.238
	346	347	1.00	0.93	3.47
	400	402	2.00	1.86	1.92

Table taken from the 2011 Technical Report.



## 6.2.3 Normabec 2009 Program

No drilling was performed in 2009.

Since Brionor is the direct successor to Normabec and the same geologist has overseen the drilling programs for both companies. Micon discussed the Normabec 2005 to 2008 drilling programs with Brionor at the time of the site visit and based upon the discussions, as well as its own review if the database and core during the site visit Micon believes that there are no drilling, sampling or recovery factors which could materially impact the accuracy and reliability of the drilling results obtained by Normabec during its exploration programs.

The Quality Assurance / Quality Care programs for both Normabec and Brionor were also outlined by Mr. O'Dowd and they are discussed in Section 11 of this report.

Normabec also undertook a review of the Santa Fe core, which unfortunately had been stored outdoors for a number of years and the piles of core were on the verge of collapsing. However, Normabec was able to lay out some of the core and conduct summary relogging of the core on a small scale during its exploration and drilling programs. The Santa Fe logs and reports were deemed to be good with the descriptions of the mineralized intervals corresponding to Normabec's and Brionor's own observations based upon its own drilling programs.

While neither Normabec or Brionor twinned any Santa Fe holes, they located their own drilling such that it was conducted to cover the same mineralized intersections as the Santa Fe holes and confirm the continuity of the mineralization as outlined by the original Santa Fe drilling. In this regard, both Normabec and Brionor were able to confirm that the Santa Fe hole were valid regarding the geology and mineralization intersected. Normabec and Brionor were also able to confirm the continuity of the mineralization between the original Santa Fe drilling.

Micon has reviewed the Normabec and Brionor drilling, as well as a number of the Santa Fe drill logs and agrees that the drilling conducted confirms and verifies the general mineralization and geology as originally outlined by the Santa Fe drill holes that are in the same area as the Normabec and Brionor drilling.

#### 6.2.4 Brionor 2010 Program

Brionor is the successor company to Normabec. The work conducted on the project by Brionor since 2009 is discussed in Sections 9 and 10 of this Technical Report.

#### 6.2.5 Project Since 2011

On May 16, 2012, Xmet announced that it had entered into a purchase agreement with Brionor to acquire the 24 contiguous mineral claims which comprise the Pitt Gold Property. However, Xmet was unable to complete the purchase and the property was returned to Brionor.



On March 7, 2016, First Mining issued a press release to announce that they had entered into an agreement to purchase the Pitt Gold property from Brionor. In exchange for 100% ownership of the Pitt Gold Property, First Mining agreed to pay Brionor an aggregate purchase price of CDN \$1,250,000 of which CDN \$1,000,000 was satisfied by the issuance of 2,535,293 common shares of First Mining and the remaining CDN\$250,000 was paid in cash.

On April 28, 2016, First Mining announced that the Pitt Gold property had been successfully purchased from Brionor.

First Mining has yet to conduct any work on the Pitt Gold Project as it is assessing the previous exploration work prior to conducting its own program.

# 6.3 HISTORICAL AND RECENT RESOURCE/RESERVE ESTIMATES

Following three exploration programs, Santa Fe produced a preliminary mineral inventory in 1997 for the Pitt Gold Property. However, the actual resource numbers are not provided here for the following reasons:

- There is no Technical Report for this as it predates the implementation of NI 43-101 Technical Report format.
- The resource was noted as a "preliminary mineral inventory" for the Stringer Zone on the property. However, the relevance of this and reliability of this preliminary estimate is questionable as later reviewers noted that more infill drilling coupled with a more rigorous examination of the data would need to be performed to advance it to the state where it could be classified. Brionor conducted further exploration without referring to this estimate.
- The mineral inventory was conducted using polygonal estimation methods and not all of the key assumptions, and parameters were noted for the estimation and therefore the assumptions at the time of the original estimate cannot be duplicated.
- As previously stated the estimation was a preliminary mineral inventory and does not use the current classifications of measured, indicated and inferred. Micon believes that the term "preliminary mineral inventory" was used due to Santa Fe being an American based company and the SEC does not allow for the reporting of mineral resources that are not reserves in any other format than as a mineral inventory.
- The historical estimate was not subsequently reviewed or altered by the subsequent operator's operators of the project. However, the original drilling has now been superseded by the Normabec and Brionor's drilling which has changed the original Santa Fe models. Thus, the historical estimate cannot be upgraded or verified since the geological model upon which it was based has been altered and the drilling conducted by Normabec and Brionor supersedes that which was conducted by Santa Fe.
- Micon has not reviewed the Santa Fe exploration programs and has not done sufficient work to upgrade or verify the historical estimate as current mineral resources.
- Neither the previous operators Normabec and Brionor nor the present operator First Mining has treated the historical estimate as a current mineral resource.



The mention that a historical estimate was conducted was presented here as part of the discussions related to the historical work conducted on the property and any historical estimates have been superseded by the estimate contained in Section 14 of this Technical Report.

## 6.4 HISTORICAL MINING AND PRODUCTION

No historical mining or production has been conducted on the Pitt Gold Property.



## 7.0 GEOLOGICAL SETTING AND MINERALIZATION

## 7.1 **GEOLOGY SETTING**

The Pitt Gold Property is located within Archean mafic rocks belonging to the southern volcanic zone of the Abitibi Belt. More specifically, it is located at the contact between the Blake River Group (to the south) and the Kinolevis Group (to the north). The contact itself is represented by the Porcupine-Destor deformation zone (PDDZ), along which are observed the Temiscamingue type rocks of the Duparquet Formation, lenses of graywacke belonging to the Kewagama Group and ultramafic units that might be related to the Malartic Group, to the east, or the Stoughton-Roquemaure Group, to the west. The local section of the PDDZ hosts the Duparquet sedimentary formation which is believed to representing a pull-apart basin. The main movement along the fault is dextral.

An important geological feature for the Pitt Gold Project is the presence of subsidiary faults in the local portion of the PDDZ. These secondary faults have been known historically to channel gold-bearing hydrothermal fluids at other projects. Locally, lithological contacts and intrusive rocks (such as quartz feldspar porphyries (QPF) and syenites) represent favourable areas of contrasting rock competency. In addition to the Holt-McDermott (production: 5.1 Mt @ 5.8 g/t gold), the Lightning/Holloway (production: 5.2 Mt @ 7.9 g/t gold), the Beattie-Donchester-Central Duparquet (production: 9.63 Mt @ 4.1 g/t gold) and the Duquesne mines (production: 136,585 tonnes @ 10 g/t gold), the area hosts approximately 60 gold showings with grades greater than 1 g/t gold (Goutier et Lacroix, 1992).

The main gold showing on the Pitt Gold Property is found in its central-eastern portion (mineral claims 370944-3 and 370947-1) where approximately sixty holes have been drilled throughout the last decades of exploration. The area hosting the main showing is very close to the neighbouring Duquesne West Property, where close to 100 holes have been drilled within the same vein system.

From south to north, on the Pitt Gold Property, the following stratigraphic sequence is observed: the first outcrops consist of mafic lavas with some gabbroic sills belonging to the Blake River Group. These lavas include, among others, a distinctive variolitic unit which is characteristic of the base of the lithostratigraphic group. The lavas are underlain by graywackes of the Kewagama Group which are only observed in drill holes due to the swampy cover. Further north, volcanic rocks of the Lanaudiere Complex (belonging to the Kinojevis Group) are observed.

The volcanic domain is in structural contact with the graywackes. The structural contact is the PDDZ and it is represented by a band of carbonate and sericite schists varying in width from 20 to 200 m.

The northern half of the property is essentially comprised of metapillites and conglomerates belonging to the Duparquet Formation, the latter lying disconformably over the volcanic unit



of the Lanaudiere Complex. The Duparquet Formation is intruded in its centre by a quartz-feldspar-porphyry dyke. According to the regional modelling, the dyke is part of an intrusive complex controlled by an en-echelon fracture system. The Timiskaming type unit forms an elongated basin (V-shape channel) and extends from surface down to 200 m vertically. This unit post-dates the deformation and is totally barren of mineralization.

Figure 7.1 is a regional view of the geology of the Abitibi region.



Figure 7.1 Regional Geology of the Abitibi Region

Figure taken from the 2011 Technical Report.

The Pitt Gold Project is favourably located along the northern flank of the PDDZ where numerous subsidiary faults, porphyry dykes and gold showings are observed. The local geology for the Pitt Gold Property is shown in Figure 7.2 which also indicates the locations of the 2005 to 2010 drill holes.

## 7.2 MINERALIZATION

The following description of the gold mineralization located on the Pitt Gold Property is based on more than 30,000 m of drilling completed by Normabec (now Brionor) since it acquired the property in 2004.



Figure 7.2 Local Geology of the Pitt Gold Property with the Locations of the 2005 to 2010 Drill Holes



Figure taken from the original 2011 Technical Report.



As mentioned previously, most of the mineralized intersections have been obtained to the north of the Porcupine-Destor Break. A few isolated values were obtained in sediments to the south of the break and a few more within schist material (chlorite, sericite, carbonate, fuchsite) representing the break itself but, although the assay values could be quite high, no continuity could be established.

North of the break, gold intersections are numerous but not necessarily easy to correlate, since they are not found within very distinctive structures or units. Although porphyry intrusions are prominent north of the Porcupine-Destor Break, their relationship with the gold is not clear. The intrusions were probably emplaced along the same dilatational structures that enabled movement of the gold-bearing fluids, but the gold is not restricted to the porphyries and there appears to be a cross-cutting relationship between the gold-bearing structures and the porphyries, as well as all of the volcanic units.

The mineralized structures are diffuse and far from being clearly defined. Their physical expression is represented by zones of silicification (and locally albitization) and dark grey quartz veining (locally graphitic) exhibiting significant fine pyrite (5 to 10%) in the veinlets, as well as the altered host unit. Mineralized intersections vary from a few centimetres up to several metres. Gold content is quite erratic and can locally reach bonanza grade (hundreds of g/t gold). Visible gold was only observed once. It appears that the gold is closely related to the pyrite and is probably within the pyrite crystals. Areas of better alteration (silicification) and fine pyrite content are associated with higher gold grades.

A previous model based on a drill spacing of  $100 \ge 100$  m described the gold structures as being located along both contacts of a porphyry intrusion (within the intrusion). The upper contact zone is named the Main zone and the lower contact zone is called the Stinger zone. However, a drill spacing of  $50 \ge 50$  m failed to confirm the model. Subsequent drilling has indicated that, as more drilling has been performed in an area, the interpretation of the stratigraphy has become more complicated.

Brionor found that the porphyry intrusion has a fairly complex geometry and that it grades laterally into dacitic volcanics. The newly interpreted mineralized structures exhibit a clear cross-cutting relationship with rock units. The preferred host units for the mineralization are the porphyries, followed by the mafic volcanics and the ultramafic volcanics. Gold structures strike almost east-west and are moderately to steeply dipping towards the south until they hit the Porcupine-Destor Break where they disappear. Brionor did not conduct very much work near the surface in the area of the Main zone. However, drilling in 2010 investigated the area near surface in the Main zone and, although large anomalous halos of gold mineralization were obtained, bonanza grades were not returned as often as is the case at depth.

Brionor concentrated its drilling efforts in the area of the Stinger zone. Although the model has been materially refined, the Stinger zone generally corresponds with what is currently named Vein 2. Brionor's drilling program in the area of the Stinger zone discovered another structure (Vein 1) above Vein 2 and a third (Vein 3) below and to the north of Vein 2 (Figure



7.3). The newly discovered structures appear to define an en-echelon pattern in the footwall of the Porcupine-Destor Break. The best values were obtained in 2006 (Hole PG2006-01: 82.88 g/t gold over 4.58 m).



Figure 7.3 Cross-Section of the Porcupine-Destor Break in the Area of the Stringer Zone

Figure taken from the 2011 Technical Report.



### 8.0 **DEPOSIT TYPES**

More than 2,500 tonnes of gold have been produced along the prolific, 200 km long, Porcupine-Destor Break with most of the production coming from the Ontario side of the structure. The structure extends from Timmins, in Ontario, to east of Duparquet, in Quebec (Figure 8.1).

Most mines are located along subsidiary structures to the Porcupine-Destor Break, in zones of dilational tectonism. Gold deposits along the break are extremely varied and all rock types can host the gold (excluding the post-mineralization Timiskaming sediments). Deposits are found on both sides of the break.

Some deposits consist mainly of quartz-carbonate veins, while others are related to alteration zones exhibiting disseminated sulphides (pyrite, pyrrhotite, arsenopyrite etc.) In addition, the alteration assemblages are very different from one location to the other. While carbonate alteration (ankerite and others) is fairly widespread along the break, silicification, seritization, fuchsite and K-spar alterations are not uncommon.

In particular segments of the break, some rock types are better hosts for the gold mineralization than others. The Quebec portion of the Porcupine-Destor Break (Duparquet gold camp) is characterized by the presence of porphyry intrusions that are near to or act as the host for the gold mineralization. The Pitt Gold Project itself exhibits a close relationship between the gold mineralization and the porphyry intrusions (QFP), although this relationship is different from that in the neighbouring Duparquet camp (syenites). Recent work by Clifton Star/Osisko around the old Beattie and Donchester mines has demonstrated that a significant resource is being defined in the area.

On the Pitt Gold Property, the bulk of the gold mineralization is found to the north of the Porcupine-Destor Break, within or close to quartz-feldspar porphyry intrusions. The gold is believed to be controlled by subsidiary structures running east-west in an area where the Porcupine-Destor Break, which runs generally east-west, bends towards the south.



Figure 8.1 Geological Map of the Porcupine-Destor Break Indicating Some of the Other Deposits



Figure taken from the 2011 Technical Report.





## 9.0 **EXPLORATION**

First Mining has yet to conduct any work on the Pitt Gold Project as it is assessing the previous exploration work prior to conducting its own program. Therefore, this section, which was extracted from the 2011 Technical Report, in part, continues to discuss the previous exploration and verification work conducted by Brionor as it is part of the basis for the mineral resource estimate found in Section 14 of this report.

The historical exploration work prior to Normabec/Brionor's involvement in the property and its exploration programs prior to 2010 has been summarized in Section 6.

#### 9.1 2010 EXPLORATION PROGRAM

#### 9.1.1 General

In 2006, Normabec realized that the eastern mineral claim boundary as indicated on the government maps did not correlate with the evidence of the boundary as depicted in the field and it commissioned an initial independent survey to address the discrepancies.

As part of the 2010 exploration program, Brionor finalized the surveying of the eastern boundary of the mineral claims to address the previously noted discrepancies. The 2010 survey confirmed the work of the earlier survey by Normabec and, as a result, a report was filed with the MRNF.

Both the 2006 and 2010 surveys were conducted by Corriveau, an independent surveying company located in Val D'Or.

Brionor's exploration expenditures for the 2010 program totalled approximately \$322,000, as summarized in Table 9.1.

Description	Cost (CDN\$)
Permitting	1,063
Geology	71,844
Drilling	212,290
Assays	7,796
General exploration expenditures	19,947
Supervision	9,375
Total:	322,315

 Table 9.1

 Summary of the 2010 Exploration Expenditures on the Pitt Gold Property

Table provided by Brionor Resources Inc. for the 2011 Technical Report.



# 9.1.2 Drilling

Seven drill holes totalling 2,655 m were drilled in the upper portion of the deposit (above the 300 m level) during the winter 2010 program. Details of the 2010 exploration drilling program and the results are discussed in Section 10.

## 9.1.3 2010 Block Model

The previous operator on the project (SOQUEM) developed a model which defined the geological contacts between the intermediate volcanics and the QFP intrusions as the main locus for the mineralization. Work by Brionor could not confirm this geological model. While it appears that the andesite/QFP contacts are favourable for the deposition of the gold, this is far from being systematically the case and the contacts are often totally barren and unaltered. Thus, the SOQUEM geological model had to be abandoned.

Brionor believes that the gold mineralization is not entirely stratigraphically controlled and that cross-cutting relationships are common. This hypothesis is supported by the very irregular distribution of the QFP in drill holes. Brionor's model involves a series of en-echelon structures/veins of which 3 are relatively well defined by drilling over hundreds of metres laterally and vertically. There are several other potential veins that have been identified but they are either discontinuous and sub-economical in nature, or they have not seen enough definition drilling. Most structures have been defined below the 200 m level and more particularly below the 400 m level, but close spaced drilling from surface is technically difficult to achieve due to hole deviation and the costs involved.

Since drilling in the upper portion of the deposit during 2010 did not confirm the geological model previously developed, a new interpretation became necessary. The new interpretation was conducted in the spring of 2010 and, as a result, a new model was developed for the mineralization. The primary changes to the model generally affected the dip directions of the various geological units, with it being concluded that the dips were steeper than previously believed. However, the interpreted strike and dips of the various gold-bearing structures did not change substantially from the previous interpretation.

The distribution of the Timiskaming conglomerates (Duparquet Formation), which uncomformably overlie all units north of the Porcupine-Destor Fault, was also refined. These post-mineralization sediments occupy an area from surface down to 100 m and locally 200 m vertically. Therefore, they significantly limit the open pit potential of this portion of the property.

To check its new interpretation, Brionor hired Mr. Cliff Duke to construct a 3-D model of the mineralization as a comparison against its sectional hand-drawn interpretation. Brionor initially expected that Mr. Duke's interpretation would differ considerably from its own. However, Mr. Duke's interpretation basically confirmed that Brionor's interpretation was the best one possible at the time. Brionor was surprised at this as it had hoped that the exercise



would generate an alternative interpretation and potential new targets. In this regard, Brionor's goal was not accomplished.

Figure 9.1 is a screen shot of the 3-D model. The viewing direction of the screen shot is approximately southwest.



Figure 9.1 Screen Shot of the 3-D Model for the Pitt Gold Property

Figure taken from the 2011 Technical Report.

Figure not to scale, for illustration purposes only, looking approximately towards the southwest. The larger grey block in the background in the trace of the Porcupine-Destor Fault.



## 10.0 DRILLING

First Mining has yet to conduct any drilling on the Pitt Gold Project as it is assessing the previous exploration work prior to conducting its own program. Therefore, this section, which was extracted from the 2011 Technical Report continues to discuss the previous drilling program conducted by Brionor as it is part of the basis for the mineral resource estimate found in Section 14 of this report.

A description of the historical drilling programs prior to Brionor's involvement in the property and its exploration programs prior to 2010 have been summarized in Section 6.

### 10.1 2010 EXPLORATION DRILLING PROGRAM

A total of seven drill holes totalling 2,655 m were drilled in the upper portion of the deposit (above the 300 m level) during the winter 2010 program. The drilling was carried out under contract by Major Drilling which is based in Val O'Dor. Major Drilling is an independent drilling contractor and does not own any interest in Brionor.

Table 10.1 summarizes the details of the 2010 drilling program. Figure 10.1 shows the 2010 drill holes in relation to the previous drilling programs. See Figure 7.3 for a cross-section of the mineralization and geology at Section Line 12+90 E.

Drill Hole	UTM Coordinates		Azimuth	Dip	Drill Hole Length
Number	Northing	Easting	(°)	(°)	( <b>m</b> )
PG-10-01	5372121.0	638735.5	N003	-68	348
PG-10-02	5372221.0	638835.0	N003	-66	339
PG-10-03	5372100.5	638896.0	N003	-66	510
PG-10-04	5372244.0	638932.0	N003	-65	342
PG-10-05	5372177.0	638933.0	N003	-66	399
PG-10-06	5372222.5	638983.0	N003	-66	300
PG-10-07	5372079.0	639021.5	N003	-67	417
Total					2,655

Table 10.1Drill Hole Summary for the 2010 Drilling Program

Table taken from the 2011 Technical Report.

Starting with the 2006 drilling program and continuing through the 2010 program, all holes had the drill casing left in collars. Not all drill collars have been surveyed in to a fixed point, but all collars have been located using a Global Positioning System (GPS) instrument. Most holes also had a down-hole survey conducted during the drill program in order to accurately determine the deviation of the drill hole. A single shot Reflex of Flexit survey instrument was used to conduct the surveys and measurements were conducted down the hole every 50 m.

Core recovery for the drilling program conducted by Brionor was good with an average of 90% or better.



Figure 10.1 2010 Drill Hole Traces in Relation to Previous Drilling Programs (2005 to 2008)



Figure taken from the 2011 Technical Report.



## 10.2 2010 DRILLING PROGRAM RESULTS

The results obtained during the 2010 winter drilling program were generally below expectations and below the previous drilling results obtained from 2005 to 2009. Previous drill programs on the property had indicated that Zone 2 is the one that can be best traced along strike as well as up and down dip. However, in 2010, the style of mineralization appeared different to that encountered in earlier drilling programs. Brionor still encountered large halos of low grade mineralization (hundreds of ppb) but these were not related to the narrower high grade intersections encountered deeper in the deposit.

Table 10.2 summarizes the significant 2010 drilling results on the Pitt Gold Property.

Drill Hole		Intersection 1	rsection Length (m)		Assay Results	Zone
Number	From	То	Width	True Width	Gold (g/t)*	
PG10-01					No Value above 1 ppm	
PG10-02	278.90	279.50	0.60	0.54	1,094	
	279.50	280.27	0.77	0.69	1,098	
	278.90	280.27	1.37	0.86	1,096	2
PG10-03	40.20	41.20	1.00	0.86	1,130	
	71.22	72.22	1.00	0.26	4,302	
	79.70	80.00	0.30	0.86	1,710	
	171.00	172.00	1.00	0.86	2,304	
	181.00	182.00	1.00	0.51	1,192	
	259.00	259.60	0.60	0.86	1,961	
	307.00	308.00	1.,00	0.69	1,121	1
	400.00	400.80	0.80	0.26	5,425	2
	410.50	410.80	0.30	0.26	12,170	
	411.50	411.80	0.30	0.60	2,972	
	410.50	411.80	1.30	0.61	3,550	
	478.00	478.70	0.70	0.61	1,061	
PG10-04	138.50	139.20	0.70	0.78	2,966	1?
	184.84	185.54	0.70	0.26	2,338	
	205.00	205.90	0.90	0.61	1,063	
	209.50	209.80	0.30	0.88	2,131	
	209.80	210.50	0.70	0.97	2,208	
	209.50	210.50	1.00	0.88	2,185	2 ?
PG10-05	296.00	297.00	1.00	0.88	1,855	2 ?
PG10-06	165.60	166.70	1.10	0.88	3,732	
	166.70	167.70	1.00	0.88	45	
	167.70	168.70	1.00	0.35	1,134	
	165.60	168.70	3.00	0.34	1,637	
	214.00	215.00	1.00	0.80	1,137	1
	264.00	265.00	1.00	0.72	1,105	
	278.00	278.40	0.40	0.48	11,100	2
PG10-07	74.79	75.18	0.39	0.60	1,081	PD fault
	179.75	180.75	1.00	0.80	1,396	Main
	266.00	266.90	0.90	0.54	4,871	
	334.00	334.60	0.60	0.69	1,546	
	339.10	339.85	0.75	0.86	3,849	2 ?
	345.00	346.00	1.00	0.86	1,401	2 ?

# Table 10.2Summary of the Significant 2010 Drilling Results

\*1 ppm = 1 g/t = 1,000 ppb

Table taken from the 2011 Technical Report.



As a result of the 2010 drilling, Brionor believes that the gold mineralization is not entirely stratigraphically controlled, as previously believed, and that cross-cutting relationships are common. This hypothesis is supported by the very irregular distribution of the QFP in drill holes. Brionor's model involves a series of en-echelon structures/veins of which 3 are relatively well defined by drilling over hundreds of metres laterally and vertically. There are several other potential veins that have been identified but they are either discontinuous and sub-economical in nature, or they have not seen enough definition drilling. Most structures have been defined below the 200 m level and more particularly below the 400 m level, but close spaced drilling from surface is technically difficult to achieve due to hole deviation and the costs involved.

Since drilling in the upper portion of the deposit during 2010 did not confirm the geological model previously developed, a new interpretation became necessary as noted above. The new interpretation was conducted in the spring of 2010 and, thus, a new model was developed for the mineralization. The primary changes to the model generally affected the dip directions of the various geological units, with it being concluded that the dips were steeper than previously believed. However, the interpreted strike and dips of the various gold-bearing structures did not change substantially from the previous interpretation.

As a result of the 2010 drilling, Brionor also conducted a review of the past drilling outside the main mineralized area. This review indicated that the western portion of the Porcupine-Destor Break has only seen shallow drilling and, while no significant intersection was obtained, the drilling below 200 m is sparse.

In addition, the review noted that numerous anomalous to sub-economic gold intersections were obtained in the northern portion of the property. These intervals appear to define a broad east-west striking corridor that has been only sporadically drilled. SOQUEM drilled a few holes to follow up IP anomalies in this area just before Normabec optioned the property. The best intercept is 5.43 g/t gold over 1.2 m but a few larger low grade intercepts were also obtained in holes 1299-01-01 and -02 (0.6 g/t gold over 14.9 m, etc.). This mineralized corridor is located just south of a government interpreted structure, the Lepine Lake Fault. Brionor proposed that it would begin to drill test this structure as part of its 2011 exploration program but this program was not conducted.

## **10.3 FUTURE DRILLING PROGRAMS**

No drilling programs have been conducted by Brionor since the 2011 Technical Report. First Mining is still evaluating its purchase of the Pitt Gold Project and once that is completed may decide to conduct a drilling program on the property once its review is complete.

## **10.4 MICON COMMENTS**

Micon discussed the drilling program with Brionor at the time of the site visit and based upon the discussions and its own review if the database and core during the site visit Micon believes



that there are no drilling, sampling or recovery factors which could materially impact the accuracy and reliability of the drilling results obtained by Brionor and that the information gathered can be used as the basis of a mineral resource estimate

As First Mining has now acquired the Pitt Gold Project from Brionor it will be able to build upon the drilling program conducted by Brionor as it outlines its own programs for the property.



## 11.0 SAMPLING PREPARATION, ANALYSIS AND SECURITY

First Mining has yet to conduct any sampling on the Pitt Gold Property as it is assessing the previous exploration work prior to conducting its own program. Therefore, this section, which was extracted from the database and information from prior operators. It continues to discuss details of the sampling, analysis and security protocols used by Brionor and by Normabec previously as it is part of the basis for the mineral resource estimate found in Section 14 of this report.

## 11.1 SAMPLING METHODS AND APPROACH

The sampling methods and approach as outlined in this section were first employed by Normabec for its 2005 and 2006 drilling program. These methods were continued throughout Normabec's programs and its successor Brionor.

### 11.1.1 General

Cores boxes were collected at the drill site every morning by the project geologist or his assistant. Core boxes were opened at the company core shed and labelled according to hole number and depth of the interval in the box. The core was then logged by the geologist who outlined intervals to be sampled with red marks. Two sample tags were placed with each sample; one tag was placed in the sample bag, with the second remaining in the core box to identify the sample location. Sample information was listed in both the sample book and the geologist's log (date, interval sampled).

The geologist decides the size of the interval to be sampled, based on geological criteria such as geological contact, alteration, mineralization, etc. Samples rarely exceeded a maximum length of 1.5 m and were usually greater than 30 cm. The majority of the sampling was conducted using 1.0 m intervals or less. All samples respected the geological boundaries.

Mr. Pierre O'Dowd designed the sampling method and approach used by both Normabec and its successor Brionor.

#### **11.1.2** Significant or Relevant Samples

The significant 2010 drilling intersections for the Pitt Gold Project were previously summarized in Section 10. Significant drilling intersections for the previous 2005 to 2008 drilling programs were previously summarized in Section 6.

#### 11.1.3 Micon Comments

Micon discussed the sampling processes with Mr. O'Dowd during and its examination of the core during the site visit. Micon believes that, based on the discussions regarding the sampling



method and approach, the procedures used by Brionor followed the best practice guidelines as published by CIM.

It is Micon's opinion that Brionor's sampling methods and sample lengths were appropriate for the deposit and mineralization encountered during the drilling program. Micon considers that the samples were representative of the geology and mineralization encountered in the drilling program and that the samples were taken in such a manner as to minimize any sampling bias.

Micon also considers that the sampling quality was sufficient for conducting a resource estimate on the deposit, as it follows the general accepted best practices and outlined by CIM.

# **11.2 SAMPLE PREPARATION, ANALYSIS AND SECURITY**

## 11.2.1 General

Selected intervals for assaying were split in two using a hydraulic core splitter. One half of the interval was placed in a plastic bag with one of the sample tags left in the box. The other half was put back at its original location in the core box with the second tag to identify the sample interval for future reference. The sample bag was sealed and readied for shipping to the laboratory. The core splitter was thoroughly cleaned using fine brushes between every sample to avoid contamination.

Once all intervals had been collected from a core box, the box was piled outside the company core shed and eventually strapped when piles reached 1.5 metres in height. Samples were brought or shipped to the laboratory at regular intervals depending on volume (every week or every few days). Only company employees were permitted to handle the samples before reaching either the laboratory or a shipping company that was engaged to deliver the samples to the laboratory. Brionor stated that in no instance was any officer, director or associate of Brionor involved in any aspect of the sample preparation.

The core pulps and rejects are stored outdoors in Rouyn-Noranda at a storage facility rented by Brionor and previously by Normabec.

Only one accredited independent laboratory was used by Brionor for the 2010 exploration program, that being Activation Laboratories Ltd. (Actlabs) located in Sainte Germaine de Boulé. Actlabs was previously Techni-Lab S.G.B Abitibi Inc. (Techni-Lab) but in 2010 Actlabs purchased the company and modernized the facility, along with enlarged sample preparation facilities.

Actlabs is an independent laboratory which accepts samples on a fee basis for processing and analyzing. Actlabs has ISO 17025 accreditation and/or certified 9001:2008. Neither Techni-Lab nor Actlabs has an interest in Brionor or its predecessor Normabec.



The laboratory used to process the samples for the 2005 to 2006 and the 2007 drilling programs was Laboratoire Expert Inc. which was not accredited per ISO/IEC Guideline 17025 by the Standards Council of Canada, at the time. However, this was common for local laboratories and they usually participated in several round-robins with other laboratories while pursuing certification and it does not affect the quality of the assaying being performed.

In 2008, Techni-Lab was chosen to conduct the assaying and this continued with the 2010 drilling program, as previously noted.

The following is a summary description of the procedures used by Actlabs for the sample preparation and analysis for the 2010 exploration samples. This summary description also generally applies to 2005 to 2008 drilling programs.

### Handling of Samples (gold analysis)

#### **Preparation and Analysis**

- A) Samples received were compared with the client's list, then dried at 100-110°C for as long as needed (typically 3-4 hours).
- B) Samples were crushed using TM Engineering Rhino Jaw crushers, typically to a size of at least 85% passing a 10-mesh sieve.
- C) Samples were split using a riffle splitter, to obtain a typical sub-sample of approximately 250 g.
- D) The sub-sample was pulverized, using a TM Engineering ring pulverizer, to a size of at least 85% passing a 200-mesh sieve. The sub-sample was then thoroughly mixed, to ensure homogeneity.
- E) A portion (30 g) of the sub-sample was then weighed in a crucible, with fluxes and litharge, according to method TMT-G3. The lead button produced was sent to the cupellation phase, and the resulting silver/gold bead was dissolved in a microwave oven with aqua regia and analyzed according to method TMT-G5D (atomic absorption finish).

## **Quality Control**

- A) Particles size distribution was verified (crushing and pulverizing stages) at the frequency of one sample in twenty.
- B) In each batch of 20 samples, Actlabs included a blank, duplicate and two certified reference material samples.



- C) Samples over a specified value (determined by the client) were analyzed for a second time to confirm the assay, using a technique agreed upon by the client and the laboratory.
- D) Crushers and pulverizers were cleaned using glass (crushers) and commercially available crushed glass, at a frequency determined by the client.

A more extensive description (in French) of the procedures for sample preparation and analyses used by Techni-Lab during the 2008 and 2010 programs has been included as Appendix 2. Appendix 2 also contains a description (in French) of the procedures used by Laboratoire Expert Inc. during the 2005 to 2006 and 2007 programs. Micon discussed these procedures with Mr. O'Dowd during the site visit in 2011 as he originally outlined the program for Normabec and continued it use with Brionor.

### **11.2.2** Quality Assurance/Quality Control Program (QA/QC)

A QA/QC program was originally implemented in 2005 and this program was followed throughout the various drilling programs which were conducted subsequently. In addition to the systematic checks conducted by the laboratory (use of standards and duplicates), Normabec used six and Brionor used four different certified standard reference material samples and one blank standard sample. Table 11.1 summarizes the six certified reference material standards used by Normabec starting with the 2005 to 2006 program and ending late in the 2008 program.

Normabec Standard Name	Standard Identity	Gold Assay (g/t)
Standard A	KH1	0.850
Standard B	Ox5	0.968
Standard C	S2	1.530
Standard D	Ox12	6.600
Standard J	OxL34	5.758
Standard	OxA45	0.0811

 Table 11.1

 Summary of the Four Certified Standard Reference Material Samples 2005 – 2008 Programs

Table 11.2 summarizes the four certified reference material standards used by Normabec/Brionor starting at the late in the 2008 exploration program and continuing into the 2010 program.

 Table 11.2

 Summary of the Four Certified Standard Reference Material Samples 2008 – 2010 Programs

Standard Identity	Gold Assay (g/t)
SI 25	1.801
OxK 48	3.557
OxC 44	0.197
SJ 32	2.645

Table taken from the 2011 Technical Report.



All of the certified reference material standards were purchased from Rocklabs Ltd. (Rocklabs) of New Zealand.

The material used for the blank samples was limestone gravel used for gardening, which was obtained from the local Canadian Tire store.

On average, Brionor randomly introduced one standard and one blank for every 30 samples. All samples returning values above 3 g/t gold were systematically re-assayed (above 1 g/t gold from 2005 to 2007). After 2007, samples above 3 g/t gold were selected for sampling at the discretion of the geologist. Duplicate sampling was performed on a regular basis by the laboratory. A second laboratory was not used by either Normabec or Brionor as a secondary check laboratory.

### 11.2.3 2005-2006 Exploration Program QA/QC Results

During the 2005 to 2006 exploration drilling program a total of 24 blank samples and 9 standard samples were introduced into the sample stream. Table 11.3 summarizes the assay results obtained from the laboratory for the blank and standard samples.

Sample	Control Sample	Standard Sample Value	Assay Results (Gold)	
Number	Туре	(g/t gold)	Standard Sample (g/t)	Blank Sample (g/t)
60425	Standard C:	1.530	1.376	
60443	Standard B	0.968	0.985	
60458	Standard C	1.530	1.738	
60497	Standard B	0.968	0.922	
60540	Standard A	0.850	0.927	
60599	Standard D	6.600	6.087	
3809	Standard A	0.850	0.969	
91107	Standard Fail	error	5.98	Possibly Standard J
96412	Standard J	5.758	5.761	
60374	Blank			0.009
60398	Blank			0.005
60416	Blank			0.018
60484	Blank			0.005
60526	Blank			0.025
60573	Blank			0.089
3808	Blank			0.010
33011	Blank			0.006
90854	Blank			0.015
90876	Blank			0.010
90901	Blank			0.010
90896	Blank			0.005
90957	Blank			0.005
90984	Blank			0.005
91050	Blank			0.010

 Table 11.3

 Summary of the Certified Standard and the Blank Reference Material Samples used in 2005 to 2006



91084	Blank		0.005
91106	Blank		0.005
91150	Blank		0.005
91239	Blank		0.005
96305	Blank		0.005
96350	Blank		0.007
96402	Blank		0.005
96411	Blank		0.005

In general, the results of the blank samples were good, for the 2005 to 2006 program and there does not appear to be any significant bias.

There is generally good correlation between the results published for the certified standard reference material standards and the laboratory results for these samples. However, there was one standard bust but it appears that this was possibly a recording error and the incorrect sample was sent rather than the intended one.

One hundred twenty duplicate samples were conducted by the laboratories during their standard QA/QC procedures in 2005 to 2006.

Table 11.4 summarizes the assay results obtained by the laboratories for the 120 duplicate samples prepared by them during the analysis the 2005 to 2006 drilling samples.

Drill Hole Number	Sampla Number	Laboratory Assay Results (g/t gold	
Driff Hole Number	Sample Number	1st Sample	2 <sup>nd</sup> Sample
	60256	1.096	1.1
DC2005 01	60261	1.156	1.2
FG2003-01	60267	3.878	3.87
	60273	0.799	0.825
	60286	13.130	12.89
PG2005-02	60306	1.780	1.85
	60346	1.250	1.37
PC2005 03	60356	3.295	3.39
FG2003-03	60369	6.233	6.41
	60386	13.95	13.83
	60392	5.848	5.76
PG2005-04	60399	2.024	2.16
	60400	6.689	6.96
	60401	2.829	2.85
DC2005 05	60414	1.105	1.03
FG2003-03	60422	2.913	3.29
PG2005-06	60439	2.405	2.37
PC2005 07	60459	1.779	1.37
PG2005-07	60468	1.2	1.3
	60491	3.43	3.57
PC2005 08	60649	1.403	1.37
1 02003-08	60505	1.135	1.2
	60506	4.00	4.05

 Table 11.4

 Summary of the 120 Duplicate Samples Prepared for the 2005 to 2006 Drilling Program



	60516	5.91	5.97
	60512	7.74	7.99
	60524	2.547	2.71
	60525	5.239	5.49
	60534	1.059	1.13
DC2005.00	60549	1.662	1.65
PG2005-09	60553	1.883	1.89
	60554	82.66	95.4
	60555	7.783	7.54
	60556	70.8	76.01
	60557	1.156	1.23
	60567	1.892	2.02
PG2005-10	60646	1.281	1.23
	60568	3.6	3.7
	60648	1.394	1.23
	60596	2.912	3.09
	60597	13.17	15.15
PG2005-11	60605	14.64	14.54
	60604	9.103	9.05
	60612	2.048	2.13
DC2005 12	60615	2.137	2.13
PG2005-12	60626	5.404	5.66
PG2005-13	60654	5.578	5.49
	60655	1.06	0.96
DC2005 14	60656	1.084	1.1
PG2005-14	60700	1.702	1.75
	60701	3.417	3.39
	3767	1.348	1.47
PG2005-16	3773	1.467	1.54
	73746	5.09	4.94
	3804	62.40	64.11
	3805	43.20	44.67
	3806	218.40	209.28
	3807	82.39	85.13
DC2006 01	3813	1.111	1.2
PG2006-01	3814	16.53	15.91
	3830	19.68	22.94
	3832	3.91	3.91
	3831	2.64	2.74
	3833	6.69	7.3
	90764	1.375	
	90846	1.193	1.34
	90852	1.958	2.02
	90853	3.942	4.08
	90866	2.483	2.64
	90867	2.197	2.37
PG2006-01a	90868	11.49	11.11
	90871	2.58	2.64
	90872	3.307	3.46
	90873	1.481	1.58
	90874	1.455	1.54
	90875	0.986	1.03
	90927	1.3	1.37
DC2004 011	90967	1.083	1.13
PG2006-01b	90972	1.446	1.51
	90987	2.694	2.85



	91015	6.81	6.85
	91016	1.687	1.71
	91019	2.851	2.85
	91020	4.721	4.66
	91022	1.235	1.34
	91023	3.398	3.63
	91024	1.392	1.47
	91029	1.642	1.68
	91030	3.168	3.33
	91039	1.499	1.58
	91223	29.93	28.63
	96276	1.881	1.99
	96278	4.903	5.28
	96279	10.46	11.76
	96280	3.352	3.63
	96281	4.279	4.32
	96282	1.046	1.34
	96283	9.611	9.63
	96285	1.949	2.19
	96287	1.886	2.19
	96285	1.949	2.19
	96287	1.886	2.19
	96338	4.99	5.52
	96339	6.962	7.13
	96345	2.252	2.43
PG2006-01c	96346	4.816	4.9
	96349	2.091	2.02
	96351	1.61	1.75
	96357	1.038	1.1
	96359	1.132	1.27
	96365	20.33	20.23
	96366	1.93	2.09
	96368	3.88	3.98
	96370	10.22	10.18
	96378	10.49	10.35
	96379	7.56	7.58
	96380	2.861	3.02
	96381	1.501	1.47
	96395	2.024	2.02
	96396	2.898	3.02
	96405	1.292	1.23

In general, the duplicate samples assayed show good correlation with each other.

### 11.2.4 2007 Exploration Program QA/QC Results

During the 2008 exploration drilling program a total of 6 blank samples and 9 standard samples were introduced into the sample stream. Table 11.5 summarizes the assay results obtained from the laboratory for the blank and standard samples.



Sample	Control Sample	Standard Sample Value	Assay Results (Gold)	
Number	Туре	(g/t gold)	Standard Sample (g/t)	Blank Sample (g/t)
95651	Standard B	0.968	0.989	
95834	Standard J	5.758	5.918	
96127	Standard B	0.968	1.036	
20573	Standard B	0.968	0.972	
96245	Standard J	5.758	5.83	
89381	Standard	0.0811	0.078	
89436	Standard	0.197	0.194	
95652	Blank			0.005
95835	Blank			0.023
96128	Blank			0.005
20576	Blank			0.006
96246	Blank			0.005
89382	Blank			0.005
89437	Blank			0.005

 Table 11.5

 Summary of the Certified Standard and the Blank Reference Material Samples used in 2007

In general, the results of the blank samples were good, for the 2007 program and there does not appear to be any significant bias.

There is generally good correlation between the results published for the certified standard reference material standards and the laboratory results for these samples.

Fifty-eight duplicate samples were conducted by the laboratories during their standard QA/QC procedures in 2007.

Table 11.6 summarizes the assay results obtained by the laboratories for the 93 duplicate samples prepared by them during the analysis the 2007 drilling samples.

Drill Hole Number	Samuela Normehan	Laboratory Assay Results (g/t gold)	
Driff Hole Number	Sample Number	1sr Sample	2 <sup>nd</sup> Sample
	95548	11.42	11.62
	95564	7.504	7.47
	95610	2.381	2.43
	95611	1.93	2.02
	95612	2.306	2.37
	95613	5.101	5.25
	95614	3.498	3.57
PG2007-01	95615	8.894	9.09
	95616	2.213	2.16
	95622	12.55	12.14
	95640	15.98	16.18
	95645	7.961	8.09
	95669	1.939	2.06
	95672	1.564	1.58
	95680	2.888	2.91

 Table 11.6

 Summary of the 58 Duplicate Samples Prepared for the 2007 Drilling Program



	95699	1.391	1.41
	95761	2.789	2.95
	95766	1.246	1.34
	95768	3.842	3.84
	95770	1.077	1.10
	95771	1.269	1.37
	95772	1.342	1.41
BC2007 02	95838	1.695	1.78
PG2007-02	95859	2.012	2.16
	95863	3.286	3.46
	95873	3.657	3.7
	95883	1.32	1.47
	95903	2.552	2.57
	95912	2.81	3.02
	95913	1.34	1.3
	95915	1.095	1.13
	96025	13.68	12.93
PG2007-03	96026	20.26	20.91
	96109	3.808	3.81
	20545	14.33	14.06
	20546	2.128	2.02
	20547	13.06	12.96
PG2007-04	20549	0.995	1.06
	20552	17.62	17.14
	20553	1.801	1.71
	20572	1.604	1.54
DC2005.05	96234	1.052	1.06
PG2005-05	96235	1.118	1.27
	89362	2.417	2.47
	89388	19.54	21.46
DC2007.07	89389	2.172	2.09
PG2007-06	89410	1.366	1.27
	89411	1.468	1.65
	89412	1.465	1.61
	89419	1.067	1.13
	89434	1.463	1.51
	89435	16.77	16.46
	89438	300.72	290.85
PG2007-07	89439	12.14	13.37
	89440	2.327	2.33
	89441	1.091	1.17
	89446	1.615	1.71
	89447	1.604	1.78

In general, the duplicate samples assayed show good correlation with each other.

## 11.2.5 2008 Exploration Program QA/QC Results

During the 2008 exploration drilling program a total of 6 blank samples and 9 standard samples were introduced into the sample stream. Table 11.7 summarizes the assay results obtained from the laboratory for the blank and standard samples.



Sample	Control Sample	Standard Sample Value	Assay Results	s (Gold)
Number	Туре	(g/t gold)	Standard Sample (g/t)	Blank Sample (g/t)
112041	Standard	2.645	2.628	
112302	Standard	0.197	0.196	
112438	Standard	1.801	1.726	
112479	Standard	0.197	0.196	
29496	Standard	2.645	2.48	
5742	Standard	1.801	1.823	
29409	Standard	1.801	1.716	
29438	Standard	0.197	0.216	
29467	Standard	0.197	0.211	
112002	Blank			0.034
112042	Blank			0.005
112103	Blank			0.005
112303	Blank			0.005
112439	Blank			0.005
112480	Blank			0.163

# Table 11.7 Summary of the Certified Standard and the Blank Reference Material Samples used in 2008

In general, the results of the blank samples were good, for the 2008 program with the exception of sample 112480 which returned a value of 0.163 g/t gold. This result is high when compared to the other results and may indicate that slight contamination of the sample occurred, but the overall assay is still very low and does not indicate significant bias.

There is generally good correlation between the results published for the certified standard reference material standards and the laboratory results for these samples.

Ninety-three duplicate samples were conducted by the laboratories during their standard QA/QC procedures in 2008.

Table 11.8 summarizes the assay results obtained by the laboratories for the 93 duplicate samples prepared by them during the analysis the 2008 drilling samples.

Drill Hole	Sample Number	Laboratory Assay	Results (g/t gold)
Number		1sr Sample	2 <sup>nd</sup> Sample
	89500	2.052	2.06
	112003	0.997	0.99
	112015	6.767	6.58
	112016	23.01	22.59
	112017	1.656	1.71
PG2008-01	112020	3.123	3.15
	112022	2.906	2.78
	112023	1.923	2.16
	112024	8.589	8.61
	112025	2.577	2.71
	122028	3.943	4.22

Table 11.8Summary of the 93 Duplicate Samples Prepared for the 2008 Drilling Program



	112029	1 704	1 78
	112027	2.460	2.46
	112210	3.400	5.40
	112220	0.994	1.00
	112030	1.69	1.71
	122031	3.576	3.77
	112032	2.468	2.57
	112033	3.932	4.25
	112034	1.109	1.23
	112035	0.984	0.99
	112037	1.107	1.03
	112038	2.088	1.95
	112039	4.069	4.39
	112040	2 653	2.85
	112010	1 353	1 47
	112052	1.355	1.47
	112055	1.762	1.07
	112030	22.03	22.05
	112080	5.894	3.//
	11208/	1.045	0.99
	112097	1.968	2.16
	112098	2.358	2.47
	112130	6.972	7.17
PG2008-02	112132	1.344	1.3
	112133	2.734	2.61
	112134	1.56	1.61
	65701	8.798	8.85
	112137	1.114	1.03
	112138	15.39	16.42
	112261	1.527	1.41
	112263	4.728	4.87
	112287	9.02	9.02
	112296	7.839	8.05
	112290	10.94	11.62
PG2008-04	112304	1 709	1.82
1 02000-04	112320	1.707	1.02
	112333	2 122	4.97
	112333	1 266	2.20
	112337	1.300	1.47
	112558	1.425	1.54
	112339	5.083	4.97
	112387	1.192	1.27
	112388	3.225	3.35
	112390	1.925	1.95
	112391	5.351	5.28
	112432	1.46	1.51
	112436	16.7	17.86
	112437	77.55	77.29
	112440	1.04	1.03
PG2008-05	112450	2.505	2.64
	112454	1.88	1.92
	112459	1.041	1.13
	112460	6.07	5.83
	112461	12.69	12.75
	112472	25.37	23.35
	112477	19,17	19.03
	112478	22.9	22,39
	112482	2 972	2 85
PG2008-07	112402	2.772	2.05
1 02000-07	112383	20.40	20.03



DC2009 09	29033	18.69	18.33
PG2008-08	29035	34.43	34.00
	29122	16.33	16.50
	29124	12.93	12.90
	29125	3.44	3.14
	29126	5.77	5.90
DC2008.00	29130	8.67	8.37
PG2008-09	29131	46.03	43.60
	29152	21.03	21.03
	29154	3.56	3.87
	29162	1.19	1.19
	29163	10.99	10.73
	5736	2.30	2.30
	5737	3.79	4.07
PG2008-13	5739	8.10	8.50
	5740	2.11	2.108
	5741	1.58	1.58
	5785	3.92	3.60
	5786	3.42	3.16
	5787	3.46	3.27
	5788	2.14	2.14
DC2009 15	5802	2.15	2.15
F02008-13	5803	8.81	8.37
	5804	58.95	61.33
	5806	1.61	1.61
	5808	8.18	8.63
	5810	3.57	3.50

In general, the duplicate samples assayed show good correlation with each other.

## 11.2.6 2010 Exploration Program QA/QC Results

Due to the small number of samples generated during the 2010 exploration drilling program, only 8 blank samples and 7 standard samples were introduced into the sample stream by Brionor. Table 11.9 summarizes the assay results obtained by Actlabs for the blank and standard samples.

 Table 11.9

 Summary of the Certified Standard and the Blank Reference Material Samples used by Brionor in 2010

Somulo	Control Somulo	Standard Sample Value	Actlabs Assay Results (Gold)	
Number	Сонтгої Sample Туре	(g/t gold)	Standard Sample (g/t)	Blank Sample (g/t)
34030	Blank			< 0.005
34060	Standard	3.557	3.010	
34090	Blank			< 0.005
34120	Standard	2.645	2.309	
34150	Blank			< 0.005
34180	Standard	1.801	1.314	
34210	Blank			0.007
34240	Standard	0.197	0.152	
34270	Blank			< 0.005
34300	Standard	1.801	1.693	



34330	Blank			0.048
34360	Standard	3.557	3.253	
34390	Blank			0.007
34420	Standard	2.645	2.705	
34450	Blank			< 0.005

Table extracted from the 2011 Technical Report.

In general, the results of the blank samples were good for the 2010 program, with the exception of sample 34330 which returned a value of 0.048 g/t gold. This result is high when compared to the other results and may indicate that some contamination of the sample occurred, but the overall assay is still very low and does not indicate significant bias.

There is generally good correlation between the results published for the certified standard reference material standards and the Actlabs results for these samples. The correlation is also shown in Figure 11.1.

Figure 11.1 Certified Standard Reference Material Samples, Published Results versus Actlabs Results



Figure extracted from the 2011 Technical Report.

Duplicate sampling was conducted by Actlabs during its standard QA/QC procedures.

Table 11.10 summarizes the assay results obtained by Actlabs for the 9 duplicate samples prepared by it during the analysis of Brionor's samples.


1 able 11.10	Table 1	1.10
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Drill Hole	Somple Number	Actla	abs Assay Results (g/t	s (g/t gold)	
Number	Sample Number	1st Sample	2nd Sample	3rd Sample	
	34107	4.302	4.148		
DC2010.02	34153	1.192	1.288		
PG2010-03	34206	5.425	6.2		
	34209	12.17	12.43		
PG2010-04	34425	2.295	2.208		
PG2010-06	34399	11.279	11.07	11.1	
	34261	1.396	1.381		
PG2010-07	34283	4.871	4.66		
	34311	3.849	4.30		

Table 11.10								
Summary of the 9 Duplicate Sai	nples Prepared by Actla	bs for the 2010 Drilling Program						

Table extracted from the 2011 Technical Report.

The duplicate samples assayed by Actlabs show good correlation with each other. However, Micon recommended that Brionor conducts its own duplicate sampling in future exploration programs, using either quarter core or the rejects derived from the sample preparation process, in order to provide blind duplicate samples to the laboratory.

A secondary assay laboratory was not used by Brionor during the 2010 exploration program, so there is no comparison of the original assays conducted by Actlabs against the results obtained by a secondary laboratory for any samples.

#### 11.2.7 **Micon Comments**

Micon has reviewed the sample preparation, analysis and security and believed that it was conducted using the best practices as outlined by CIM.

Micon has reviewed the QA/QC work undertaken by Brionor and has concluded that it was of acceptable standard for the type of sampling conducted. Micon believes that for the drilling programs sufficient standards and blanks were added to the sample stream for the purposes of checking on the quality of the assay laboratories used. The number of duplicate samples that were conducted by the laboratories were more than sufficient to be able to reproduce the initial sample results and show very little sample bias in the sample data.

However, Micon recommends that, for future drilling programs, field duplicates should be added to the sampling process, rather than on relying on the assay laboratory for duplicate sampling. The purpose of the field duplicates would be to check the sampling procedures conducted on site and the consistency of the assay laboratory results. While there is nothing wrong with asking the assay laboratory to conduct duplicate samples on a regular basis however, Micon's preference is that the client selects duplicates from the sample rejects that are returned and reassigns a new sample number to the selected samples so that the duplicates are submitted to the laboratory as blind samples.



A secondary laboratory was not used to check the results of the primary laboratory during Brionor's 2010 drilling program. Micon also recommended that future exploration conducted by Brionor include the addition of a secondary assay laboratory as a check against the assay procedures of the primary laboratory.

Micon believes that the QA/QC data collected during the drilling programs from 2005 until 2010 is of sufficient quality conducted by independent commercial that it can be used to support a mineral resource estimate for the Pitt Gold Project.

No further QA/QC work was conducted on any samples by Brionor prior to First Mining acquiring the Pitt Gold Project. First Mining is still evaluating its purchase of the Pitt Gold Project and once that is completed it will set up its own QA/QC program for any exploration or drilling programs it may initiate.



### **12.0 DATA VERIFICATION**

The following Section has been extracted in its entirety from Section 14 of the 2011 Technical Report and updated where necessary. A site visit was not conducted the re-issuing of this report to First Mining. No new site visit was necessary as neither Brionor nor First Mining has conducted further work on the Pitt Gold Project since the previous 2011 report was issued. Therefore, no new scientific or technical data information as been added to the database for the Pitt Gold Project.

#### **12.1 2011 SITE VISIT**

Micon conducted a site visit to the Pitt Gold Property between April 25 and 29, 2011. At that time, both the Pitt Gold Property and the core storage facility in Rouyn-Noranda were inspected and a number of drill sites were visited. At the core storage facility, a number of core boxes were opened and a number of mineralized and non-mineralized intervals were examined. Seven samples were taken of reject sample material to check for mineralization of the same tenor as reported by Brionor.

#### 12.1.1 Core Storage Facility in Rouyn-Noranda

Brionor stored all the available core (Santa Fe, Normabec and Brionor programs), and some of the pulps and rejects from the Normabec and Brionor programs, at a facility on the outskirts of Rouyn-Noranda.

The core and the reject and pulp samples stored at this facility were in generally poor condition. While the newer core was bundled up, a large number of the secondary sample tags remaining in the core boxes had faded to the point where the sample numbers were unreadable. The newer core was still strapped in bundles but the boxes were not stacked in an organized manner; generally, the core boxes were out of order and difficult to access. In the case of the older bundles of core, a number had collapsed or were lying on their side still in the bundled state. Figures 12.1, 12.2 and 12.3 indicate the state of the material stored in the core storage facility.

Micon recommended that immediate action be taken to address this situation if this material is to be accessed and used in any meaningful manner in the future. It is unknown at the time of this re-address of the original report to First Mining, if this recommendation was carried out.

#### 12.2 2011 PROPERTY VISIT

Access to property is via a dirt road which Normabec and Brionor had upgraded during their earlier exploration programs. However, access was limited during the site visit as the snow was still too deep to allow vehicles to enter the property and access was achieved by walking 1 to 2 km to where the drilling had been conducted. Figure 12.4 indicates the state of the access during the site visit.





Figure 12.1 2010 Drill Core Boxes Located at the Core Storage Facility

Figure 12.2 Pulp and Reject Storage at the Core Storage Facilities







Figure 12.3 Older Normabec and Santa Fe Core Located at the Core Storage Facility

Figure 12.4 View of the Access Road during the Micon Site Visit





During the site visit to the property, a number of drill hole locations were examined. Mineralized outcrop on the property is virtually non-existent due to alluvial and wetland cover. Therefore, the primary investigation of the mineralization occurred during the examination of the core at the storage facility in Rouyn-Noranda.

Figure 12.5 is a view of some of the drill collars with casing left in the holes. Brionor usually fixed a metal rod onto the casing cap which had the drill hole number indicated on the upper end of the rod.



Figure 12.5 View of the Cased Drill Collars with the Metal Rods Denoting Hole Number

#### 12.3 CORE EXAMINATION AND MICON VERIFICATION SAMPLING

A number of drill holes from various programs were examined during the visit to the core storage facility in Rouyn-Noranda. The drill holes examined included PG2008-01, PG2007-02 and PG2007-05

Figure 12.6 shows part of the mineralized intersection between 426 m and 429 m in drill hole PG2008-01. This intersection has pervasive silicification and contains fine-grained pyrite, the combination of which, from discussions with Mr. O'Dowd, produces the higher grade intersections at the Pitt Gold Project.





Figure 12.6 Mineralized Intersection in Drill Hole PG2008-01

Figure 12.7 is a mineralized intersection in drill hole PG2007-02 which has fine-grained pyrite but does not have pervasive silicification and therefore does not grade above 1 g/t gold, as per Mr. O'Dowd.

During the review at the core storage facility, 7 random pulp samples were retrieved to check the assays obtained by both Normabec and Brionor. The samples were obtained from boxes which were still intact and in which the plastic sample bags containing the sample had not deteriorated. The samples were transferred into new sample bags by Micon and taken intact from the core storage area. Once Micon returned to Toronto with the samples, they were allowed to dry and then a portion of the sample was transferred into new sample bag and renumbered with a Micon sample tag.

Table 12.1 summarizes the sample locations of the Brionor reject samples which Micon selected for re-assaying.

Micon arranged for its samples to be analyzed for gold and silver. The samples were also assayed using a multi-element analysis. All assaying was conducted by TSL Laboratories Inc. (TSL) of Saskatoon, Saskatchewan. TSL's quality system conforms to the requirements of ISO/IEC Standard 17025 Guidelines. The TSL assay techniques and detection limits are summarized in Tables 12.2 and 12.3. TSL is an independent laboratory which accepts samples on a fee basis to conduct assaying and holds no interest in Brionor, Xmet, First Mining or Micon.





Figure 12.7 Mineralized Intersection in Drill Hole PG2007-02

<b>Table 12.1</b>							
Description of the Reject Samples Collected During the Site Visit							

Sample	Drill Hole	Sample Interval (m)			Sample
Number	Number	From	То	Length	Туре
95769	PG2007-02	550.80	551.45	0.65	Reject
89499	PG2008-01	276.00	277.00	1.00	Reject
112042	PG2008-01	Blank Sample			Reject
89426	PG2007-07	424.00	425.00	1.00	Reject
96246	PG2005-05	Blank Sample			Reject
20828	PG2007-05	735.00	736.00	1.00	Reject
91123	PG2006-01C	395.00	395.65	0.95	Reject

# Table 12.2 TSL Extraction Techniques used on the Pitt Gold Project Samples

Element Name	Unit	Extraction Technique	Lower Detection Limit	Upper Detection Limit
Gold	ppb	Fire Assay/AA	5	3,000
Silver	ppm	HCl-HNO <sub>3</sub> /AA	0.2	50

Table taken from TSL assay certificate cover reports, TSL report S43043.



Extraction Technique	Element Symbol	Unit	Lower Detection Limit	Upper Detection Limit
	Ag	ppm	0.1	100
	Al*	%	0.01	10
	As	ppm	0.5	10,000
	Au	ppb	0.5	100
	B*	ppm	1	2,000
	Ba*	ppm	1	1,000
	Bi	ppm	0.1	2,000
	Ca*	%	0.01	40
	Cd	ppm	0.1	2,000
	Co	ppm	0.1	2,000
	Cr	ppm	1	10,000
	Cu	ppm	0.1	10,000
	Fe*	%	0.01	40
	Ga*	ppm	1	1,000
	Hg	ppm	0.01	100
	K*	%	0.01	10
	La*	ppm	1	10,000
ICD MC Arms Desis Dissetion	Mg*	%	0.01	30
ICP-MS Aqua Regia Digestion	Mn*	ppm	1	10,000
HCI-HNO3	Mo	ppm	0.1	2,000
	Na*	%	0.001	10
	Ni	ppm	0.1	10,000
	P*	%	0.001	5
	Pb	ppm	0.1	10,000
	S	%	0.05	10
	Sb	ppm	0.1	2,000
	Sc	ppm	0.1	100
	Se	ppm	0.5	1,000
	Sr*	ppm	1	10,000
	Te	ppm	1	2,000
	Th*	ppm	0.1	2,000
	Ti*	%	0.001	10
	T1	ppm	0.1	1,000
	U*	ppm	0.1	2,000
	V*	ppm	2	10,000
	W*	ppm	0.1	100
	Zn	ppm	1	10,000
Note: The Agua Regia Leach digestion liber	ates most of the	metals, except th	ose marked with an asteri	sk where the digestion wil

# Table 12.3 TSL Extraction Technique used for Multi-Element Analysis on the Pitt Gold Project Samples

Note: The Aqua Regia Leach digestion liberates most of the metals, except those marked with an asterisk where the digestion will not be complete.

The results of the Micon grab sampling and the comparison with Brionor's reject assays are summarized in Table 12.4. The TSL certificates of analysis are contained in Appendix 3.



Micon Assay Results		Brionor Assay Results			
Sample Number	Au (g/t)	Ag (g/t)	Sample Number	Au (g/t)	Ag (g/t)
62163	0.67	8.6	95769	0.741	
62164	0.97	0.8	89499	0.975	
62165	0.01	< 0.2	112042	< 0.005	
62166	0.035	< 0.2	69426	0.008	
62167	< 0.005	0.3	96246	< 0.005	
62168	0.08	< 0.2	20828	0.088	
62169	< 0.005	< 0.2	91123	0.006	

 Table 12.4

 Assay Results for Micon's and Brionor's Pitt Gold Project Samples

As shown in Table 12.4, there is general agreement between the assay results obtained by Brionor and Micon for the pulp samples. Due to the nugget-like nature of the gold at the Pitt Gold Project, there is unlikely to be complete agreement between samples taken in a given area and, in some cases, there may be a significant variation. Therefore, high grade samples should be assayed using metallic screening techniques to determine the size fraction of the gold particles.

Micon was satisfied that its sampling indicated that the mineralization located on the Pitt Gold Project is similar in nature to that identified by Brionor.

#### 12.4 MICON DATABASE REVIEW AND DATA VERIFICATION

Micon has validated the geological database for the Pitt Gold Property using GEMS software, in 2011. A few issues related to the interval sequence were found in the assay table, most of which are gaps that are assumed to be non-sampled intervals, as well as a few overlaps for drill holes DQ96-41 and 1299-01-02. It was recommended that these gaps and overlaps be corrected. The lithology table also had a number of gaps and overlaps that required attention. The collar and survey tables were found to contain no errors.

The assays results contained in the database were randomly compared against various printed historical documents obtained from Brionor. The assay units were transformed from the original imperial system into the metric system, but the actual assay results were not checked as no assay laboratory certificates were available.

Micon recommended that the errors noted in the assay database be corrected as soon as possible. Micon also recommends that First Mining obtains copies of the original assay certificates and files these with the drill logs, so that all data pertaining to the previous drilling programs are available for future audits.



#### 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Neither Brionor, nor First Mining has conducted any metallurgical testing of the mineralized material from the Pitt Gold Project.

As the Project advances, metallurgical testwork will be required to be conducted.

However, the general nature of the mineralogical characteristics of the mineralized zones at the Pitt Gold Project: i.e. tabular zones of compact silicification and quartz veins with 5%-10% fine pyrite are sufficiently well demonstrated to permit an assumption of SG as being at or close to that of quartz. (2.74). The bulk density applied to the resource estimate was 2.7 which provides for random void space of 1.5% ignoring sulphide or ankerite content. This value presents a range of SG's within + 10% of 2.7 is 2.43 - 2.97.

The deposit style; association with quartz feldspar porphyry intrusions; and ore mineralogy with Au associated with pyrite are consistent with metallurgical recoveries demonstrated at or above 90% in numerous of mines along the Porcupine-Destor Break and elsewhere within Canada and around the globe. However, the closest analogous project where the mineralization is similar to the Pitt Gold Project is the Duquesne Project previously owned by Clifton Star and acquired by First Mining as part of their acquisition of Clifton Star. The mineralization at both Duquesne and Pitt is associated with quartz-feldspar intrusives rather than trachytic intrusives. The mineralogical association of gold with pyrite rather than arsenopyrite is also similar.

Historic recoveries realized by test mining at Duquesne are noted in Section 13 of Clifton Star Resources Inc.'s June 2, 2014 Technical Report as follows:

"From 1990 to June of 1991, Radisson Mining Resources Inc. processed a bulk sample of 93,156 tonnes of material averaging 9.40 g/t Au (totalling 26,600 ounces of gold) at Aurizon Mines Inc. (Giant mill) and Deak Resources, Virginiatown (Kerr-Addison mill), where 91.0% and 96.0% gold recoveries were obtained respectively."

This stands in contrast with the refractory Au deposits, like at nearby Duparquet where the associated intrusions are syenitic and ore mineralogy shows an association of Au with arsenopyrite.

In the absence of metallurgical testing at the Pitt Gold Project and given both the metallurgical and geological similarities between it and the Duquesne Project there is sufficient confidence that recoveries will be similar.



### 14.0 MINERAL RESOURCE ESTIMATE

The following Section has been extracted in its entirety from Section 17 of the 2011 Technical Report with subsequent additions based on Micon's review of the parameters and to clarify certain points regarding the mineral resource estimate and demonstrate that it remains current.

In January, 2011, Pierre O'Dowd conducted a mineral resource estimate for the mineralization encountered north of the Porcupine-Destor Break on the Pitt Gold Project for Brionor. This section discusses Micon's original audit of that estimate as well as Micon's review of the parameters and Technical information in June, 2016 for First Mining upon its acquisition of the Pitt Gold Project. Micon has reviewed its original audit conducted in 2011 including the parameters used in the estimate for this report and is of the opinion that the resource estimate remains valid as defined by the current CIM standards and definitions. Based upon Micon's review, the effective date of the estimate is now considered to be December 15 2016.

#### 14.1 MINERAL RESOURCE ESTIMATE

The resource estimate was conducted from first principles and was done using the polygonal method on vertical projections (longitudinal sections) of the mineralized lenses. A set of cross-sections and longitudinal sections of Veins 1, 2 and 3 were constructed for use in conducting the resource estimate. Polygons were then drawn on the vertical longitudinal sections running approximately parallel to the strike of the mineralized lenses. The areas of the individual polygons were measured using computer software and the horizontal thickness was used to obtain the volume of each polygon.

Drill hole composites for each of the lenses were identified as a single pierce point and identified as unique points, including those which did not meet the minimum horizontal width and grade criteria. Each of the drill hole composites served as the centroid for polygons which were generated and the midpoint of adjacent drill hole centroids serves as the perpendicular boundary between polygons. The volumes of the 2-D polygons were subsequently estimated by multiplying the area of each polygon by the horizontal width (based on a mining width of 1.5 m) of the respective drill hole composite.

While in some parts of the world, block modelling has superseded the use of polygonal or sectional estimation methods due to the introduction of computers in the last 20 years, it remains a valid method of conducting resource estimation. A number of mines still use this such as the Macassa mine in Kirkland Lake, Ontario (Kirkland lake Gold, Press Release 04/13/15).

A review of the mineralization in the drill intersection indicates that the nature of the mineralization is fairly continuous across the veins and the both the drill density in the area of the estimation and nature of the deposit type indicates that the mineralization is fairly consistent between drill holes in both the vertical direction and strike direction within defined shoots. Based upon its review of the mineralization and the data provided in 2011, and reviewed again



in 2016, Micon has concluded that the mineralization identified by the drilling program is indicative of mineralized shoots.

The database for the Pitt Gold Project consists of the following:

- 163 drill holes including the historical holes outside resource area.
- 10,121 assay records including historical drilling outside resource area.

For the polygonal resource estimate the data used to interpret the mineralized lenses on each of the longsections consists of the following:

- Vein 1 pierced by 64 drill holes with an average width of 1.89 m and an average grade of 4.45 g/t gold where mineralization was intersected. The narrowest intersection was 0.3 m and the widest was 15.0 m with grade individual grades ranging from a low of 0.13 g/t gold to a high of 35.18 g/t gold. Fifteen of the drill holes crosscut the area of the zone without intersecting grade.
- Vein 2 pierced by 61 drill holes with an average width of 1.88 m and an average grade of 7.82 g/t gold where mineralization was intersected. The narrowest intersection was 0.5 m and the widest was 6.5 m with grade individual grades ranging from a low of 0.03 g/t gold to a high of 36.25 g/t gold. Nineteen of the drill holes crosscut the area of the zone without intersecting grade, primarily around edges of the interpretation.
- Vein 3 pierced by 26 drill holes with an average width of 1.53 m and an average grade of 6.18 g/t gold where mineralization was intersected. The narrowest intersection was 0.5 m and the widest was 4.0 m with grade individual grades ranging from a low of 1.3 g/t gold to a high of 16.08 g/t gold. Twelve of the drill holes crosscut the area of the zone without intersecting grade, primarily around edges of the interpretation.

Table 14.1 summarizes the parameters used for the polygonal mineral resource estimate.

Description	Parameter	Comments		
Cut-off grade	3 g/t gold	Minimum grade per block for resources.		
Recovery	90%	Based upon recovery in area mines with similar metallurgy		
US Gold Price per ounce	\$1,350/oz			
Minimum block width	1.5 m	Based on minimum underground mining width.		
Dilution grade	0 g/t	Grade used to bring blocks up to minimum width.		
Capping grade	35 g/t			
Specific gravity	2.7	Commonly used SG for quartz veins in vein type deposits.		
Polygonal size	1/2 distance to next drill hole to a maximum radius of 50 m.			
Core length	Mineralization converted to horizontal true width.			

 Table 14.1

 Parameters Used for Pitt Gold Polygonal Mineral Resource Estimate



In addition to the mineral resource estimation parameters summarized in Table 14.1, the following parameters were used to classify the resources.

- There are no measured resources on the Pitt Gold Property.
- There are no indicated resources on the Pitt Gold Property for the current estimate.
- The inferred mineral resources consist of primarily interconnected polygonal blocks which meet the requirements of a minimum width of 1.5 m and a cut-off grade of 3 g/t gold

Any polygonal block that did not meet the requirements for classification as an indicated or inferred resource block was removed from the resource tabulation.

A 3 g/t cut-off was used since at a gold price lower gold price of US \$1,350/oz. gold the value of a ton of mineralized rock would have an approximate in-situ NSR value of US\$130/t. Operating mining costs (mining, processing, general and administration and etc.) for underground narrow vein mining operations with extraction by selective underground mining methods such as cut and fill or shrinkage stoping; and characteristics of mineralogy consistent with recovery by conventional Carbon-in-Leach methods range between US \$50 and US \$100 per tonne. The range depends on the location of the mine, daily mining rate and other factors such as grade.

Cut-Off Grade Calculation for the resource estimate in US dollars (Assuming 1 CND \$ = 1 US \$)

Cut-off Grade (oz/t) = (Operating Cost/tonne/Gold Price/oz)/Mill Recovery (%) Cut-off Grade (g/t) = (Cut-off Grade (oz/t)) X (Conversion Factor (g/oz))

> 0.082 oz/t = (\$100.00/t / \$1,350.00/oz) / 90% 2.55g/t=0.082 oz/t X 31.1035g/oz

Thus, if an operating mining cost (\$100) is used for calculating the cut-off grade at a gold price of \$1,350.00 and assuming a mill recovery of 90% (based on the test mining at the Duquesne Project with similar geology and metallurgy) the actual cut-off grade is approximately 0.082 oz/t gold or 2.55g/t.

Thus, a 3 g/t gold grade should be adequate to be used as a cut-off grade for an underground operation using conventional mining methods and floatation and carbon-in-leach processing and represents a reasonable demonstration of the prospect for eventual economic extraction.

The gold price used for the estimate is based a common practice in the mining industry of using a gold price for the resources which is higher than a price that would be used for reserves. In many cases the gold price is based on prices ranging from US \$0/oz to US \$200/oz or more above the currently trading gold price. This can be derived from either using consensus reviews or a decision by management on what price to use. Thus, given the current trading price of



gold a gold price of US 1,350/oz gold is reasonable upon which to base the premise of economics for the Pitt Gold Project.

While no specific gravity information has been compiled for the Pitt Gold Project, the mineralogical characteristics of the mineralized zones at Pitt: i.e. tabular zones of compact silicification and quartz veins with 5%-10% fine pyrite are sufficiently well demonstrated to permit an assumption of SG as being at or close to that of quartz (2.74). The bulk density applied in the estimate was 2.7 which provides for random void space of 1.5% ignoring sulphide or ankerite content. This value presents a range of SG's within + 10% of 2.7 is 2.43 – 2.97.

Additionally, Watts, Griffis and McOuat (WGM) discussing density in their October, 2011 Technical Report for Xmet on the Duquesne-Ottoman Property noted that while there was no record of specific gravity being undertaken by previous operators or Xmet, Reddick used a bulk density factor of 2.70 t/m<sup>3</sup> for the 2010 resource estimate which is consistent with that used by other companies operating in the same area.

The deposit style; association with quartz feldspar porphyry intrusions; and ore mineralogy with Au associated with pyrite are consistent with metallurgical recoveries demonstrated at or above 90% in numerous mines along the Porcupine-Destor Break as well as other related deposits within Canada and around the world. However, as noted in Section 13 test mining at Duquesne, the closest analogous deposit in the area, indicated recoveries of 91.0% and 96.0% depending on which of the two processing facilities they were shipped to.

In the absence of specific density and metallurgical testing, the characteristics of similar deposits either adjacent to or in the general region of the deposit should allow a sufficient confidence in using these figures in estimating a mineral resource. However, as a result of the introduction of the new 2014 CIM definitions for mineral resources the indicated mineral resources previously reported in 2011 were down-graded to inferred resources due to the absence of site specific testing for metallurgical recoveries and material densities.

Table 14.2 summarizes the polygonal mineral resource estimate for the Pitt Gold Property.

Resource Classification	Vein Number	Average Horizontal Width (m)	Tonnage	Gold Grade (g/t)	Gold Ounces
	1	2.34	400,000	5.40	70,000
Inferred	2	2.06	486,000	9.19	143,000
	3	1.63	190,000	7.16	44,000
Total	1 to 3	2.01	1,076,000	7.42	257,000

 Table 14.2

 Summary of the Polygonal Pitt Gold Mineral Resource Estimate

The detailed block-by-block estimation for each vein, summarized by category, is included in Appendix 4. Appendix 5 contains the longitudinal sections for each vein, showing the



polygonal resource blocks, these are for illustration purposes only, as the actual scale of the sections would be too big for inclusion in this report otherwise.

The process of mineral resource estimation includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material. The resource figures in Table 14.2 have been rounded, in most cases, to reflect that the numbers are estimates. Mineral resources that are not mineral reserves do not have demonstrated economic viability. There are no mineral reserves on the Pitt Gold Property at this time.

The mineral resources for the Pitt Gold Project have an effective date of December 15, 2016, no further scientific or technical information has been added to the project since the mineral resources were originally conducted in 2011, but Micon has reviewed the parameters used to determine the estimate as the basis of concluding that the estimate should be deemed current and with an effective date of December 15, 2016 based upon its review for the amended report. Based upon it review of the property, Micon believes that no environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues exist which would adversely affect the mineral resources on the Pitt Gold Property.

#### **14.2 MICON COMMENTS ON RESOURCE ESTIMATE**

Prior to the 2011 site visit, Micon reviewed the polygonal resource estimate and adjusted it for any errors and omissions that were found. Micon reviewed the estimate, as well as the crosssections and longitudinal sections, with Pierre O'Dowd during the site visit. Micon is of the opinion that the preliminary polygonal resource estimate was conducted using the appropriate parameters and that it complies with CIM standards and definitions for mineral reserves and resources.

Micon notes that at the time the 2011 audit of the Brionor mineral resource estimate was conducted and audited gold was trading from between approximately US \$1,320 and \$1,540 per ounce. Therefore, a 3 g/t gold cut-off was deemed suitable for conducting a mineral resource estimate on the Pitt Gold property in 2011.

For this report Micon has reviewed the parameters and prices used to estimate the January, 2011, in light of current gold prices and costs. The gold price of US 1,350/oz gold used in the 2011 estimate could be used in 2016. This statement is based upon the current range of gold prices which have traded between a low of US \$1,212.40/oz in June, 2016 and a high of 1,366.25/oz in July, 2016 with a year to date average of US \$1,257.97/oz as of September 22, 2016. This compares to the gold trading price in 2011 which ranged from a low of US \$1,319/oz in January to a high of US 1,535.50/oz in April.

In addition, due to the down turn in the mining industry between 2011 and 2016 mining costs have generally remained the same or decreased in some cases. However, for the resource



estimates the exchange rate between the US and Canadian dollars was considered to be 1 to 1. At the present time in 2016, mining is about 25% cheaper overall due to the current exchange rate between the US and CDN dollar of approximately US 1 = CDN \$0.76 since all operating costs are factored in Canadian dollars while gold trades in the world market in US dollars. Thus, the 3 g/t gold remains suitable for the resource estimate as the remainder of the economic parameters have not materially changed between 2011 and 2016.

The previous November, 2010, CIM Standards and Definitions were updated in May, 2014.

The May, 2014 CIM Definitions are as follows:

Inferred Resources

An "Inferred Mineral Resource" is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Indicated Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Micon has conducted a though review of the database and parameters for the Pitt Gold Project and based upon its observations elsewhere in this document finds that;

• The drilling program and objectives were discussed at the time of its site visit and based upon the discussions and its own review if the database and core, Micon believes that there is no drilling, sampling or recovery factors which could materially impact the accuracy and reliability of the drilling results obtained by Brionor.



- Micon discussed the sampling processes during and its examination of the core during the site visit and believes that, based on the discussions regarding the sampling method and approach, the procedures used followed the best practice guidelines as published by CIM.
- It is Micon's opinion that the sampling methods and sample lengths were appropriate for the deposit and mineralization encountered during the drilling program. Micon considers that the samples were representative of the geology and mineralization encountered in the drilling program and that the samples were taken in such a manner as to minimize any sampling bias and followed the general accepted best practices and outlined by CIM.
- Micon has reviewed the sample preparation and security and believes that both the sample preparation and the security surrounding them ensured the integrity of the samples according to best practices.
- Micon has reviewed the QA/QC work undertaken and has concluded that it was of acceptable standard for the type of sampling conducted. Micon believes that for the drilling programs sufficient standards and blanks were added to the sample stream for the purposes of checking on the quality of the assay laboratories used. The number of duplicate samples that were conducted by the laboratories were more than sufficient to be able to reproduce the initial sample results and show very little sample bias in the sample data.
- While it is Micon's preference that a secondary laboratory be used in part to check the performance of the primary laboratory. Micon believes that sufficient duplicates were conducted to ensure the repeatability of the assay results by the laboratory for each drilling program.
- Based upon its examination of the QA/QC data collected during the drilling programs from 2005 until 2010 that the data can be used to support a mineral resource estimate for the Pitt Gold Project.
- The sampling conducted by Micon during the site visit indicated that there is general agreement between the assay results obtained by Brionor and Micon for the pulp samples selected by Micon.
- Micon has reviewed the geological model that Brionor constructed for the Pitt Gold and agrees that the gold mineralization is not entirely stratigraphically controlled and that cross-cutting relationships are common. The new model involves a series of enechelon structures/veins of which 3 are relatively well defined by relatively close spaced drilling over hundreds of metres laterally and vertically. The drilling also has identified a number of veins that appear to be either discontinuous and sub-economical in nature which is consistent with the style of mineralization in Brionor's model and it



may be that further drilling will extend these veins or deem them to be anastomosing veins within a larger structure. Most structures have been defined below the 200 m level and more particularly below the 400 m level, but close spaced drilling from surface is technically difficult to achieve due to hole deviation and the costs involved. However, despite the difficulty of drilling through the Porcupine-Dester Fault to reach the mineralization which is situated in the footwall, overall drill spacing averages 40 m for Vein 1, 55 m for Vein 2 and 70 m for Vein 3.

- Micon believes that while there has been no project specific density or metallurgical work done on the Pitt Gold Property. The fact that the Pit Gold Property lies on the Porcupine-Dester Fault, which is a major east-west fault zone within the Abitibi Gold Belt, that is associated with numerous gold deposits and mines (Duquesne mine). Therefore, the geology and metallurgy is so well known in this region that the application of historical densities and metallurgical recoveries from similar types of deposits can be used with sufficient confidence to allow for their use for a resource estimation prior to confirmation through further work and studies. However, due to the introduction of the new 2014 CIM definitions for mineral resources the previous indicated mineral resources were re-classified as inferred resources. Micon recommend that First Mining undertake a program of test work including SG testing of both mineralized and unmineralized core and a series of bottle roll tests on a range of mineralized core samples to establish a preliminary indication of metallurgical recovery.
- Micon believes that the work conducted to date on the Pitt Gold Project based on the exploration drilling, sampling and testing is sufficient to allow for its use in conducting a mineral resource. Micon believes that given further work there could be a reasonable expectation that the inferred resources could be upgraded.

Micon believes First Mining should be able to rely on the mineral resource estimate as stated in Table 14.2.



#### TECHNICAL REPORT SECTIONS NOT REQUIRED

The following sections which form part of the NI 43-101 reporting requirements for advanced projects or properties are not relevant to the current Technical Report:

#### **15.0 MINERAL RESERVE ESTIMATE**

#### **16.0 MINING METHODS**

#### **17.0 RECOVERY METHODS**

#### **18.0 PROJECT INFRASTRUCTURE**

#### **19.0 MARKET STUDIES AND CONTRACTS**

#### 20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

#### 21.0 CAPITAL AND OPERATING COSTS

#### 22.0 ECONOMIC ANALYSIS



#### 23.0 ADJACENT PROPERTIES

The vein system located on the Pitt Gold Property appears to continue onto the adjoining Duquesne West-Ottoman property located directly to the east.

The main difference between the two properties is that Duquesne West-Ottoman exhibits a multi-vein system while only three veins, and possibly a fourth (Veins 1, 2 and 3 and possibly the Main Zone) have been clearly identified on the Pitt Gold Project. However, as indicated by recent drilling, more veins might be defined further to the north.

Mineralization in the Beattie-Donchester area is usually related to disseminated arsenopyrite and altered and brecciated syenitic intrusions along subsidiary structures to the Porcupine-Destor Break. Grades are usually lower than at the Pitt Gold Project but widths are decametric. However, mineralization at Duquesne West-Ottoman appears quite similar to Pitt Gold (high grade, narrow widths).

The Duquesne-West-Ottoman property information was taken from Technical Reports filed by Xmet Inc. in 2010 and 2011. Micon has been unable to verify the information contained in the Technical Reports and the information is therefore not necessarily indicative of the mineralization on the Pitt Gold property that is the subject of this Technical Report.



#### 24.0 OTHER RELEVANT DATA AND INFORMATION

All relevant data and information regarding First Mining's Pitt Gold Project are included in other sections of this report.

Micon is not aware of any other data that would make a material difference to the quality of this Technical Report or make it more understandable, or without which the report would be incomplete or misleading.



### 25.0 INTERPRETATION AND CONCLUSIONS

In April, 2016 First Mining purchased the 24 contiguous mineral claims (Pitt Gold Property) in the Province of Quebec from Brionor. The following material has been extracted in its entirety from Section 19 of the 2011 Technical Report and updated where applicable.

Brionor acquired the Pitt Gold Property along with other properties in Quebec when it acquired them from Normabec at the time Normabec was acquired by First Majestic in November, 2009. Brionor completed its first exploration on the Pitt Gold Property and also used the information acquired from the previous drilling programs to prepare a preliminary mineral resource estimate.

The results obtained during Brionor's 2010 winter drilling program were generally below expectations and below the previous drilling results obtained by Normabec from 2005 to 2009. Previous drill programs on the property had indicated that Zone 2 is the one that can be best traced along strike, as well as up and down dip. However, in 2010, the style of mineralization appeared different to that encountered in earlier drilling programs. Brionor still encountered large halos of low grade mineralization (hundreds of ppb) but these were not related to the narrower high grade intersections encountered deeper in the deposit.

Brionor's 2010 drilling program in the upper portion of the deposit did not confirm the geological model previously proposed by SOQUEM. Brionor believed that the gold mineralization is not entirely stratigraphically controlled and that cross-cutting relationships are common. As a result, Brionor conducted a new interpretation in the spring of 2010 which resulted in a new model being proposed.

The new model involves a series of en-echelon structures/veins of which three are relatively well defined by drilling over hundreds of metres laterally and vertically. There are many more veins, but these are either discontinuous or sub-economical in nature or they have not seen enough definition drilling. While there is some belief that closer spaced drilling would assist in further delineating the veins, most structures have been defined below the 200 m level and more particularly below the 400 m level, and close spaced drilling from surface is technically difficult to achieve due to hole deviation and cost.

In addition to its own new 2010 model, Brionor had Mr. Cliff Duke conduct an independent 3-D interpretation of the geology and mineralization, with the expectation that an alternative interpretation would result, along with potential new targets. However, Mr. Duke basically confirmed that the interpretation made by Brionor was the best possible one at this time.

In January, 2011, Pierre O'Dowd conducted a mineral resource estimate from first principles, using the polygonal method on vertical projections (longitudinal sections) of the veins. A set of cross-sections and longitudinal sections of Veins 1, 2 and 3 were constructed for use in conducting the resource estimate. Polygons were then drawn on the longitudinal sections. The



areas of the individual polygons were measured using computer software and the horizontal thickness was used to obtain the volume of each polygon.

In March, 2016, First Mining Finance Corp. (First Mining) announced that it had entered into an agreement to acquire the Pitt Gold property from Brionor. First Mining completed the purchase in April, 2016 and in May, 2016 First Mining asked Micon to review its previous Pitt Gold Technical Report dated June 10, 2011 (2011 Technical Report), for Brionor and review and update the mineral resource estimate as a result of the transaction.

In June, 2016, Micon undertook a review of the technical data and parameters used for the mineral resource estimate. Based upon its review of the parameters and data the resource estimate remains valid and has an effective date of December 15, 2016. However, due to the introduction of the new 2014 CIM definitions for mineral resources the previous indicated mineral resources were down-graded to inferred resources due to the lack of site specific metallurgical recoveries and densities on Pitt drill hole samples.

Table 25.1 summarizes the parameters used for the polygonal mineral resource estimate.

Description	Parameter	Comments			
Cut-off grade	3 g/t gold	Minimum grade per block for resources.			
Recovery	90%	Based upon recovery in area mines with similar metallurgy			
US Gold Price per ounce	\$1,350/oz				
Minimum block width	1.5 m	Based on minimum underground mining width.			
Dilution grade	0 g/t	Grade used to bring blocks up to minimum width.			
Capping grade	35 g/t				
Specific gravity	2.7	Commonly used SG for quartz veins in vein type deposits.			
Polygonal size	1/2 distance to next drill hole to a maximum of 50 m.				
Core length	Mineralization	Mineralization converted to horizontal true width.			

 Table 25.1

 Parameters Used for Polygonal Pitt Gold Mineral Resource Estimate

Due to the nature of the resource estimate and the drill spacing involved, only indicated and inferred resources were estimated using the following criteria:

• The inferred mineral resources consist of primarily interconnected polygonal blocks which meet the requirements of a minimum width of 1.5 m and a cut-off grade of 3 g/t gold.

Any polygonal block that did not meet the requirements for classification as an indicated or inferred resource block was removed from the resource tabulation.

Table 25.2 summarizes the polygonal mineral resource estimate for the Pitt Gold Property.



Resource Classification	Vein Number	Average Horizontal Width (m)	Tonnage	Gold Grade (g/t)	Gold Ounces
	1	2.34	400,000	5.40	70,000
Inferred	2	2.06	486,000	9.19	143,000
	3	1.63	190,000	7.16	44,000
Total	1 to 3	2.01	1,076,000	7.42	257,000

 Table 25.2

 Summary of the Polygonal Pitt Gold Mineral Resource Estimate

Mineral resources that are not mineral reserves do not have demonstrated economic viability. There are currently no mineral reserves on the Pitt Gold Project or Property. The mineral resource estimate for the Pitt Gold Project has an effective date of December 15, 2016.

Micon believes that no environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues exist which would adversely affect the mineral resources estimated above.

Micon conducted an extensive review of the database, cross-sections and longitudinal sections, as well as the underlying parameters used to estimate the resources. Based on its audit, Micon concluded that the resource estimate was conducted using appropriate techniques and parameters for the type of mineralization located on the Pitt Gold Property.

It is Micon's opinion that the mineral resource estimate was compiled in accordance with the current CIM standards and definitions for resource estimates and that First Mining can use the mineral resource estimate as a basis for further exploration and economic evaluation of the Pitt Gold Property.



#### 26.0 **RECOMMENDATIONS**

As of April 28, 2016, First Mining has completed its purchase of the Pitt Gold property from Brionor. The following material has been extracted and updated from Section 20 of the 2011 Technical Report.

#### 26.1 EXPLORATION PROGRAM

Drilling in the upper portion of the deposit during the 2010 exploration program did not confirm the geological model previously developed by SOQUEM. Therefore, Brionor decided that a new interpretation of the mineralization was necessary and it undertook this process during the spring of 2010. The primary changes in the new model related to the interpretation of the dips of the various geological units, which are now thought to be steeper than previously believed. However, the strikes and dips of the various interpreted gold-bearing structures did not change substantially from the old model and only the geological contacts were significantly remodelled.

To check its new interpretation, Brionor hired Mr. Cliff Duke to construct a 3-D model of the mineralization as a comparison against its sectional hand-drawn interpretation. Mr. Duke's interpretation basically confirmed that Brionor's current interpretation was the best one possible at this time. Brionor was surprised at this outcome, as it had hoped that the exercise would generate an alternative interpretation and potential new targets.

As a result of the 2010 drilling, Brionor conducted a review of the past drilling outside the main mineralized area. This review indicated that the western portion of the Porcupine-Destor Break has only seen shallow drilling and, while no significant intersection was obtained, the drilling below 200 m is sparse. Brionor believes that this area remains an excellent semi-grassroot target that should be further investigated. First Mining agrees with Brionor that this area should be further investigated during a future drilling program.

In addition, the review noted that numerous anomalous to sub-economic gold intersections were obtained in the northern portion of the property. These intervals appear to define a broad east-west striking corridor that has been only sporadically drilled. SOQUEM drilled a few holes to follow up IP anomalies in this area just before Normabec optioned the property. The best intercept is 5.43 g/t gold over 1.2 m but a few larger low grade intercepts were also obtained in holes 1299-01-01 and -02 (0.6 g/t gold over 14.9 m, etc.). This mineralized corridor is located just south of a government interpreted structure, the Lepine Lake Fault. First Mining may drill test this structure as part of a future exploration program.

First Mining's near term objective will be to re-assess previous plans to systematically drill test the western portion of the Porcupine-Destor Break vertically below 200 m, to either define a further gold resource or reach the conclusion that no economic deposit can be found along these potential zones. An initial budget of \$1,000,000 was proposed that would provide for 7,000 m of drilling (approximately 15 holes).



Table 26.1 outlines First Mining's proposed budget based upon a previous preliminary exploration budget. Figure 26.1 indicates the proposed location of the exploration program on the Pitt Gold Property.

Item	Unit	\$/unit	Cost (CDN\$)
Planning	10 days	800	8,000
Drilling			
Drilling contractor	7,000 m	78	546,000
Core boxes	2,000	8	16,000
Deviation tests	150	80	12,000
Mob-demob			10,000
Field geologist	150 days	350	52,500
Assistant	120 days	100	12,000
Core shed	4 months	1,000	4,000
Equipment (including renting)			20,000
Assays	300	25	7,500
Supervision	40 days	800	32,000
Vehicle, gas	120 days	100	12,000
Hotel, meals	120 days	150	18,000
Communication			5,000
Transportation (equip + personnel)			7,000
Surveying	15 days	200	3,000
Permitting			1,000
Site preparation			5,000
Report			
Drafting	12 days	300	3,600
Geologist	20 days	800	16,000
Miscellaneous		10%	79,060
	Total		869,660
	Admin		130,449
	Grand Total		1,000,109

# Table 26.1Proposed Exploration Program Budget

The Pitt Gold Property should be considered as an advanced stage exploration property if First Mining continues to explore the possibility of expanding the existing resource base near the Porcupine-Destor Break, and as a mid-stage exploration property for the purposes of general surface exploration. It is Micon's opinion that First Mining's program of compilation and analysis of the existing data, in addition to its focused exploration program which will follow-up on the known occurrences and anomalies, were both warranted and justified.

Figure 26.1 Location of the Proposed Exploration Drilling Program



Figure taken from the 2011 Technical Report.



Micon has reviewed First Mining's proposal for further exploration on the Pitt Gold Property and recommends that First Mining conducts the exploration program as proposed, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

### **26.2 FURTHER RECOMMENDATIONS**

Through its acquisition of the Pitt Gold Property, First Mining has acquired a property with the potential to yield significant gold mineralization. After auditing the geological model and mineral resource estimate generated by Brionor, Micon finds the methodology to be acceptable for use on the Pitt Gold Project and makes the following recommendations for improvements to be applied to future estimates:

- 1) That First Mining adds field duplicates to its QA/QC program, as opposed to having the assay laboratory conduct the duplicate sampling, in order to provide blind duplicate samples.
- 2) That First Mining adds a secondary assay laboratory to its QA/QC program as a check against the results of its primary laboratory.
- 3) That First Mining reviews the electronic database used to create the 3-D model, makes any appropriate corrections to the database and uses the database and model as the basis for its next resource estimate.
- 4) That First Mining adds to the database the information gathered for any additional mineralized zones on the Pitt Gold Property and models these data for use in the estimation of any additional resources which may be identified on the property



### 27.0 DATE AND SIGNATURE PAGE

#### MICON INTERNATIONAL LIMITED

"William J. Lewis" {signed and sealed on date of report to First Mining}

William J. Lewis, B.Sc., P.Geo. Senior Geologist Effective Date of Resource Estimate: December 15, 2017.

"Alan J. San Martin" {signed and sealed on date of report to First Mining}

Ing. Alan J. San Martin, MAusIMM(CP) Mineral Resource Specialist Effective Date of Resource Estimate: December 15, 2016.



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### **29.0 AUTHORS' CERTIFICATES**



#### CERTIFICATE OF AUTHOR WILLIAM J. LEWIS

As the co-author of this report on the Pitt Gold Project of First Mining Finance Corp., in the Abitibi Region of the Province of Quebec, Canada, I, William J. Lewis do hereby certify that:

- 1) I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail wlewis@micon-international.com;
- 2) I hold the following academic qualifications:

B.Sc. (Geology) University of British Columbia 1985

- 3) I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba (membership # 20480); as well, I am a member in good standing of several other technical associations and societies, including:
  - Association of Professional Engineers and Geoscientists of British Columbia (Membership # 20333).
  - Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (Membership # 1450).
  - Association of Professional Geoscientists of Ontario (Membership # 1522).
  - The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 94758).
  - Ordre des géologues du Québec (Special Authorization # 182 (to conduct the investigations related to the original Technical Report for Brionor Resources Inc.).
- 4) I have worked as a geologist in the minerals industry for 31 years;
- 5) I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 4 years as an exploration geologist looking for gold and base metal deposits, more than 11 years as a mine geologist in underground mines and 5 years as a surficial geologist and 12 years as a consulting geologist on precious and base metals and industrial minerals. During my career I have spent 23 years conducting and overseeing mineral resource and reserve estimates for various types of metal deposits, with 8 years conducting polygonal estimates for mines in Canada and further time spent auditing them in Canada, Mexico and Russia for Micon;
- 6) I visited the property in April, 2011;
- 7) I have not authored any previous Technical Reports or worked on the Pitt Gold Property prior to the original 2011 report for Brionor;
- 8) 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 this report not misleading. I have read the NI 43-101 Instrument and this Technical Report has been prepared in compliance with this Instrument;
- 9) I am independent of Brionor Resources Inc. (the original holder of the Project), Xmet Inc. and First Mining Finance Corp., as defined by NI 43-101, other than providing consulting services
- 10) I am responsible for all sections, with the exception of 12.4 of the Technical Report dated January 5, 2017 entitled "NI 43-101 Technical Report and Review of the Preliminary Mineral Resource Estimate for the Pitt Gold Project, Duparquet Township, Abitibi Region, Quebec, Canada, 32/D/6". The mineral resource has an effective date of December 15, 2016.

Report dated January 5, 2017, with the effective date of the mineral resource estimate as of December 15, 2016.

"William J. Lewis" {signed and sealed on date of report to First Mining}

William J. Lewis, B.Sc., P.Geo. Senior Geologist, Micon International Limited



#### CERTIFICATE OF AUTHOR ALAN J. SAN MARTIN

As one of the authors of this report on the Pitt Gold Project of First Mining Finance Corp., in the Abitibi Region of the Province of Quebec, Canada, I, Alan J. San Martin do hereby certify that:

- 1) I am employed as a Mineral Resource Specialist by Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail <u>asanmartin@micon-international.com;</u>
- 2) I hold the following academic qualifications:

Bachelor Degree in Mining Engineering (equivalent to B.Sc.)National University of Piura, Peru, 1999;

- I am a registered Engineer with the Colegio de Ingenieros del Peru (CIP) Membership # 79184; as well, I am a Chartered Professional Geology member in good standing with the Australasian Institute of Mining and Metallurgy (Membership #301778);
- 4) I have worked as a mining engineer in the minerals industry for 17 years;
- 5) I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 5 years as mining engineer in an exploration project in Peru, 3 years as Resource Modeller and Database analyst in an exploration project in Ecuador, 1 year as Senior Geological Modeller and Database Manager and 8 years as Mineral Resource Modeller in mining consulting. For the purposes of this report, my work on the database review was supervised and approved by William J. Lewis;
- 6) I have not visited the Pitt Gold Property;
- 7) I have not conducted any previous work on the Pitt Gold Property;
- 8) 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 this report not misleading. I have read the NI 43-101 Instrument and this Technical Report has been prepared in compliance with this Instrument;
- 9) I am independent of Brionor Resources Inc. (the original holder of the Project), Xmet Inc. and First Mining Finance Corp., other than providing consulting services;
- 10) I am responsible for Section 12.4 of the Technical Report entitled "NI 43-101 Technical Report and Review of the Preliminary Mineral Resource Estimate for the Pitt Gold Project, Duparquet Township, Abitibi Region, Quebec, Canada, 32/D/6" and dated January 5, 2017. The mineral resource has an effective date of December 15, 2016.

Report dated January 5, 2017, with the effective date of the mineral resource estimate as of December 15, 2016.

"Alan J. San Martin" {signed and sealed on date of report to First Mining}

Ing. Alan J. San Martin, MAusIMM(CP) Mineral Resource Specialist, Micon International Limited


# **APPENDIX 1**

# **GLOSSARY OF TERMS**



### **GLOSSARY AND DEFINED TERMS**

The following is a glossary of certain mining terms that may be used in this Technical Report.

Α	
Adit	A horizontal or nearly horizontal passage driven from the surface for the working of a mine. Also, called a drift.
Ag	Silver.
Amalgamation	The production of an amalgam or alloy of mercury. The process by which mercury is alloyed with some other metal to produce an amalgam. Used at one time for the extraction of gold and silver from pulverized ores.
Assay	A chemical test performed on a sample of ores or minerals to determine the amount of valuable metals contained.
Au	Gold.

## B

Base metal	Any non-precious metal (e.g. copper, lead, zinc, nickel, etc.).
Brionor	Brionor Resources Inc., including, unless the context otherwise requires, the Company's subsidiaries.
Bulk mining	Any large-scale, mechanized method of mining involving many thousands of tonnes of ore being brought to surface per day.
Bulk sample	A large sample of mineralized rock, frequently hundreds of tonnes, selected in such a manner as to be representative of the potential orebody being sampled. The sample is usually used to determine metallurgical characteristics.
Bullion	Precious metal formed into bars or ingots.
By-product	A secondary metal or mineral product recovered in the milling process.

## С

Channel sample	A sample composed of pieces of vein or mineral deposit that have been cut out of a small trench or channel, usually about 10 cm wide and 2 cm deep.
Chip sample	A method of sampling a rock exposure whereby a regular series of small chips of rock is broken off along a line across the face.
CIM Standards	The CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council from time to time.



CIM	The Canadian Institute of Mining, Metallurgy and Petroleum.
Concentrate	A fine, powdery product of the milling process containing a high percentage of valuable metal.
Contact	A geological term used to describe the line or plane along which two different rock formations meet.
Core	The long cylindrical piece of rock, about an inch in diameter, brought to surface by diamond drilling.
Core sample	One or several pieces of whole or split parts of core selected as a sample for analysis or assay.
Cross-cut	A horizontal opening driven from a shaft and (or near) right angles to the strike of a vein or other orebody. The term is also used to signify that a drill hole is crossing the mineralization at or near right angles to it.
Cut-off grade	The lowest grade of mineralized rock that qualifies as ore grade in a given deposit, and is also used as the lowest grade below which the mineralized rock currently cannot be profitably exploited. Cut-off grades vary between deposits depending upon the amenability of ore to gold extraction and upon costs of production.

## D

Dacite	The extrusive (volcanic) equivalent of quartz diorite.
Deposit	An informal term for an accumulation of mineralization or other valuable earth material of any origin.
Development drilli	ing Drilling to establish accurate estimates of mineral resources or reserves usually in an operating mine or advanced project.
Diamond drill	A drilling machine with a rotating, hollow, diamond-studded bit that cuts a circular channel around a core, which can be recovered to provide a more or less continuous and complete columnar sample of the rock penetrated. Also called an adamantine drill, core drill, diamond core drill, or rotary drill
Dilution	Rock that is, by necessity, removed along with the ore in the mining process, subsequently lowering the grade of the ore.
Diorite	An intrusive igneous rock composed chiefly of sodic plagioclase, hornblende, biotite or pyroxene.
Dip	The angle at which a vein, structure or rock bed is inclined from the horizontal as measured at right angles to the strike.
Doré	A semi refined alloy containing sufficient precious metal to make recovery profitable. Crude precious metal bars, ingots or comparable masses produced at a mine which are then sold or shipped to a refinery for further processing.



#### Е Epithermal Hydrothermal mineral deposit formed within one kilometre of the earth's surface, in the temperature range of 50 to 200°C. A mineral deposit consisting of veins and replacement bodies, usually Epithermal deposit in volcanic or sedimentary rocks, containing precious metals or, more rarely, base metals. Exploration Prospecting, sampling, mapping, diamond drilling and other work involved in searching for ore. F Face The end of a drift, cross-cut or stope in which work is taking place. Fault A break in the Earth's crust caused by tectonic forces which have moved the rock on one side with respect to the other. First Mining First Mining Finance Corp., including, unless the context otherwise requires, the Company's subsidiaries. Flotation A milling process in which valuable mineral particles are induced to become attached to bubbles and float as others sink. Fold Any bending or wrinkling of rock strata. Footwall The rock on the underside of a vein or mineralized structure or deposit. Fracture A break in the rock, the opening of which allows mineral-bearing solutions to enter. A "cross-fracture" is a minor break extending at more-or-less right angles to the direction of the principal fractures.

#### G

g/t	Grams per metric tonne.
Galena	Lead sulphide, the most common ore mineral of lead.
gpt	Grams per tonne.
Grade	Term used to indicate the concentration of an economically desirable mineral or element in its host rock as a function of its relative mass. With gold, this term may be expressed as grams per tonne (g/t) or ounces per tonne (opt).
Gram	0.0321507 troy ounces.



## H

Hanging wall	The rock on the upper side of a vein or mineral deposit.
High grade	Rich mineralization or ore. As a verb, it refers to selective mining of the best ore in a deposit.
Host rock	The rock surrounding an ore deposit.
Hydrothermal	Processes associated with heated or superheated water, especially mineralization or alteration.

### I

#### Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve. Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Pre-Feasibility Study which can serve as the basis for major development decisions.

#### Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the



	economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.
Intrusive	A body of igneous rock formed by the consolidation of magma intruded into other
К	
km	Kilometre(s). Equal to 0.62 miles.
L	
Leaching	The separation, selective removal or dissolving-out of soluble constituents from a rock or ore body by the natural actions of percolating solutions.
Level	The horizontal openings on a working horizon in a mine; it is customary to work mines from a shaft, establishing levels at regular intervals, generally at a constant distance apart. A main underground roadway or passage driven along the level course to afford access to the stopes or workings and to provide ventilation and haulage-ways for the removal of ore
Limestone	A bedded, sedimentary deposit consisting chiefly of calcium carbonate.

#### Μ

m	Metre(s). Equal to 3.28 feet.
Marble	A metamorphic rock derived from the recrystallization of limestone under
	intense heat and pressure.

#### Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve. Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the



mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.

- Metallurgy The science and art of separating metals and metallic minerals from their ores by mechanical and chemical processes.
- Metamorphic Affected by physical, chemical, and structural processes imposed by depth in the earth's crust.
- Mill A plant in which ore is treated and metals are recovered or prepared for smelting; also a revolving drum used for the grinding of ores in preparation for treatment.
- Mine An excavation beneath the surface of the ground from which mineral matter of value is extracted.
- Mineral A naturally occurring homogeneous substance having definite physical properties and chemical composition and, if formed under favourable conditions, a definite crystal form.
- Mineral Claim That portion of public mineral lands which a party has staked or marked out in accordance with federal or state mining laws to acquire the right to explore for and exploit the minerals under the surface.
- Mineralization The process or processes by which mineral or minerals are introduced into a rock, resulting in a valuable or potentially valuable deposit.
- Mineral Resource

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals. The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of Modifying Factors. The term mineral resource used in this report is a Canadian mining term as defined in accordance with NI 43-101 - Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM), Standards on Mineral Resource and Mineral Reserves Definitions and guidelines adopted by the CIM Council on December 11, 2005 (the CIM Standards).



## Ν

Net Smelter Return

A payment made by a producer of metals based on the value of the gross metal production from the property, less deduction of certain limited costs including smelting, refining, transportation and insurance costs.

### NI 43-101

National Instrument 43-101 is a national instrument for the Standards of Disclosure for Mineral Projects within Canada. The Instrument is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada. This includes foreign-owned mining entities who trade on stock exchanges overseen by the Canadian Securities Administrators (CSA), even if they only trade on Over the Counter (OTC) derivatives or other instrumented securities.

## 0

Ore	A mineral or mineral aggregate, containing precious or useful metals or metalloids, which occurs in such quantity, grade, and chemical combination as to make extraction commercially profitable.
Outcrop	An exposure of rock or mineral deposit that can be seen on surface that is not covered by soil or water.
Oxidation	A chemical reaction caused by exposure to oxygen that result in a change in the chemical composition of a mineral.
Ounce	A measure of weight in gold and other precious metals, correctly troy ounces, which weigh 31.2 grams as distinct from an imperial ounce which weigh 28.4 grams.
OZ	Ounce
Р	
Plant	A building or group of buildings in which a process or function is carried out; at a mine site it will include warehouses, hoisting equipment, compressors, maintenance shops, offices and the mill or concentrator.
Pyrite	A common, pale-bronze or brass-yellow, mineral composed of iron and

Pyrite A common, pale-bronze or brass-yellow, mineral composed of iron and sulphur. Pyrite has a brilliant metallic luster and has been mistaken for gold. Pyrite is the most wide-spread and abundant of the sulfide minerals and occurs in all kinds of rocks.



# Q

Qualified Person	Conforms to that definition under NI 43-101 for an individual: (a) to be an engineer or geoscientist with at least five years' experience in mineral
	exploration, mine development or operation or mineral project
	assessment, or any combination of these; (b) to have experience relevant
	to the subject matter of the mineral project and the technical report; and
	(c) to be a member in good standing of a professional association that,
	among other things, is self-regulatory, has been given authority by statute,
	admits members based on their qualifications and experience, requires
	compliance with professional standards of competence and ethics and has
	disciplinary powers to suspend or expel a member.

## R

Reclamation	The restoration of a site after mining or exploration activity is completed.
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## S

<ul> <li>Shoot A concentration of mineral values; that part of a vein or zone carrying values of ore grade.</li> <li>Skarn Name for the metamorphic rocks surrounding an igneous intrusive where it comes in contact with a limestone or dolostone formation.</li> <li>Stamp mill An apparatus in which rock is crushed by descending pestles (stamps), operated by water, steam or electrical power. Amalgamation is usually combined with crushing when gold and silver being produced.</li> <li>Stockpile Broken ore heaped on surface, pending treatment or shipment.</li> <li>Stope(s) An excavation from which ore has been excavated in a series of steps. To excavate ore in a vein by driving horizontally upon it in a series of workings one immediately over the other or vice versa.</li> <li>Strike The direction, or bearing from true north, of a vein or rock formation measure on a horizontal surface.</li> <li>Stringer A narrow vein or irregular filament of a mineral or minerals traversing a rock mass.</li> <li>Sulphides A group of minerals which contains sulphur and other metallic elements such as copper and zinc. Gold and silver are usually associated with sulphide enrichment in mineral deposits.</li> </ul>	$\sim$	
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### Т

Tonne	A metric ton	of 1.000 kilograms	(2.205 pounds).
101110		01 1,000 1110 5101110	(=,=00 pommab).



### V

Vein	A fissure, fault or crack in a rock filled by minerals that have travelled
	upwards from some deep source.

### W

Wall rocks	Rock units on either side of an orebody. The hanging wall and foot wall rocks of a mineral deposit or orebody.
Waste	Unmineralized, or sometimes mineralized, rock that is not minable at a profit.
Working(s)	May be a shaft, quarry, level, opencut, open pit, or stope etc. Usually in the plural.

# X

Xmet Xmet Inc., including, unless the context otherwise requires, the Company's subsidiaries.

## Z

Zone An area of distinct mineralization.



## **APPENDIX 2**

## PROCEDURES FOR SAMPLE PREPARATION AND ANALYSES USED BY TECHNI-LAB DURING THE 2007 AND 2008 IN FRENCH



## TECHNI-LAB S.G.B. ABITIBI INC. <u>RÉFÉRENCES ET PROCÉDURES DU DÉPARTEMENT DE GÉOCHIMIE</u>

# RÉCEPTION ET PRÉPARATION DES ÉCHANTILLONS

Voici les différentes étapes de manutention des échantillons avant l'analyse. Des procédures simples sont suivies pour prévenir les erreurs ou la perte d'échantillons. Des instructions sont également données pour éviter la contamination de ceux-ci.

#### Réception et concassage des échantillons

Lorsqu'un lot d'échantillon est reçu, ceux-ci sont classés et comptés. La liste ainsi produite, (feuille de projet) se voit attribuer un numéro d'entrée (# de projet). Cette liste est ensuite comparée à la demande d'analyse fournie par le client. *Toute anomalie (par exemple : échantillon manquant ou surnuméraire, identification douteuse, contamination inter-échantillons) doit être immédiatement signalée au chef d'équipe et au superviseur. Ce dernier contactera le client concerné dans les plus brefs délais, afin de décider avec lui des mesures à prendre pour rectifier la situation.* 

De plus, chaque échantillon doit être accompagné de deux étiquettes d'identification (TAG). La première accompagnera la portion d'échantillon pulvérisée (pulpe) et la seconde avec le reste de l'échantillon concassé (rejet).

- Les échantillons sont classés par ordre de priorité et disposés dans les casseroles par ordre numérique. Une table comprend 4 rangées de 12 casseroles numérotées de 1 à 48.
- Les échantillons humides sont séchés au four durant une heure.
- Les sacs destinés à recevoir les échantillons sont identifiés d'après le numéro de projet et de l'échantillon.
- Les échantillons sont concassés au complet. Le concasseur à mâchoires permet d'obtenir une grosseur de particules assez grossières (maximum 1/8). L'échantillon concassé est par la suite passé plusieurs fois sur un séparateur, afin de limiter la masse à broyer tout en homogénéisant l'échantillon.
- La masse d'échantillon concassé retenue pour la pulvérisation varie de 200 à 300 grammes.

#### Pulvérisation des échantillons

- Un sac de papier est identifié pour recevoir chaque échantillon.
- Les plats et les anneaux sont conditionnés avec la silice avant de commencer la pulvérisation ce qui permet de nettoyer le plat et les anneaux et ainsi, éviter les contaminations entre les échantillons.
- Chaque échantillon est pulvérisé de 2 à 3 minutes de façon à obtenir une pulpe très fine (environ 80 % à 200 mesh).



• L'échantillon peut ensuite être homogénéisé et soumis à la pyro-analyse.

#### Pyro-analyse des échantillons

Selon la nature de l'échantillon, le technicien peut devoir varier les quantités d'additifs.

- Un formulaire de données est rempli et les sacs de pulpes sont numérotés en suivant l'ordre indiqué sur le formulaire.
- Une série de 24 creusets est préparée incluant blanc, duplicata et étalon de référence; ces éléments de contrôle de la qualité seront répartis à intervalle de 7 échantillons.
- Les creusets sont remplis de 115 grammes de fondant #2 avec une cuillère de farine.
- Une portion de masse connue d'échantillon est pesée et ajoutée au fondant et à la farine dans les creusets. La masse d'échantillon pesée est de 15 ou grammes pour les analyses en grammes par tonnes et de 30 grammes pour les analyses en partie par milliard.
- Le mélange de chaque creuset doit ensuite être homogénéisé.
- Une solution de nitrate d'argent, composée de 25 grammes de nitrate d'argent dans 500ml d'eau distillée et déminéralisée, est ajoutée à raison de deux gouttes pour les analyses en parties par milliards (ppb) et cinq gouttes pour les analyses en grammes par tonne (g/t). Le tout est recouvert de borax pour empêcher les éclaboussures durant la fusion.
- Les échantillons sont enfournés pour la fusion, par série de vingt-quatre. La fusion dure quarante-cinq minutes à une température de 1093°C.
- Ensuite, les échantillons liquéfiés sont versés dans des lingotières et refroidis à l'air. Ils sont recouverts pour éviter les éclaboussures de scories.
- Le refroidissement terminé, il faut marteler les culots obtenus pour en séparer la scorie et en faire un cube grossier qui pourra être envoyé en coupellation.
- Les coupelles d'os de moutons sont préchauffées durant dix minutes avant d'introduire les culots de forme cubique. La coupellation dure environ une heure à température de 954°C.
- Lorsque la coupellation est terminée, les billes d'or et d'argent obtenues sont refroidies. Elles peuvent enfin être analysées par spectroscopie d'absorption atomique ou gravimétrie.

## LES ANALYSES

La pyro-analyse sert à extraire l'or de la gangue séchée et pulvérisée. Suite au processus, l'or se présente alors sous forme d'une bille d'or et d'argent. Cette bille peut être attaquée pour être analysée gravimétriquement ou par spectroscopie par absorption atomique.

La concentration de l'or peut être exprimée en grammes par tonnes métriques (g/t), en onces par tonnes métriques (oz/t) ou en parties par milliards (ppb). Les masses d'échantillons utilisées pour les analyses en grammes par tonne sont habituellement de 15 grammes et pour les analyses en ppb, elles sont



habituellement de 30 grammes. L'unité de masse arbitrairement utilisée dans l'industrie minière est «Assay/ton» qui équivaut à 30 grammes. Un demi «Assay/ton» équivaut à 15 grammes.

Les métaux peuvent être analysés directement par dissolution de la gangue séchée et pulvérisée. La masse d'échantillon normalement utilisée pour déterminer les métaux est approximativement de deux grammes quelquefois de un gramme et de un demi gramme pour les standards. La concentration des métaux est exprimée en parties par millions (ppm) ou en pourcentage (%).

## LA PYRO-ANALYSE

La pyro-analyse sert à extraire l'or de la matrice rocheuse, pour pouvoir en déterminer la concentration. La méthode se résume à fusionner du minerai avec de l'oxyde de plomb et des agents réducteurs. Un alliage de plomb, contenant de l'or et de l'argent coule alors dans le fond de l'échantillon du creuset, la scorie vitreuse étant moins dense que le plomb. Le culot de plomb refroidi ainsi obtenu est dégagé de la scorie solidifiée et fusionnée dans une coupelle, qui absorbera le plomb en laissant une bille d'or et d'argent.

#### Description de la fusion en creuset

Les mélanges d'échantillons et de réactifs sont contenus dans des creusets fait d'argile réfractaire. La fusion s'effectue dans un four à moufle ou dans un four d'essai. La chambre de fusion est constituée de briques réfractaires et d'une plaque d'enfournement en carbure de silicium. Ce réceptacle est ventilé par l'arrière et chauffé par des éléments de carbure de silicium, installés sous la plaque d'enfournement.

On traite une quantité connue de minerais, habituellement 15 ou 30 grammes, avec de la litharge et les autres réactifs nécessaires dans un creuset en argile réfractaire. Les réactifs sont choisis selon la nature de la matrice du minerai. Ils peuvent être sulfureux, acides, basiques, neutres ou contenir des oxydes. Il est donc nécessaire de bien connaître la nature de la matrice du minerai. Lors de la fusion, la litharge est réduite en plomb. L'or et l'argent sont alors absorbés par les gouttelettes de plomb fondu qui migrent vers le fond du creuset.

La fusion s'effectue à 1050°C. Au commencement, il y a réduction de la litharge, un début de réaction du nitrate de potassium ainsi que la réduction partielle des oxydes. Le mélange, qui a été placé dans le creuset et bien brassé, commence à fondre.

Ensuite, arrivent les réactions plus violentes. La farine, les sulfures et les autres réducteurs réduisent la litharge, les tellurures d'or et les sulfures d'argent en libérant les métaux qui sont entraînés vers le fond du creuset. Le carbonate de sodium et le borax réagissent pour produire la scorie dans laquelle les autres oxydes et l'alumine se dissolvent. Il y alors un violent dégagement de gaz contenant notamment du  $CO_2$ , CO,  $SO_2$  et  $N_2$ .

Finalement, les réactions se terminent et la scorie se liquéfie davantage. Les petites gouttelettes de plomb peuvent migrer au fond du creuset en entraînant avec elles l'or et l'argent.

Le temps nécessaire à la fusion est de 40 à 55 minutes, pendant lesquelles la porte du four est fermée. La température doit être soigneusement maintenue puisque, si elle est trop haute, il y a danger de volatilisation des composés d'or et d'argent. Par contre, si la température est trop basse, le culot de plomb est trop petit, ce qui fait que l'or et l'argent n'auront pas été complètement collectés. Après la fusion, les creusets sont vidés dans des lingotières. Après refroidissement, la scorie est brisée et le culot



de plomb est récupéré en le martelant pour éliminer les traces de scorie. Le culot peut enfin être envoyé en coupellation.

#### La coupellation

L'or et l'argent sont séparés du plomb dans une coupelle à base de phosphate de calcium, obtenu par la calcination d'os de mouton. Lorsque le culot de plomb est placé dans la coupelle, il est chauffé dans un four à moufle avec la porte initialement fermée. Lorsque la porte est ouverte, la litharge se reforme à partir du plomb, par oxydation. La température du four doit demeurer autour de 880°C. La litharge qui se forme, ne doit pas faire une croûte sur la surface de la coupelle, mais elle doit imbiber ses pores en restant fluide. Une croûte se forme lorsque la coupelle a été placée dans le four à une température trop basse.

Il faut donc préchauffer le four à 900°C durant 10 minutes avant l'introduction de la coupelle, pour éviter ce problème. Lorsque la fusion de la litharge s'effectue, et que celle-ci disparaît dans les pores de la coupelle, il faut descendre la température du four à 780°C, puisque l'oxydation du plomb est très exothermique, et que cela pourrait provoquer la volatilisation de l'or. La litharge semble donc disparaître dans la coupelle jusqu'à ce qu'il ne reste, au fond de la coupelle, qu'une petite bille métallique composée d'or et d'argent. Le temps de coupellation ne doit pas dépasser le point d'étincelle. C'est-à-dire, le point où la bille prend un aspect étincelant, car la bille d'or a tendance à se volatiliser quand il n'y a plus de plomb. Du bismuth peut laisser sur la coupelle un anneau d'apparence caractéristique. Du cuivre, bien que facilement oxydable, peut également se retrouver dans la bille.

## ANALYSE DE L'OR PAR LA MÉTHODE GRAVIMÉTRIQUE

La gravimétrie consiste à déterminer la quantité d'or par des pesées successives après avoir obtenu la bille d'or et d'argent par la pyro-analyse (fire assay), puis en ayant séparé ses constituants par attaque à l'acide nitrique.

La séparation de l'or et de l'argent est effectuée par attaque à l'acide nitrique, qui transforme l'argent en nitrate d'argent soluble, mais qui reste inactif sur l'or. L'or forme alors un agglomérat qui peut être lavé et pesé. La séparation est bonne quand l'alliage contient au moins deux fois plus d'argent que d'or. Empiriquement, la meilleure concentration d'acide nitrique pour cette attaque a été déterminée comme étant une dilution par cinq. Plus concentré, la réaction serait trop violente et l'or serait pulvérisé, ce qui rendrait sa pesée difficile.

La séparation est effectuée dans des creusets de porcelaine, avec quelques millilitres d'acide. Après 20 minutes de réaction, la solution acide est décantée dans une casserole blanche pour éviter toute perte d'or. L'acide est éliminé et l'or est lavé trois fois avec de l'eau sans chlore. Après le chauffage et le refroidissement, l'or est pesé sur une balance de précision au cinq millièmes de milligrammes. La masse de l'or est alors déduite directement, et celle de l'argent, par la différence de masse avant et après l'attaque.

Il est à noter qu'à cause de l'effet de pépite, il y a normalement de fortes variations entre les résultats de plusieurs analyses sur le même échantillon.

#### Procédure expérimentale :



- 1. Après la pyro-analyse, il faut ramasser les billes dans les creusets et les aplatir délicatement avec un marteau.
- 2. Faire une digestion avec un volume de 5 ml d'acide nitrique à 20 % et chauffer sur une plaque pendant 30 minutes.
- 3. Aspirer la partie liquide, dans laquelle se trouve le nitrate d'argent, dans le creuset.
- 4. Rincer trois fois avec une solution d'ammoniaque dans de l'eau distillée et déminéralisée, dans un rapport un pour neuf.
- 5. Remettre sur la plaque chauffante pour sécher la bille d'or.
- 6. Passer la bille d'or à la flamme pour en réduire les oxydes.
- 7. Procéder à la pesée.

#### Calibration de la balance gravimétrique :

- 1. Lever les plateaux et enlever les disques métalliques des plateaux.
- 2. Baisser les plateaux et appuyer sur la touche «autotarer». Il y aura apparition de 4 chiffres après le point. L'appareil se tare automatiquement en affichant 0,000. Les chiffres disparaissent automatiquement et l'échelle de pesanteur change à 200 mg.
- 3. Lever les plateaux et mettre le poids de 100 milligrammes sur le plateau se situant à l'avant de la balance gravimétrique.
- 4. Sur le clavier de la balance, il faut inscrire le chiffre 100,00 mg et peser sur la touche «calibration».
- 5. Baisser les plateaux et attendre que le 100,00 mg disparaisse de l'écran digital.
- 6. Remonter les plateaux et enlever le poids de 100,00 mg et remettre les disques métalliques sur les plateaux. Automatiquement, l'échelle de pesanteur se fixe à 200 mg et le nombre de chiffres après le point est de trois (0,000 mg).
- 7. Peser sur la touche «autotarer» et peser les billes d'or.

#### Calcul en ppm ou g/t

Concentration en oz/t :

Pesée de la bille (par gravimétrie) en mg X 29,167 Masse de l'échantillon utilisé pour la fusion en g

Exemple :

 $\frac{0,042 \text{ mg X } 29,167}{15 \text{g}} = 0,082 \text{ oz/t}$ 



Calcul en ppm ou g/t

Concentration en ppm :

<u>Pesée de la bille (par gravimétrie) en mg X 1000</u> Masse de l'échantillon utilisé pour la fusion en g

Exemple :

0.042 mg X 1000 = 2.8 ppm15g

## ANALYSE DE L'OR PAR SPECTROSCOPIE AA

Suite à l'obtention de la bille par pyro-analyse, celle-ci est dissoute dans de l'acide nitrique et chlorhydrique. La détermination de la concentration en or est ensuite obtenue par lecture sur spectroscopie d'absorption atomique.

#### Teneur en ppb

- 1. La bille d'or et d'argent est introduite dans un tube de 5 ml.
- 2. 0,5 millilitre d'acide nitrique 50 % est ajouté. Le tout est chauffé dans un bain marie durant 30 minutes.
- 3. 1 millilitre d'acide chlorhydrique concentré est ajouté. Le tout est chauffé de nouveau dans un bain marie durant 15 minutes.
- 4. Finalement, le volume est complété à 5 ml avec de l'eau du robinet, qui contient naturellement du calcium et du sodium. L'échantillon est mélangé, puis analysé par spectroscopie en absorption atomique sur flamme.

Note : La limite de détection de la méthode donne 5 ppb.

Calcul en ppb

Concentration en ppb :

Absorbance X volume utilisé en ml X 1000 Masse de l'analyse en g

Exemple :

 $\frac{0.5 \text{ X 5 ml X 1000}}{30 \text{g}} = 83 \text{ ppb}$ 



#### Teneur en g/t

- 1. La bille d'or et d'argent est introduite dans un tube de 10 ml.
- 2. Un millilitre d'acide nitrique à 50 % est ajouté. Le tout est chauffé dans un bain marie durant 30 minutes.
- 3. 2 ml d'acide chlorhydrique concentré sont ajoutés. Le tout est à nouveau chauffé dans un bain marie durant 15 minutes.
- 4. Le volume est finalement complété à 10 ml avec de l'eau du robinet, qui contient naturellement du calcium et du sodium. L'échantillon est finalement mélangé, puis analysé par spectroscopie en absorption atomique sur flamme.

Note : La limite de détection de la méthode donne 0,06 g/t.

Calcul en g/t

Concentration en g/t :

Valeur de l'absorbance X volume utilisé en ml Masse de l'échantillon en g

Exemple :

 $\frac{1.0 \text{ X 10 ml}}{15 \text{g}} = 0.66 \text{ g/t}$ 

Teneurs en oz/t

La procédure expérimentale est la même que celle utilisée pour la teneur en g/t. Le même calcul s'applique avec un facteur de conversion.

1 g/t = 0,0292 oz/t

L'exemple précédent donnera en oz/t : 0,66 g/t X 0,0292 = 0,019 oz/t

Note : La limite de détection de la méthode donne 0,002 oz/t.

# LE CONTRÔLE DE LA QUALITÉ

L'or et les métaux sont analysés par série de 21 échantillons, accompagnés par un blanc dans son premier tiers, un double dans le second tiers et un standard dans le troisième tiers. La position de chacun est incrémentée d'une position, d'une série à l'autre et revient au début après la huitième série.

Le blanc sert à déceler une contamination. Le double sert à vérifier la reproductibilité de la méthode.

Le standard est un échantillon de concentration connue.



Il y a trois types de standards utilisés pour l'or :

- Le standard en parties par milliards (Rocklab)
- Le standard en grammes par tonnes métrique (Rocklab)
- Un standard certifié CANMET pour les vérifications périodiques.

Il y a trois types de standards utilisés pour les métaux :

- Le standard maison pour les métaux.
- Le standard concentré, étalonné chez Techni-Lab.
- Le standard certifié CANMET pour les métaux.

La vérification des standards se fait à tous les mois pour l'or et les métaux sur une série de vingt-quatre

échantillons. La série pour l'or comprend sept standards maison en g/t, sept standards maison en ppb,

sept standards certifiés et trois blancs intercalés dans la série. La série pour les métaux comprend onze

standards maison, onze standards certifiés et deux blancs intercalés dans la série.

Le calcul de chaque standard est calculé en faisant la moyenne des valeurs obtenues après avoir enlevé le plus grand et le plus petit des résultats. Le taux de récupération du standard certifié doit être supérieur à 90 %. Dans le cas contraire, une révision du standard ou de l'appareil peut être nécessaire afin de retrouver un taux de récupération acceptable.

La mesure est prise sur un spectrophotomètre AA à ionisation par flamme. Les solutions standard cidessous sont utilisées pour produire une courbe de calibration.

Élément	<b>Concentrations (ppm)</b>
Or	1 3 5 10 20 50 100
Argent	0,2 0,4 1,0 2,0 4,0
Cuivre	5 10 20 50 100
Zinc	5 10 20 50 100
Fer	5 10 20 50 100
Plomb	5 10 20 50 100

**Tableau 1** : Solutions standard.

La courbe de calibration doit avoir un coefficient de corrélation au moins égal à 0,995. Dans le cas contraire, un remplacement des solutions standard utilisées ou une révision de l'appareil peut être effectuée.

L'écart acceptable des standards et duplicata est fonction de la méthode utilisée, ainsi que de la valeur mesurée. Un écart plus grand sera toléré sur une faible valeur, et sera refusé sur une valeur élevée. Par exemple, un standard d'or ayant une valeur théorique de 70 ppb aura un intervalle acceptable de  $\pm 25\%$ , alors qu'un standard de 1000 ppb devra se lire  $1000 \pm 10\%$ .

Les séries d'échantillons qui n'auront pas rencontré ces normes seront réanalysés et une vérification des procédures sera effectuée.



La vaisselle utilisée est lavée à l'acide chlorhydrique quatre molaires, puis rincée à l'eau distillée et déminéralisée avant chaque analyse.

127, boul. Industriel, Rouyn-Noranda, Qc J9X 6P2 Tél : (819) 762-7100 Fax : (819) 762-7510

Laboratoire Expert

## PRÉPARATION DES ÉCHANTILLONS

### 1- Réception des échantillons

Lors de la réception, les échantillons sont placés en ordre numérique pour ensuite être comparé avec la feuille d'envoi du client afin de s'assurer que tout concorde. Si les échantillons reçus ne correspondent pas à la liste du client, celui-ci en sera informé. Si le client n'inclut aucune feuille d'envoi, la personne en charge de la réception des échantillons en préparera une.

### 2- Préparation des échantillons

L'échantillon est séché si nécessaire pour être ensuite réduit à <sup>1</sup>/<sub>4</sub> de pouce dans un concasseur à mâchoire. Le concasseur est nettoyé entre chaque échantillon à l'aide d'un compresseur à air et de plus, il est nettoyé avec du matériel stérile entre chaque lot. L'échantillon est ensuite concassé à 90% - 10 mailles dans un concasseur à rouleaux. Ce même concasseur est nettoyé entre chaque échantillon à l'aide d'un compresseur à air et d'une brosse métallique et de plus, il est nettoyé avec du matériel stérile entre chaque lot. Le premier échantillon de chaque lot est tamisé à 10 mailles afin de déterminer si 90% passe à 10 mailles. En cas contraire, le concasseur à rouleaux est ajusté et un autre test est effectué. Les résultats de ces tests sont notés sur un registre prévu à cette fin. Une portion de 300 grammes est ensuite séparée dans un séparateur Jones et cette portion est pulvérisée à 90% - 200 mailles dans un pulvérisateur à anneaux Le pulvérisateur est nettoyé entre chaque lot. Le premier échantillon de chaque lot est tamisé à 200 mailles. Si 90% ne passe pas, le temps de pulvérisation est alors augmenté et un autre test est effectué. Les résultats de ces test sont notés sur un registre prévu à cette fin. Le prese pas, le temps de pulvérisation est alors augmenté et un autre test est effectué. Les résultats de ces test sont notés sur un registre prévu à cette fin. Le matériel en surplus (le rejet) est entreposé pour le client.

### OR PAR GÉOCHIMIE (PYROANALYSE)

Un échantillon de 29.166 grammes est pesé et versé dans un creuset dans lequel on a, au préalablement, déposé environ 130 grammes de fondant. L'échantillon est ensuite mélangé et 1 mg de nitrate d'argent y est ajouté. L'échantillon est alors mis en fusion à 1800 ° Fahrenheit pour environ 45 minutes. Celui-ci est versé dans un moule conique et on le laisse refroidir. Après refroidissement, la scorie est cassée et un bouton de plomb pesant de 25 à 30 grammes est récupéré. Ce bouton est alors coupellé à 1600 ° Fahrenheit et ce, jusqu'à ce que le plomb soit oxydé. Après refroidissement, la bille est placée dans une éprouvette de 12 X 75 mm. Une portion de 0.2 ml d'acide nitrique 1 :1 est ajoutée pour permettre une réaction. L'éprouvette est déposée dans un bain d'eau pour environ 30 minutes. Ensuite, 0.3 ml acide hydrochlorique



concentré est ajouté pour permettre une seconde réaction, toujours dans un bain d'eau pour un autre 30 minutes. L'éprouvette est ensuite retirée du bain d'eau et 4.5 ml d'eau distillée y est ajoutée. L'échantillon est alors mélangé vigoureusement pour ensuite le laisser reposer et la concentration d'or est déterminée par absorption atomique.

Chaque lot allant au four comprend 28 échantillons incluant un blanc et un standard pour l'or. Les creusets ne sont réutilisés tant et aussi longtemps que nous n'avons pas eu les résultats d'analyse. Les creusets ayant contenus des échantillons ayant une valeur supérieure à 200 PPB sont jetés. La limite de détection minimale est de 2 PPB et les échantillons ayant des valeurs supérieures à 1000 PPB sont réanalysés par gravimétrie.

### OR PAR GRAVIMÉTRIE (PYROANALYSE)

Un échantillon de 29.166 grammes est pesé et versé dans un creuset dans lequel on a, au préalablement, déposé environ 130 grammes de fondant. L'échantillon est ensuite mélangé et 1 mg de nitrate d'argent y est ajouté. L'échantillon est alors mis en fusion à 1800 ° Fahrenheit pour environ 45 minutes. Celui-ci est versé dans un moule conique et on le laisse refroidir. Après refroidissement, la scorie est cassée et un bouton de plomb pesant de 25 à 30 grammes est récupéré. Ce bouton est alors coupellé à 1600 ° Fahrenheit et ce, jusqu'à ce que le plomb soit oxydé. Après refroidissement, la bille est aplatie à l'aide d'un marteau pour ensuite être déposée dans un creuset en porcelaine (parting cup). Ce creuset est rempli avec de l'acide nitrique 1 :7 et chauffé jusqu'à dissolution de l'argent. Quand la réaction semble terminée, une goutte d'acide nitrique concentrée est ajoutée et l'échantillon est observé afin de d'assurer qu'il n'y ait aucune autre réaction. La bille d'or est alors rincée plusieurs fois dans de l'eau chaude distillée, séchée, réchauffée, refroidie et ensuite pesée.

Chaque lot allant au four comprend 28 échantillons incluant un blanc et un standard pour l'or. Les creusets ne sont réutilisés tant et aussi longtemps que nous n'avons pas eu les résultats d'analyse. Les creusets ayant contenus des échantillons ayant une valeur supérieure à 3.00 g/t sont jetés. La limite de détection minimale est de 0.03 g/t et il n'y a aucune limite de détection maximale. Tous les échantillons ayant des valeurs supérieures à 3.00 g/t sont réanalysés avant de soumettre le rapport final.



# **APPENDIX 3**

# TSL ASSAY CERTIFICATES





HZ-3 (1.0 g)

#2 - 302 48<sup>th</sup> Street · Saskatoon, SK · S7K 6A4 P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

#### CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Micon International Ltd. Suite 900 - 390 Bay Street Toronto, ON M5H 2Y2

REPORT No. S43043

INVOICE #:63080 SAMPLE(S) OF 7 Reject/0 Pulp P.O.: B. Lewis Project: 1128 Au File Ag ppb Name ppm62163 670 8.6 S43043 62164 970 0.8 S43043 62165 10 S43043 <0.2 62166 35 <0.2 S43043 62167 <5 0.3 S43043 62168 80 <0.2 S43043 62169 <5 <0.2 S43043 GS-3G S43043

26.1

S43043

COPIES TO: INVOICE TO:	B. Lewis Micon International	Ltd.			
May 17/11			SIGNED_	enul	
				Mark Acres - Quality Assurance	
				Page 1 of 1	





2 - 302 48th Street • Saskatoon, SK • S7K 6A4 P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company: Geologist: Project: Purchase Order:	Micon B. Lew 1128	International Ltd. /is	TSL Report: Date Received Date Reported Invoice:	d: d:	S43043 May 10, 2011 May 20, 2011 63080
Sample Type: Reject	Number 7	Size Fraction Reject ~ 70% at $-10$ me	esh (1.70 mm)	San Crus	nple Preparation sh, Riffle Split, Pulverize
Pulp	0	Puip ~ 95% at -150 ft	iesh (106 µm)	Non	e

#### ICP-AES Aqua Regia Digestion HCI-HNO<sub>3</sub>

The Aqua Regia Leach digestion liberates most of the metals except those marked with an asterisk where the digestion will not be complete.

Element Name	Lower Detection Limit	Element Name	Lower Detection Limit
Ag Al *	0.3 ppm 0.01%	Mo Na *	1 ppm 0.01%
As	2 ppm	Ni	1 ppm
Ba *	1 ppm	P *	0.001%
Be *	1 ppm	Pb	3 ppm
Bi	3 ppm	S	0.05 %
Ca *	0.01%	Sb	3 ppm
Cd	0.5 ppm	Sn *	5 ppm
Co	1 ppm	Sr *	1 ppm
Cr*	1 ppm	Ti *	0.01%
Cu	1 ppm	V *	1 ppm
Fe *	0.01%	W *	2 ppm
K *	0.01%	Y	1 ppm
Mg *	0.01%	Zn	1 ppm
Mn *	2 ppm	Zr *	1 ppm

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Company: Geologist: Project:

Micon International Ltd. B. Lewis 1128

TSL Report: Date Received: Date Reported: Invoice: S43043 May 10, 2011 May 17, 2011 63080

Remarks:

Sample Type: Reject	Number 7	Size Fraction Reject ~ 70% -10 mesh (1.70 mm) Pulp ~ 95% -150 mesh (106 um)	Sample Preparation Crush, Riffle Split, Pulverize
Pulp	0	( k)	None

Pulp Size: ~250 grams

Standard Procedure:

Samples for Au Fire Assay/AA (ppb) are weighed at 30 grams. Samples for Ag, Cu, Pb, Zn (ppm) are weighed at 1 gram.

Element Name	Unit	Extraction Technique	Lower Detection Limit	Upper Detection Limit
Au	ppb	Fire Assay/AA	5	3000
Ag	ppm	HCI-HNO <sub>3</sub> /AA	0.2	50

Test reports may be reproduced, in their entirety, without our consent. Liability is limited to the analytical cost for analyses.



S43043 4ay 20, 2011	Zn Zr	643 ppm 643 643 643 668 4 662 3 4 622 2 2	24 0 24 0 24 25 25 25 25 25 25 25 25 25 25 25 25 25	
4	Y	ω ω τ 4 ά	<u>, vovo</u> <u>č</u>	ssuran
	N N	14 88888	4 44444	uality A
rt No:		90 73 73	201 207 207 207	Ğ s
Repo Date:	N	8 8 8 7 8 8 8 8 7	*****	ark Act
	hT maa	00000	04110	\ <sup> </sup>
	Sn	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	မှ မ	¥.
	Sb	80000	00400	he
	Pb S mpm	41 2.30 38 2.13 38 2.13 38 2.13 38 2.13 38 2.23 3 0.28	<ul> <li>&lt;3 0.37</li> <li>&lt;3 0.24</li> <li>&lt;3 0.24</li> <li>174 0.17</li> <li>&lt;17</li> <li>&lt;0.05</li> <li>&lt;3 &lt; 0.05</li> </ul>	1
A4	Ч%	0.006 0.014 0.005 0.057 0.133	0.049 0.067 0.080 0.033 0.001	igned:
S7K 6	N Md	42 399 66 280 13	14 91 233 71 <	Ø
VC. wan, 2-4717 SIS	Na %	60.01 60.01 0.02 0.02	0.02 0.08 0.01	
ES IN katche 6) 242 NALM	Mo	220 3 220	2~5-2	
ORII n, Sasl x: (30 CP Al	Mn ppm	1075 809 232 448 475	273 423 600 924 <2	-
<b>RAT</b> katooi 3 Fa INT Io	gM Mg	2.07 7.64 5.96 8.62 1.14	0.59 0.60 0.13 0.13	م بر ا
<b>BOI</b> st, Sas 1-103 LEMH	Х%	0.08 0.01 0.01 0.09	0.16 0.12 0.41 0.07 <0.01	De de
L LA eet Ea 06) 93 At	Fe %	3.12 6.22 5.80 0.54	1.09 3.43 2.45 14.87 <0.01	
TS 8th Str Tel: (3 MUI	Dpm CU	734 647 3 16 4	3 75 110 489 <2	
302 4	ppm Cr	81 726 18 352 352	46 78 113 683 <1	
- 2	ppm Co	21 69 66 2	7 26 8 92 <1	
	bpm D	12 40.5 40.5 40.5	0.5 0.5 0.5 0.5	
	°a %	5.42 4.55 8.52 1.17 26.94	1.58 1.66 0.67 0.44 <0.01	g Ó
	Bi ppm	10 20 20 20 20 20 20 20 20 20 20 20 20 20	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	D.I. H2
	Be	$\nabla \ \nabla \ \nabla \ \nabla \ \nabla$	<u>7</u> 2 0 7 7	3:1 HC
	Ba	5 5 104 175 31	132 24 290 290 165 <1	6 ta 3 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
td.	As ppm	39 451 33 38 38 <2	25 8 3 25 8 3	sted with
nal L	AI %	0.60 3.72 0.02 4.61 0.21	0.24 1.59 0.85 3.21 <0.01	s dige.
<b>iatio</b> wis	Ag	6.1 0.5 0.3 0.3 0.3	60.3 60.3 60.3 60.3	ample i
Micon Interr Attention: B. Ler Project: 1128 Sample: 7 Reject	Sample Number	62163 62164 62165 62166 62166 62167	62168 62169 8210 DS8 STD OREAS45CA BLK	A 0.5 g s: at 95C fo



## **APPENDIX 4**

# DETAILED RESOURCE BLOCK ESTIMATIONS



### Inferred Category Summarization of the Polygonal Resource Blocks for the Individual Veins

Vein Number	Diamond Drill Hole	Gold Intersection (g/t)	Core Width (m)	Area (m <sup>2</sup> )	Horizontal. Width (m)	Tonnes (t)	Diluted Gold Grade (g/t Au/1.5 m)	Total Grams (g)	То
V-1	81-02	4.16	1.74	5,493.50	1.74	25,808	4.16	107,363	
V-1	88-04	4.39	2.71	4,403.52	2.00	23,779	4.39	104,390	
V-1	DQ97-78	3.60	1.65	6,598.18	1.53	27,337	3.60	98,414	
V-1	DQ95-28	3.60	2.80	2,273.70	2.80	17,189	3.60	61,881	
V-1	DQ96-43	3.76	3.85	4,223.17	3.40	38,769	3.76	145,770	
V-1	DQ96-47	13.07	1.11	3,077.00	1.50	12,462	7.35	91,602	
V-1	DQ97-76	6.69	1.00	6,612.11	1.50	26,779	4.01	107,491	
V-1	PG2005-03	6.06	1.50	2,672.40	1.50	10,823	6.06	65,589	
V-1	PG2005-04	5.78	1.50	1,906.50	1.50	7,721	5.78	44,629	
V-1	PG2005-05	3.55	1.60	3,021.38	1.49	12,139	3.55	43,092	
V-1	PG2005-08	5.82	1.00	4,241.66	1.50	17,179	3.84	65,987	
V-1	PG2005-11	8.56	2.95	2,461.42	2.00	13,292	8.56	113,776	
V-1	PG2005-12	5.65	1.50	1,072.19	1.50	4,342	5.65	24,534	-
V-1	PG2006-01A	5.65	2.65	1,066.75	2.00	5,760	5.65	32,547	
V-1	PG2006-01B	3.80	2.10	2,181.42	2.00	11,780	3.80	44,763	
V-1	PG2006-01C	5.41	5.30	6/8.65	4.00	7,329	5.41	39,652	
V-1	PG2007-01	/.4/	0.90	1,132.49	1.50	4,58/	4.12	18,913	
V-1 V-1	PG2007-07	8.72	5.00	2,907.95	4.00	32,054	8.72	279,509	-
V-1 V-1	PG2008-01	3.33	5.00	2,446.37	2.50	10,513	5.55	58,291	
V-1	PG2008-04	9.02	1.00	2,820.59	1.50	11,423	5.41	61,823	
V-1 V-1	PG2008-05	6.56	3.00	3,053.40	3.00	24,/33	6.56	162,245	
V-1	PG2008-09	8.09	11.00	2,341.94	7.00	48,045	8.09	388,003	
V-1	Total				2.24	399,841	5.40	2,100,927	
V 2	DO05 22	12.07	6.25	5 796 29	2.34	79 116	12.07	1 020 078	
V-2 V 2	DQ93-32	3.06	2.00	5,760.36	3.00	76,110	3.06	1,020,978	
V-2 V 2	DQ97-77	2.88	2.09	7 853 08	2.00	52 522	2.88	145,774	
V-2 V-2	PG2005-01	2.00	2.30	5 664 46	2.46	22,922	4.03	02.453	
V-2 V-2	PG2007-06	11.30	2.00	4 460 91	1.50	18.067	11 30	204 154	
V-2 V-2	D095-28	3.91	1.50	2 820 18	1.50	11,422	3.91	44 659	
V-2 V-2	DQ95-20	14 58	2.03	2,546,57	2.00	13 751	14 58	200 497	
V-2	D095-37	13.02	2.52	2,214,06	2.00	11,956	13.02	155.666	
V-2	D096-49	4 50	3 79	4 558 85	3.00	36.927	4 50	166 170	
V-2	PG2005-08	7.86	1.40	4.367.90	1.50	17.690	5.58	98.628	
V-2	PG2005-09	16.95	4.60	3.216.06	3.00	26.050	16.95	441,549	
V-2	PG2005-11	14.82	1.45	2,502.65	1.50	10.136	10.03	101.643	
V-2	PG2007-01	5.97	3.00	1,973.69	2.00	10,658	5.97	63,628	
V-2	PG2007-03	16.76	1.90	1,855.94	1.50	7,517	16.76	125,977	
V-2	PG2007-04	9.12	1.95	1,223.40	1.50	4,955	9.12	45,188	
V-2	PG2008-01	11.11	1.80	1,881.36	1.50	7,619	11.11	84,653	
V-2	PG2008-04	7.29	2.00	3,607.33	1.50	14,610	7.29	106,505	
V-2	PG2008-05	20.87	2.00	3,393.60	1.50	13,744	20.87	286,839	
V-2	PG2008-07	28.26	1.00	2,182.58	1.50	8,839	18.75	165,702	
V-2	PG2008-09	11.05	2.00	2,765.60	1.50	11,201	11.05	123,768	
V-2	PG2008-13	5.30	2.00	3,815.00	1.50	15,451	5.30	81,889	
V-2	PG2008-15	12.15	6.50	3,155.30	5.00	42,597	12.15	517,548	
V2	PG-10-06	11.08	0.40	2,955.00	1.50	11,968	2.90	34,654	
V 2	Total					485,547		4,459,783	
7-2	Average				2.06		9.19		
V-3	DQ97-78	6.54	2.35	11,781.00	2.00	63,617	6.61	420,426	
V-3	PG2005-11	8.58	1.40	7,853.98	1.50	31,809	5.61	178,306	
V-3	PG2006-01	9.69	1.35	2,153.25	1.50	8,721	7.85	68,448	
V-3	PG2006-01C	8.86	2.00	1,123.42	1.50	4,550	8.86	40,312	
V-3	PG2007-01	16.08	1.00	4,413.13	1.50	17,873	9.65	172,440	
V-3	PG2007-04	9.55	1.40	4,042.39	1.50	16,372	6.69	109,445	
V-3	PG2008-02	8.59	3.00	5,560.47	2.00	30,027	8.59	257,928	
V-3	PG2008-09	10.73	1.00	4,297.40	1.50	17,404	6.65	115,785	
V-3	Total					190,372	_	1,363,090	
, -o	Average				1.63		7.16		<u> </u>
V1+V2+V3	Total					1,075,760	_	7,983,800	
0	Average	1			1	1	7.42		1

otal Ounces
(oz)
3,452
3,350
1,000
1,990
2 9/5
3.456
2 100
1 435
1 385
2.122
3.658
789
1,046
1,439
1,275
608
8,986
1,874
1,988
5,216
12,496
69,475
32,825
4,687
4,863
2,972
0,564
6.446
5.005
5 342
3.171
14,196
3,268
2,046
4,050
1,453
2,722
3,424
9,222
5,327
3,979
2,633
16,640
1,114
143,385
13 517
5 733
2.201
1.296
5,544
3,519
8,293
3,723
43,824
256,685



## **APPENDIX 5**

# LONITUDINAL SECTIONS FOR EACH VEIN INDICATING THE POLYGONAL RESOURCE BLOCKS



Longitudinal Section of Vein 1 Indicating the Individual Polygonal Resource Blocks





Longitudinal Section of Vein 2 Indicating the Individual Polygonal Resource Blocks



Finance Corp.
z tion, Looking North
December 2010
end
Inferred
ddh # Piercing point Au gr/t /m
Scale 100m



Longitudinal Section of Vein 3 Indicating the Individual Polygonal Resource Blocks



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Inferred
ddh # Piercing point Au gr/t /m
Scale 100m
inance Corp.
OPERTY
on, Looking North December 2010