

## NOTE

The enclosed Technical Report, title « *Amended NI 43-101 Technical Report and Maiden Mineral Resource Estimate for the Monster Lake Project* » and dated as of May 17, 2018 amends the Technical Report « *NI 43-101 Technical Report and Maiden Mineral Resource Estimate for the Monster Lake Project* » dated as of May 9, 2018 filed by IAMGOLD Corporation.

No technical change has been made in the enclosed Technical Report. The modifications concern only the issuers. This amended report is now addressed to both issuers IAMGOLD Corporation and TomaGold Corporation. Minor edits were also done throughout the text and the figures.

These changes do not constitute a material change.

**Val-d'Or Office**  
560, 3<sup>e</sup> Avenue  
Val-d'Or (Québec) J9P 1S4

**Montréal Office**  
859, rue boul. Jean-Paul-Vincent  
Suite 201  
Longueuil (Québec) J4G 1R3

Telephone: 819-874-0447  
Facsimile: 819-874-0379  
Toll-free: 866-749-8140  
Email: [info@innovexplo.com](mailto:info@innovexplo.com)  
Web site: [www.innovexplo.com](http://www.innovexplo.com)

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## **AMENDED NI 43-101 TECHNICAL REPORT AND MAIDEN MINERAL RESOURCE ESTIMATE FOR THE MONSTER LAKE PROJECT**

**Prepared for:**



**IAMGOLD**<sup>®</sup>  
CORPORATION

**IAMGOLD Corporation**  
401 Bay Street, Suite 3200  
Toronto ON M5H 2Y4



**TOMAGOLD Corporation**  
410 St-Nicolas, Suite 236  
Montréal QC, H2Y 2P5

**Project Location:**

Latitude 49° 34' North and Longitude 74° 42' West  
Province of Québec, Canada

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**Prepared by:**

Charlotte Athurion, M.Sc., P.Geo. (OGQ No. 1784)

Karine Brousseau, P.Eng. (OIQ No. 121871)

Alain Carrier, M.Sc., P.Geo. (OGQ No. 281)

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**SIGNATURE PAGE – INNOVEXPLO**

**AMENDED NI 43-101 TECHNICAL REPORT AND MAIDEN MINERAL  
RESOURCE ESTIMATE FOR THE MONSTER LAKE PROJECT**

**Prepared for**

**IAMGOLD Corporation**  
401 Bay Street, Suite 3200  
Toronto ON M5H 2Y4  
Canada

and

**TOMAGOLD Corporation**  
410 St-Nicolas, Suite 236  
Montréal QC, H2Y 2P5  
Canada

*(Original signed and sealed)*

\_\_\_\_\_  
Charlotte Athurion, M.Sc., P.Geo.

Signed at Val-d'Or, on May 17, 2018

*(Original signed and sealed)*

\_\_\_\_\_  
Karine Brousseau, P.Eng.

Signed at Val-d'Or, on May 17, 2018

*(Original signed and sealed)*

\_\_\_\_\_  
Alain Carrier, M.Sc., P.Geo.

Signed at Val-d'Or, on May 17, 2018

InnovExplo Inc.  
Consultants-Mines-Exploration  
560, 3<sup>e</sup> Avenue, Val-d'Or,  
Québec, Canada, J9P 1S4

**CERTIFICATE OF AUTHOR – CHARLOTTE ATHURION, P.GEO.**

I, Charlotte Athurion, M.Sc., P.Geo. (OGQ No. 1784), do hereby certify that:

1. At the issuance of this report, I am employed as a geologist with InnovExplo Inc., 560 3<sup>e</sup> Avenue, Val-d'Or, Québec, Canada, J9P 1S4.
2. I graduated with an equivalent of a Bachelor's degree in geology (B.Sc.) from Université Joseph Fourier (Grenoble, France) in 2010. In addition, I obtained an M.Sc. from the Institut National de la Recherche Scientifique (INRS, city of Québec, Québec) in 2013.
3. I am a member in good standing of the Ordre des Géologues du Québec (OGQ licence No. 1784).
4. I have worked as geologist in the exploration industry for five (5) years. My exploration expertise has been acquired with Les Mines J.A.G. Ltd, Explorateurs-Innovateurs de Québec Inc. and Canadian Malartic (exploration branch). I have been a consulting geologist for InnovExplo since November 2016.
5. I have read the definition of a qualified person set out in National Instrument 43-101 Regulation ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
6. I am author of items 4 to 13 and 15 to 24 and co-author of items 1, 2, 3, 14, 25, 26 and 27 of this report entitled "Amended NI 43-101 Technical Report and Maiden Mineral Resource Estimate for the Monster Lake Project" (the "Technical Report") with an effective date of April 9, 2018, an original signature date of May 9, 2018 and amended on May 17, 2018, prepared for IAMGOLD Corporation and TomaGold Corporation.
7. I have visited the property for the purpose of the Technical Report from January 17 to 18, 2018.
8. I have not had any prior involvement with the property that is the subject of the Technical Report.
9. I am not aware of any material fact or material change with respect to the subject matter of the Report that is not reflected in the Report, the omission to disclose which would make the Report misleading.
10. I am independent of the issuers applying all of the tests in section 1.5 of NI 43-101.
11. I have read NI 43-101 respecting standards of disclosure for mineral projects and Form 43-101F1, and the items of the Report, for which I was responsible, have been prepared in accordance with that instrument and form.

Signed this 17<sup>th</sup> day of May 2018 in Val-d'Or, Québec.

Charlotte Athurion (Original signed and sealed)

Charlotte Athurion, M.Sc., P.Geo. (OGQ No. 1784)  
InnovExplo Inc.

**CERTIFICATE OF AUTHOR – KARINE BROUSSEAU, ENG.**

I, Karine Brousseau, P.Eng. (OIQ No. 121871, EGBC No. 44157), do hereby certify that:

1. I carried out this assignment as an Engineer for InnovExplo located at 560, 3<sup>e</sup> Avenue, Val-d'Or, Québec, Canada, J9P 1S4.
2. I graduated with a Bachelor's degree Geological Engineering (B.Sc.) from Université Laval (Sainte-Foy, Québec) in 1998.
3. I am a member in good standing of the Ordre des ingénieurs du Québec (OIQ No. 121871) and of the Engineers & Geoscientists British Columbia (EGBC No. 44157).
4. I have worked as geologist in the exploration and mining industry for over nineteen (19) years since graduating from university. My exploration expertise has been acquired with SOQUEM, the Ministry of Natural Resources of Québec (Geology Branch), and Cambior Inc. I have been a consulting geologist for InnovExplo since September 2005.
5. I have read the definition of a qualified person set out in National Instrument 43-101/Regulation 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
6. I am co-author of items 1, 2, 3, 14, 25, 26 and 27 of this report entitled "Amended NI 43-101 Technical Report and Maiden Mineral Resource Estimate for the Monster Lake Project" (the "Technical Report") with an effective date of April 9, 2018, an original signature date of May 9, 2018 and amended on May 17, 2018, prepared for IAMGOLD Corporation and TomaGold Corporation.
7. I have visited the property for the purpose of the Technical Report on January 17 and 18, 2018.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which would Technical make the Report misleading.
10. I am independent of the issuers applying all of the tests in section 1.5 of NI 43-101.
11. I have read NI 43-101 respecting standards of disclosure for mineral projects and Form 43-101F1, and the items of the Technical Report, for which I was responsible, have been prepared in accordance with that instrument and form.

Signed this 17<sup>th</sup> day of May 2018 in Val-d'Or, Québec.

Karine Brousseau (Original signed and sealed)

Karine Brousseau, P.Eng. (OIQ No. 121871, EGBC No. 44157)  
InnovExplo Inc.

**CERTIFICATE OF AUTHOR – ALAIN CARRIER, P.GEO.**

I, Alain Carrier, MSc, PGeo, (OGQ no.281), from Val-d'Or (Québec) do hereby certify that:

1. At the issuance of this report, I am employed by InnovExplo located at 560, 3e Avenue, Val-d'Or, Québec, Canada, J9P 1S4.
2. I graduated with a mining technician degree in geology (1989) from Cégep de l'Abitibi-Témiscamingue), and with a Bachelor's degree in Geology (1992; B.Sc.) and a Master's in Earth Sciences (1994; M.Sc.) from Université du Québec à Montréal (Montréal, Québec). I initiated a PhD in geology at INRS-Géoressources (Sainte-Foy, Québec) for which I completed the course program but not the thesis.
3. I am a member of the Ordre des Géologues du Québec (OGQ 281), of the Association of Professional Geoscientists of Ontario (APGO 1719), (NAPEG L2701), of the Canadian Institute of Mines, Metallurgy and Petroleum (CIM 91323), and of the Society of Economic Geologists (SEG 132243).
4. I am co-president founder and consulting geologist for InnovExplo since October 2003 (15 years). Since my graduation from university, I have over 26 years of experience as a geologist in mines and exploration programs (Cambior Exploration, Silidor mine, Bouchard-Hébert mine, Sigma-Lamaque mine, South-Malartic Exploration, McWatters Exploration). Before that period, I was also involved in the mining industry as a geological technician (Francoeur mine, Ministère des Ressources naturelles, Cambior Exploration).
5. I have read the definition of "Qualified Person" set out in Regulation 43-101 ("NI 43-101") respecting the standards of disclosure for mineral projects and certify that by reason of my education, affiliation with a professional association (as defined in Regulation 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" with the meaning of Regulation 43-101.
6. I am co-author of items 1, 2, 3, 14, 25, 26 and 27 of this report entitled "Amended NI 43-101 Technical Report and Maiden Mineral Resource Estimate for the Monster Lake Project" (the "Technical Report") with an effective date of April 9, 2018, an original signature date of May 9, 2018 and amended on May 17, 2018, prepared for IAMGOLD Corporation and TomaGold Corporation.
7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, of which the omission to disclose would make the Technical Report misleading.
8. I am "Independent" of the issuers applying all the tests in section 1.5 of Regulation 43-101.
9. I have read Regulation 43-101 respecting standards of disclosure for mineral projects and Form 43-101F1, and the sections of the Technical Report for which I was responsible have been prepared in accordance with that regulation and form.

Signed this 17<sup>th</sup> day of May 2018 in Val-d'Or, Québec.

Alain Carrier (Original signed and sealed)

Alain Carrier, M.Sc., P.Geo. (OQG No. 281)  
InnovExplo Inc.

## **1 SUMMARY**

### **1.1 Introduction**

InnovExplo Inc. ("InnovExplo") was commissioned by IAMGOLD Corporation and TomaGold Corporation ("IAMGOLD" and "TomaGold" or the "issuers") to prepare a maiden mineral resource estimate (the "2018 MRE") on the Monster Lake Project (the "Project") and a supporting Technical Report in accordance with Canadian Securities Administrators' National Instrument 43-101 Respecting Standards of Disclosure for Mineral Projects ("NI 43-101") and its related Form 43-101F1. The mandate was assigned by Marie-France Bugnon, IAMGOLD's General Manager Exploration, Americas.

This Technical Report was prepared for the purpose of providing a maiden mineral resource estimate for the Monster Lake deposit, including four zones.

InnovExplo is an independent mining and exploration consulting firm based in Val-d'Or (Québec).

The 2018 MRE was prepared by authors Charlotte Athurion P.Geo. and Karine Brousseau P.Eng., under the supervision of Alain Carrier, P.Geo.

InnovExplo believes the information used to prepare this Technical Report is valid and appropriate considering the status of the Project and the purpose of the Technical Report. By virtue of the authors' technical review of the Project, InnovExplo affirms that the work program and recommendations presented herein are in accordance with NI 43-101 requirements and follow CIM Standards on Mineral Resources and Reserves – Definitions and Guidelines ("CIM Definition Standards").

### **1.2 Property Description and Ownership**

The Monster Lake Project is located in the province of Québec, Canada, approximately 45 km southwest of Chibougamau and 25 km southeast of the town of Chapais.

The Monster Lake Project comprises the Winchester, Monster Lake and Lac à l'Eau Jaune properties, forming a contiguous block of 132 active claims covering an aggregate area of 5,806.6 ha.

The Project is a joint venture between IAMGOLD Corporation and TomaGold Corporation. IAMGOLD and TomaGold hold a 50% interest each in the Project, except for the Monster Lake property for which the interests are IAMGOLD 50%, TomaGold 45% and Quinto Resources 5%.

IAMGOLD also has the option of acquiring an additional 25% interest in the Monster Lake Project by spending \$10,000,000 on exploration over a 7-year period, of which

a minimum of \$500,000 must be spent each year. The effective start date of the exploration work commitment was January 1, 2015.

### **1.3 Accessibility, Climate, Local resources, Infrastructure and Physiography**

The Monster Lake Project is easily accessed via an all-season gravel logging road that branches off provincial highway 113 about 10 km east of the town of Chapais. Qualified personnel can be found throughout the region. Chibougamau has a population of approximately 7,500, Chapais 1,500 and Ouje-Bougoumou 740.

The Project area has a subarctic climate, despite its position below latitude 50 degrees latitude. Winters are long, cold and snowy, and summer warm and mild, though short. The region is fairly flat with the presence of numerous lakes and wetlands. The Project is covered by thick glacial deposits. Outcrop exposure on the project is average to poor. Water is readily available from the many creeks and lakes found on the Monster Lake Project.

Cellular connections, electricity, train infrastructure and other services are found within 50 km of the project. The Chibougamau/Chapais Airport is located 20 km southwest of Chibougamau or about halfway to Chapais along Highway 113. A high voltage line crosses the Monster Lake property.

### **1.4 Geological Setting and Mineralization**

The Monster Lake Project is located within the Archean Abitibi Greenstone Belt (which hosts some of the richest mineral deposits of the Superior Province), in the Matagami-Chibougamau mineral belt, which extends eastward from the Detour Lake area in Ontario through the Québec towns of Joutel, Matagami, Chapais and finally Chibougamau.

The eastern part of the Caopatina-Desmaraisville segment is underlain by the 2734–2724 Ma Deloro Assemblage. Several volcanic cycles are distinguished in this area. The Monster Lake Project is situated inside one of this volcanic cycles, the Obatogamau Formation (Roy Group) which consists of mafic volcanic rocks represented by massive and pillowed basalts. These mafic flows are folded, sheared and strike NE, dipping steeply to the SE. Multiple thin graphitic volcanogenic horizons are also abundantly observed throughout the Project and are considered favorable units used to channel the flow of the hydrothermal fluid.

This folded supracrustal sequence is cut by many EW to ENE, NNE and NE shears related to the Guercheville and Fancamp faults. Among them, the Monster Lake Shear Zone, at least 4 km long and 3 to 10 m wide, crosses the Monster Lake property in an ENE direction and dips steeply to the East. This shear zone is probably a second-order shear related to the major Guercheville Fault.

Mineralization best correspond to an orogenic gold occurrence model and is spatially related to thin graphitic volcanogenic horizons and the Monster Lake Shear Zone. Mineralization is mostly associated with smokey quartz veins (grey to black) and sulphide minerals in the wall rocks (in order of abundance: pyrite, pyrrhotite, chalcopyrite and sphalerite).

## **1.5 Drilling, Sampling Method, Approach and Analysis**

Diamond drilling core is the principal source of information for geological data. IAMGOLD has completed many diamond drilling programs (45,012.38 m in 108 DDH) on the Monster Lake Project since 2014. At the effective date of this report, total drilling on the Project amounted to 85,158.1 m in 363 surface DDH. All holes were drilled from surface, with NQ core caliber (47.6 mm core diameter).

The drill core is boxed, covered and sealed at the drill rigs. At the core logging facility, drill core is prepared and then logged and sampled by, or under the supervision of, IAMGOLD geologists who are members in good standing of the OGQ or the OIQ. Core samples consist of half-split core with lengths ranging from 0.3 to 1.5 m. The core is tagged by inserting two sample tags at the end of each interval. The third part of the tag remains in the book to keep a reference of the interval's footage.

The laboratory prepares batches of 25 consisting of 23 regular samples, 1 analytical blank and 1 certified reference material ("CRM") standard. At the request of IAMGOLD, the laboratory also assays one coarse duplicate (reject) for every 25 samples and one pulp duplicate for every 10 samples. No field duplicates are assayed.

Since 2014, IAMGOLD used two independent commercial laboratories for preparing and assaying their samples: AGAT (2014-2015) and ALS (2016-2017) Laboratories. AGAT is certified ISO/IEC 17025 and ISO 9001. ALS is part of ALS Global and has ISO 9001:2008 certification and ISO/IEC 17025:2005 accreditation through the SCC.

At the request of IAMGOLD, any sample assaying > 5.0 g/t Au was rerun with gravimetric finish and any sample assaying > 10 g/t Au or containing visible gold was reassayed using the screen metallic procedure.

InnovExplo reviewed the sample preparation, security and analytical procedures, as well as insertion rates and the performance of blanks, standards and duplicates, and concluded that the observed failure rates are within expected ranges and that no significant assay biases are present.

In InnovExplo's opinion, the procedures followed at the Monster Lake Project is conform to industry practices and the quality of the assay data is adequate and acceptable to support a mineral resource estimate.

## **1.6 Data Verification**

InnovExplo's data verification included a visit to the Monster Lake Project. Authors visited the core logging and storage facilities and examined selected drill collars in the field. The site visit also included a review and independent resampling of selected core intervals as well as a review of assays, the QA/QC program, downhole survey methodologies, and the descriptions of lithologies, alteration and structures.

For assays and survey data, a comparison of the database with original certificates were performed. Any discrepancies found were corrected and incorporated into the database. InnovExplo is of the opinion that the data verification process demonstrates the validity of the data and protocols for the Monster Lake Project.

Variations have been noted during the validation process but have no material impact on the 2018 MRE. InnovExplo considers the Monster Lake database to be valid and of sufficient quality to be used for the mineral resource estimate herein.

## **1.7 Mineral Resource Estimate**

The mineral resource estimate was prepared by Karine Brousseau, P.Eng., and Charlotte Athurion, M.Sc., P.Geo., under the supervision of Alain Carrier, M.Sc., P.Geo., using all available information. The main objective of the mandate was to prepare a 43 101-compliant mineral resource estimate for the Monster Lake Project, including the 325-Megane Zone. The result of this study is a single resource estimate for four mineralized zones. The 2018 MRE includes an Inferred Resource and is based on the assumption that the deposit will be developed and mined using underground methods. The effective date of the estimate is February 26, 2018.

The resource area measures 1,250 m along strike, 350 m wide and 700 m deep. The estimate is based on a compilation of historical and recent diamond drill holes and wireframed mineralized zones constructed by InnovExplo. The estimation used 3D block modelling and the inverse distance square interpolation (ID2) method.

The GEMS diamond drill hole database contains 363 surface holes provided by IAMGOLD. From these, a subset of 105 holes that cut across the mineralized zones. As part of the current mandate, all holes were compiled and validated before starting the estimation.

In order to conduct accurate resource modelling of the deposit, InnovExplo based its mineralized-zone wireframe model on the drill hole database and the authors' knowledge of the geological context at Monster Lake and similar deposits. In doing so, InnovExplo created four (4) mineralized solids that honour the drill hole database using a minimum true thickness of 2.5 m. After building the solids, the 325-Megane High-Grade Zone (300) was clipped in longitudinal view to delineate a high-grade core based on a metal factor greater than 10. The lateral extensions of the high-grade domain were limited to half the distance of the surrounding drill holes.

InnovExplo is of the opinion that the current mineral resource estimate can be categorized as Inferred mineral resources based on data density, search ellipse criteria, drill hole density, and interpolation parameters. InnovExplo considers the 2018 MRE to be reliable and based on quality data, reasonable hypotheses and parameters that follow CIM Definition Standards.

Table 1.1 display the results of the official In Situ Mineral Resource Estimate for the Monster Lake deposit at the official 3.5 g/t cut-off grade.

**Table 1.1 – Monster Lake In Situ Mineral Resource Estimate at 3.5 g/t cut-off**

> 3.5 g/t Au		Tonnes (t)	Au (g/t)	Contained Au (oz)
Inferred	In-situ	1 109 700	12.14	433 300

**Mineral Resource Estimate notes:**

1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources are not Mineral Reserves and have not demonstrated economic viability.
3. Results are presented in situ and undiluted.
4. Mineral resources are reported at a cut-off grade of 3.5 g/t Au, using a gold price of US\$1,300/ounce and a Canadian\$/U.S.\$ exchange rate of 1.28.
5. Density data (g/cm<sup>3</sup>) was established on a per zone basis and ranges from 2.86 to 2.88 g/cm<sup>3</sup>.
6. A minimum true thickness of 2.5 m was applied, using the grade of the adjacent material when assayed or a value of zero when not assayed.
7. High-grade capping (g/t Au) was done on raw assay data and ranges from 20 to 150 g/t Au, based on the statistical analysis of each mineralized zone.
8. Resources were estimated from 1.5m drill hole composites, using a 2-pass ID2 interpolation method in a block model (block size = 3 m x 3 m x 3 m).
9. The number of metric tons and ounces was rounded to the nearest hundred.

## 1.8 Interpretation and Conclusions

InnovExplo's mandate was to produce a maiden mineral resource estimate for the Monster Lake Project and a supporting NI 43-101 Technical Report.

After conducting a detailed review of all pertinent information for the Monster Lake Project and completing the 2018 MRE, InnovExplo concludes the following:

- The mineral resource estimate presented herein is constrained within 3D wireframes of four (4) mineralized zones, constructed by InnovExplo, for which continuity have been demonstrated: the 325-Megane High-Grade Zone, the 325-Megane Low-Grade Zone, the Lower Shear Zone 1 and the Lower Shear Zone 2.
- For an underground mining scenario, it is estimate that the Project contains 433,300 ounces of gold in the Inferred category.

- The highest potential for adding additional resources to the Project is by drilling the depth extension of the 325-Megane High-Grade Zone by following a plunge of approximately 30°.
- It is likely that additional diamond drilling would upgrade some of the inferred resources to indicated resources for the 325-Megane High-Grade Zone.
- The potential is good for adding new resources along the northern extension of the 325-Megane Low-Grade Zone through additional drilling.
- There is potential for adding resources along the extensions of the Lower Shear zones through additional drilling.

## 1.9 Recommendations

Based on the results of the 2018 MRE, InnovExplo recommends additional exploration/delineation drilling and further geological interpretation to gain a better understanding of the deposit before updating the mineral resource estimate.

### ***Phase 1***

In Phase 1, InnovExplo recommends addressing the following technical aspects of the project:

#### ***Improvements to the database***

InnovExplo recommends that all multi-shot downhole surveys be compiled and the data integrated into the drill hole database before the next mineral resource estimate.

In order to improve the tonnage estimate for the deposit, additional density measurements are recommended inside the mineralized intersections along the four mineralized zones.

#### ***Additional drilling***

Conversion drilling should be devoted in order to upgrade Inferred resources to the Indicated category in the 325-HG Zone. A drill spacing of 25 m is recommended in the central part of the 325-HG Zone. Additional drilling is also recommended at depth, to test the extension of the zone along a 30° plunge. InnovExplo is also of the opinion that resources could be increased through additional near-surface drilling, at lower cost.

For the purpose of defining more resources in the Monster Lake area, additional drilling is recommended along the southern extension of Lower Shear Zone 1, and at depth along the extension of Lower Shear Zone 2.

Exploration drilling should target the currently identified areas of interests described in this report, but also target the discovery of additional zones over the entire project.

#### ***Structural analysis***

A structural study should be done in the area of DDH ML-17-190 in order to better understand the link between the Monster Lake Shear Zone and the Main Shear Zone in this area. This work could extend the zone. A small zone, temporarily named 325-B, was interpreted around ML-17-190 but not included in the current mineral resource estimate due to a lack of continuity.

### ***Phase 2***

In Phase 2, InnovExplo recommends addressing the following technical aspects of the Project (contingent upon the success of Phase 1).

#### ***Interpretation of additional mineralized zones***

Resource modelling for the Upper Shear Zone and the Annie Shear Zone is recommended in order to define more resources on the Monster Lake Project.

#### ***Additional exploration drilling***

Assuming a positive outcome for the Phase 1 Exploration drilling program, a provision of approximately 8,000 metres of delineation drilling should be considered. The objective would be to continue investigating any potential lateral and depth extensions of identified ore zones.

#### ***Mineral Resource Estimate update***

InnovExplo recommends updating the MRE after completing the drilling programs and the update to the mineralization models. This update should be used in the potential preparation of a PEA.

#### ***Cost estimate for recommended programs***

InnovExplo has prepared a cost estimate for the recommended two-phase work program. Expenditures for Phase 1 are estimated at C\$1,926,250 (incl. 15% for contingencies). The estimated cost for Phase 2 is approximately \$1,259,250 (including 15% for contingencies). The grand total is \$3,185,500 (including 15% for contingencies). Phase 2 is contingent upon the success of Phase 1.

InnovExplo is of the opinion that the recommended work program and proposed expenditures are appropriate and well thought out. InnovExplo believes that the proposed budget reasonably reflects the type and amount of the contemplated activities. Table 26.1 presents the estimated costs for the various phases of the recommended exploration program.

## 2 INTRODUCTION

InnovExplo Inc. ("InnovExplo") was commissioned by IAMGOLD Corporation and TomaGold Corporation ("IAMGOLD" and "TomaGold" or the "issuers") to prepare a maiden mineral resource estimate (the "2018 MRE") on the Monster Lake Project (the "Project") and a supporting Technical Report in accordance with Canadian Securities Administrators' National Instrument 43-101 Respecting Standards of Disclosure for Mineral Projects ("NI 43-101") and its related Form 43-101F1. The mandate was assigned by Marie-France Bugnon, IAMGOLD's General Manager Exploration, Americas.

The mineral resource estimate has an effective date of February 26, 2018. InnovExplo is an independent mining and exploration consulting firm based in Val-d'Or (Québec).

### 2.1 Issuers

IAMGOLD is a mid-tier mining company with four operating gold mines in Canada, South America and West Africa. The corporate headquarters of IAMGOLD is located in Toronto at 401 Bay Street, Suite 3200, Toronto, Ontario, M5H 2Y4. IAMGOLD is a Toronto-based public company trading on the Toronto Stock Exchange (TSX) under the symbol IMG since March 19, 1996 and on the New York Stock Exchange (NYSE) under the symbol IAG since December 20, 2005.

TomaGold Corp is a mineral exploration company engaged in the acquisition, assessment, exploration, and development of gold mineral properties. The corporate headquarters of TomaGold is located in Montréal at 410 St-Nicolas Street, Suite 236, Montréal, Québec, H2Y 2P5. TomaGold is a Montréal public company trading on the Toronto Stock Venture Exchange - (TSX-V) under the symbol LOT.

### 2.2 Terms of Reference

The Project comprises the Winchester, Monster Lake and Lac à l'Eau Jaune properties, which form a contiguous block of 132 active mining claims registered to IAMGOLD Corporation (50%) and TomaGold Corporation (50%) except for the Monster Lake property for which the interests are IAMGOLD Corporation 50%, TomaGold Corporation 45% and Quinto Resources Inc. (formerly Quinto Real Capital Corporation) 5%. The mineral tenures comprising the Project have a combined surface area of 5806.63 ha. They are located in the Fancamp, Rale and Hazeur townships.

This Technical Report was prepared by InnovExplo for the purpose of providing a maiden mineral resource estimate for the Monster Lake deposit, including four zones. The estimate includes all diamond drill holes drilled by past operators on this area between 1956 and 2017.

## 2.3 Principal Sources of Information

InnovExplo conducted a review and appraisal of the information used to prepare the Technical Report, including the conclusions and recommendations. This report is based primarily on information provided by IAMGOLD over the course of InnovExplo's mandate and information collected by authors Karine Brousseau and Charlotte Athurion during a site visit from January 17 to 18, 2018. InnovExplo has no reason to doubt the reliability of the information provided by IAMGOLD. Other information was obtained from the public domain.

InnovExplo believes the information used to prepare this Technical Report is valid and appropriate considering the status of the Project and the purpose of the Technical Report. By virtue of the authors' technical review of the Project, InnovExplo affirms that the work program and recommendations presented herein are in accordance with NI 43-101 requirements and follow CIM Standards on Mineral Resources and Reserves – Definitions and Guidelines ("CIM Definition Standards").

This technical report is based on the following sources of information:

- Discussions with IAMGOLD personnel;
- Inspection of the Monster Lake Project site, including drill core and facilities;
- Review of exploration data collected by IAMGOLD including geological interpretation and 3D model;
- Published and unpublished material submitted by IAMGOLD; and
- Additional information from public domain sources (GESTIM, SIGEOM, SEDAR).

The authors have sourced the information for this Technical Report from the collection of reports listed in Item 27.

None of the QPs involved in this Technical Report have, or have previously had, any material interest in the issuers or its related entities. The relationship with the issuers is solely a professional association between the issuers and the independent consultants. This Technical Report was 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 the Technical Report.

## 2.4 Qualified Persons

InnovExplo is responsible for this Technical Report. The 2018 MRE was prepared by authors Charlotte Athurion P.Geo. and Karine Brousseau P.Eng., under the supervision of Alain Carrier, P.Geo. The list below presents the QPs for the Technical Report and the sections for which each QP is responsible for:

- Charlotte Athurion, P.Geo. (OGQ No. 1784):
  - author of items 4 to 13 and 15 to 24;

- co-author of items 1, 2, 3, 14, 25, 26 and 27.
- Karine Brousseau, P.Eng. (OIQ No. 121871):
  - co-author of items 1, 2, 3, 14, 25, 26 and 27.
- Alain Carrier, P.Geo. (OGQ No. 281):
  - co-author of items 1, 2, 14, 25 and 26.

In addition to the principal authors and QPs, the following people were involved in the preparation of the Technical Report:

- Bruno Turcotte, P.Geo. (OGQ No. 453) Senior Geologist (InnovExplo);
- Clovis Auger, Geologist in training (InnovExplo);
- Daniel Turgeon, technician (InnovExplo);
- Louise Charbonneau, technician (InnovExplo).

## 2.5 Site Visit

Karine Brousseau and Charlotte Athurion of InnovExplo visited the Monster Lake property on January 17 to 18, 2018 as part of the current mandate. They visited the logging and core storage facilities at Chibougamau and examined drill collars in the field. Their visit also included a review of selected core intervals and an independent resampling program, as well as a review of assays, the QA/QC program, downhole surveying methodologies, and the descriptions of lithologies, alteration and structures.

## 2.6 Effective Date

The close-out date of the drilling database is January 20, 2018, with ML-17-210 as the last drill hole added to the database.

The effective date of the mineral resource statement is February 26, 2018.

The effective date of the Technical Report is April 9, 2018.

## 2.7 Abbreviations, Units, and Currencies

A list of abbreviations used in this report is provided in Table 2.1. All currency amounts are stated in Canadian Dollars (\$, C\$, CAD), unless otherwise specified. Quantities are stated in metric units, as per standard Canadian and international practice, including tonnes (t) and kilograms (kg) for weight, km (km) or m (m) for distance, ha (ha) for area, and gram per tonne (g/t) for gold grades. Wherever applicable, imperial units have been converted to the International System of Units (SI units) for consistency (Table 2.2).

**Table 2.1 – List of Abbreviations**

Abbreviation or Symbol	Unit or Term
%	Percent
\$	Canadian dollar
°	Angular degree

Abbreviation or Symbol	Unit or Term
°C	Degree Celsius
µm	Micron (micrometre)
43-101	National Instrument 43-101 (Regulation 43-101)
AA	Atomic absorption
Ag	Silver
As	Arsenic
Au	Gold
C\$	Canadian dollar
CAD	Canadian dollar
CA	Core angle
CAD:USD	Canadian-American exchange rate
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CIM Definition Standards	CIM Definition Standards for Mineral Resources and Mineral Reserves
CL	Core length
cm	Centimetre
cm <sup>2</sup>	Square centimetre
cm <sup>3</sup>	Cubic centimetre
CRM	Certified reference materia
Cu	Copper
d	Day (24 hours)
DDH	Diamond drill hole
EM	Electromagnetic
FDC	Fancamp Deformation Corridor
Fe	Iron
ft, '	Foot (12 inches)
g	Gram
G	Billion
Ga	Billion years
g/cm <sup>3</sup>	Gram per cubic centimetre
GESTIM	Gestion des titres miniers (the MERN's online claim management system)
ha	Hectare
ICP-OES	Inductively coupled plasma optical emission spectroscopy
ICP-MS	Inductively coupled plasma mass spectroscopy
ID2	Inverse distance power two
ID3	Inverse distance power three
in, "	Inch
IP	Induced polarization
k	Thousand (000)
kg	Kilogram
kg/t	Kilogram per metric ton (tonne)
km	Kilometre
kW	Kilowatt
kWh	Kilowatt-hour
L	Litre
M	Million
m	Metre
m <sup>2</sup>	Square metre
m <sup>3</sup>	Cubic metre
m/s	Metre per second
m/s <sup>2</sup>	Metre per second squared
m <sup>3</sup> /s	Cubic metres per second
Ma	Million years
Mag, MAG	Magnetometer, magnetometric
MD&A	Management Discussion and Analysis
MERN / MERQ	Ministère de l'Énergie et des Ressources Naturelles du Québec (Québec's Ministry of Energy and Natural Resources)
mesh	US mesh

Abbreviation or Symbol	Unit or Term
MFFP	Ministère des Forêts, de la Faune et des Parcs (Québec's Ministry of Forests, Wildlife and Parks)
MLSZ	Monster Lake Shear Zone
mm	Millimetre
MRC	Municipalité régionale de comté (RCM in English)
MRE	Mineral resource estimate
MS	Mass spectrometry
masl	Metres above sea level
Mt	Million metric tons (tonnes)
n/a	Not available, Not applicable
NAD	North American Datum
NAD 83	North American Datum of 1983
nd	Not determined
NI 43-101	National Instrument 43-101 (Regulation 43-101)
Ni	Nickel
NN	Nearest Neighbor
NSR	Net smelter return
NTS	National Topographic System
OGQ	Québec Order of Geologists
OIQ	Québec Order of Engineer
OK	Ordinary kriging
oz	Troy ounce
oz/st, oz/t	Ounce (troy) per short ton
ppb	Parts per billion
ppm	Parts per million
QA/QC, QAQC	Quality assurance/quality control
QP	Qualified person (as defined in National Instrument 43-101)
qz, QZ	Quartz
Regulation 43-101	National Instrument 43-101
RQD	Rock quality designation
s	Second
s <sup>2</sup>	Second squared
SIGÉOM, SIGEOM	Système d'information géominière (the MERN's online spatial reference geomining information system)
SG	Specific gravity
t	Metric ton (tonne) (1,000 kg)
TW	True width
USD, US\$	American dollars
UTM	Universal Transverse Mercator coordinate system
VG	Visible gold
VLF	Very low frequency
W	Watt
Zn	Zinc

**Table 2.2 – Conversion Factors for Measurements**

Imperial Unit	Multiplied by	Metric Unit
1 inch	25.4	mm
1 foot	0.3048	m
1 acre	0.405	ha
1 ounce (troy)	31.1035	g
1 pound (avdp)	0.4535	kg
1 ton (short)	0.9072	t
1 ounce (troy) / ton (short)	34.2857	g/t

### 3 RELIANCE ON OTHER EXPERTS

InnovExplo has not performed an independent verification of land titles and tenures, nor did it verify the legality of any underlying agreements that may exist concerning the permits or other agreements between third parties. InnovExplo relied on information provided by IAMGOLD for mining titles, option agreements, royalty agreements, environmental liabilities and permits. Neither the QPs nor InnovExplo are qualified to express any legal opinion with respect to property titles or current ownership and possible litigation. This disclaimer applies to sections 4.3.1 to 4.7 of this report.

- Patrick Frenette, P.Eng. (InnovExplo) supplied the cut-off grade parameters used for the 2018 MRE.
- Venetia Bodycomb, M.Sc. (Vee Geoservices) provided a critical review and linguistic editing of a draft version of this report.

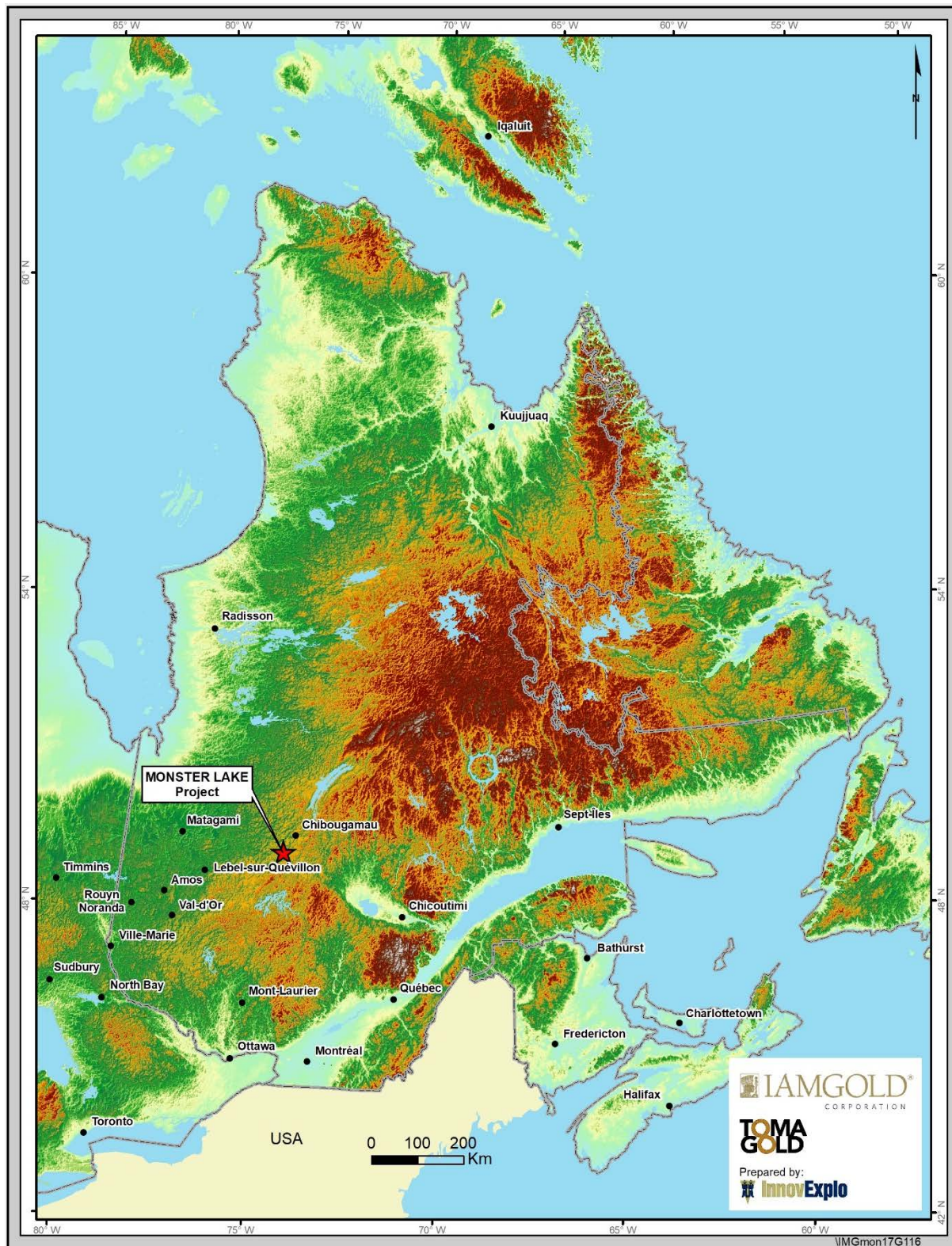
InnovExplo would like to acknowledge the support and collaboration provided by IAMGOLD personnel for this assignment. In particular, the contribution of Ms Shana Dickenson, IAMGOLD's Senior Geologist in the Quebec Exploration team, who provided valuable information on the geology of the Project which was greatly appreciated and instrumental to the success of this assignment.

In addition, Bruno Turcotte, P.Geo., worked on the Monster Lake mandates as an InnovExplo employee (geological interpretation and technical reports), and the authors took into consideration his contributions and input when writing this Technical Report.

## **4 PROPERTY DESCRIPTION AND LOCATION**

### **4.1 Location**

The Monster Lake Project is located in the province of Québec, Canada (Figure 4.1), approximately 45 km southwest of Chibougamau and 25 km southeast of the town of Chapais. It is located on map sheets 32G/07 and 32G/10 in the townships of Fancamp, Rale and Hazeur. The approximate centre of the project is at Latitude 49°33'N and Longitude 74°42'W (UTM coordinates 520530mE and 5489765mN, NAD 83, Zone 18).



**Figure 4.1 – Location of the Monster Lake Project in the province of Quebec**

## 4.2 Mining Rights in the Province of Québec

The following discussion on the mining rights in the province of Québec was largely taken from Guzon (2012), Gagné and Masson (2013), and from the *Mining Act* and the *Act to Amend the Mining Act* ("Bill 70") assented on December 10, 2013 (National Assembly, 2013).

In the Province of Québec, mining is principally regulated by the provincial government. The Ministère de l'Énergie et des Ressources Naturelles ("MERN"; Ministry of Energy and Natural Resources) is the provincial agency entrusted with the management of mineral substances in Québec. The ownership and granting of mining titles for mineral substances are primarily governed by the *Mining Act* and related regulations. In Québec, land surface rights are distinct property from mining rights. Rights in or over mineral substances in Québec form part of the domain of the State (the public domain), subject to limited exceptions for privately owned mineral substances. Mining titles for mineral substances within the public domain are granted and managed by the MERN. The granting of mining rights in privately owned mineral substances is a matter of private negotiations, although certain aspects of the exploration for and mining of such mineral substances are governed by the *Mining Act*. This section provides a brief overview of the most common mining rights for mineral substances within the domain of the State.

### 4.2.1 The Claim

A claim is the only exploration title for mineral substances (other than surface mineral substances or petroleum, natural gas and brine) currently issued in Québec. A claim gives its holder the exclusive right to explore for such mineral substances on the land subject to the claim but does not entitle its holder to extract mineral substances except for sampling in limited quantities. In order to mine mineral substances, the holder of a claim must obtain a mining lease. Electronic map designation is the most common method of acquiring new claims from the MERN whereby an applicant makes an online selection of available pre-mapped claims. In a few territories defined by the government, claims can still be obtained by staking.

A claim has a term of two years, which is renewable for additional periods of two years, subject to performance of minimum exploration work on the claim and compliance with other requirements set forth by the *Mining Act*. In certain circumstances, if the work carried out in respect of a claim is insufficient or if no work has been carried out at all, it is possible for the claimholder to comply with the minimum work obligations by using work credits for exploration work conducted on adjacent parcels or by making a payment in lieu of the required work.

Additionally, it requires a claim holder to submit to the Minister, on each claim registration anniversary date, a report of the work performed on the claim in the previous year. Moreover, the amount to be paid in order to obtain renewal of a claim at the end of its term when the minimum prescribed work has not been carried out now

corresponds to twice the amount of the work required. Any excess amount spent on work during the term of a claim can only be applied to the six subsequent renewal periods (12 years in total). Holders of a mining lease or a mining concession are no longer able to apply work that is carried out in respect of a mining lease or a mining concession to renewal of claims.

#### **4.2.2 The Mining Lease**

Mining leases are extraction (production) mining titles that give their holder the exclusive right to mine mineral substances other than surface mineral substances, petroleum, natural gas and brine. A mining lease is granted to the holder of one or several claims upon proof of the existence of indicators of the presence of a workable deposit on the area covered by such claims and compliance with other requirements prescribed by the *Mining Act*. A mining lease has an initial term of 20 years but may be renewed for three additional periods of 10 years each. Under certain conditions, a mining lease may be renewed beyond the three statutory renewal periods.

The *Mining Act* (as amended by Bill 70) states that an application for a mining lease must be accompanied by a project feasibility study as well as a scoping and market study as regards to processing in Québec. Holders of mining leases must then produce such a scoping and market study every 20 years. Bill 70 adds, as an additional condition for granting a mining lease, the issuance of a certificate of authorization under the *Environment Quality Act*. The Minister may nevertheless grant a mining lease if the time required to obtain the certificate of authorization is unreasonable. A rehabilitation and restoration plan must be approved by the Minister before any mining lease can be granted. In the case of an open-pit mine, the plan must contain a backfill feasibility study. This last requirement does not apply to mines in operation as of December 10, 2013. Bill 70 sets forth that the financial guarantee to be provided by a holder of a mining lease be for an amount that corresponds to the anticipated total cost of completing the work required under the rehabilitation and restoration plan.

#### **4.2.3 The Mining Concession**

Mining concessions are extraction (production) mining titles that give their holder the exclusive right to mine mineral substances other than surface mineral substances, petroleum, natural gas and brine.

Mining concessions were issued prior to January 1, 1966. After that date, grants of mining concessions were replaced by grants of mining leases. Although similar in certain respects to mining leases, mining concessions granted broader surface and mining rights and are not limited in time. A grantee of a mining concession must commence mining operations within five years from December 10, 2013. As is the case for a holder of a mining lease, a grantee may be required by the government, on reasonable grounds, to maximize the economic spinoffs within Québec of mining the mineral resources authorized under the concession. The grantee must also, within

three years of commencing mining operations and every 20 years thereafter, send the Minister a scoping and market study as regards to processing in Québec.

#### 4.2.4 Other Information

Claims, mining leases, mining concessions and exclusive leases for surface mineral substances, and licences and leases for petroleum, natural gas and underground reservoirs obtained from the MERN may be sold, transferred, hypothecated or otherwise encumbered without the MERN's consent. However, a release from the MERN is required for a vendor or a transferee to be released from its obligations and liabilities owing to the MERN related to the mine rehabilitation and restoration plan associated with the alienated lease or mining concession. Such release can be obtained when a third-party purchaser assumes those obligations as part of a property transfer. For perfection purposes, the transfers of mining titles and grants of hypothecs and other encumbrances in mining rights must be recorded in the register of real and immovable mining rights maintained by the MERN and other applicable registers.

Under Bill 70, a lessee or grantee of a mining lease or a mining concession, on each anniversary date of such lease or concession, must send the Minister a report showing the quantity and value of ore extracted during the previous year, the duties paid under the *Mining Tax Act* and the overall contributions paid during same period, as well as any other information as determined by regulation.

#### 4.3 Claim Status of the Monster Lake Project

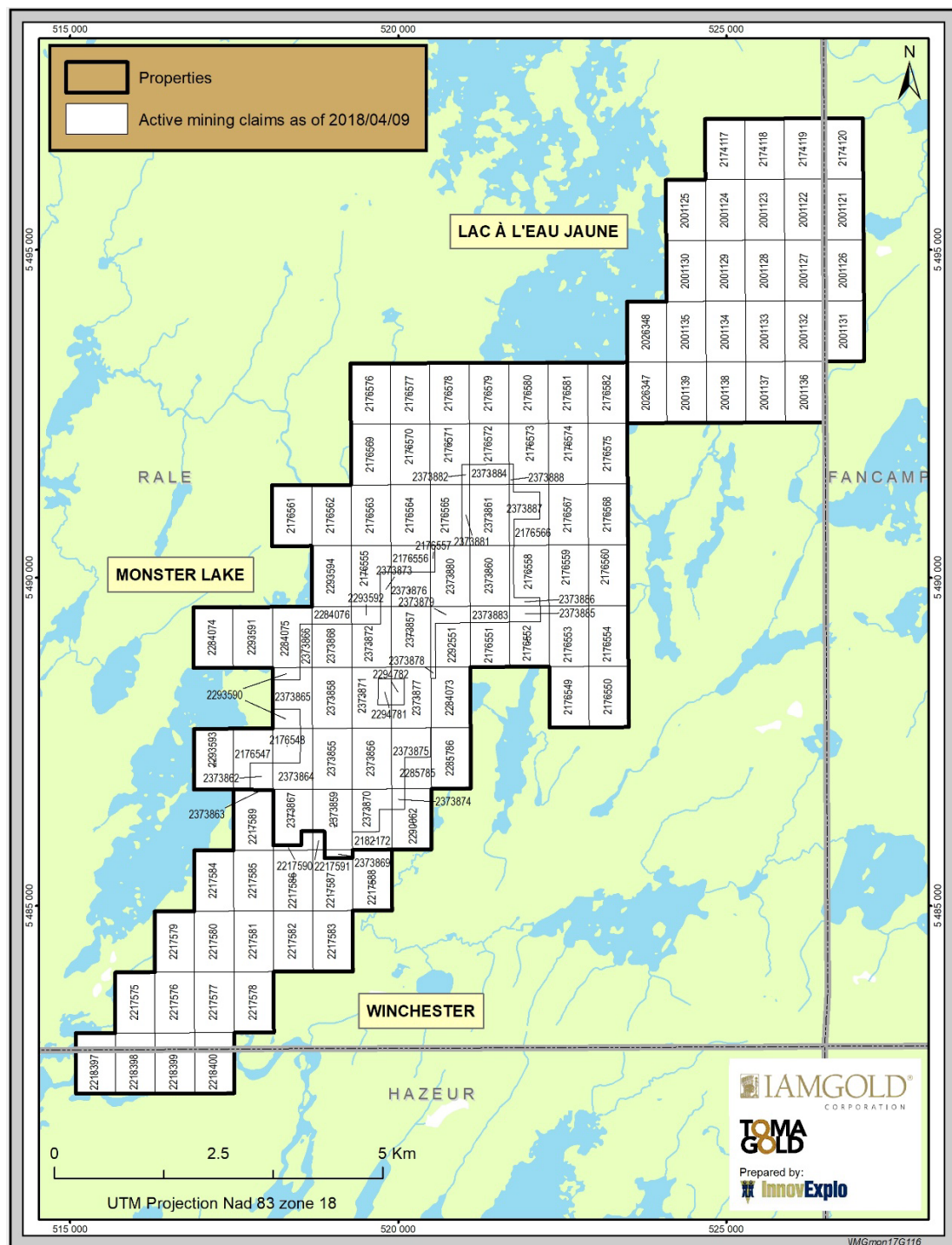
The Monster Lake Project comprises the Winchester, Monster Lake and Lac à l'Eau Jaune properties, forming a contiguous block of 132 active claims staked by electronic map designation ("designation cells" or "map-designated claims") covering an aggregate area of 5,806.6 ha (Figure 4.2).

Claim status was supplied by Marie-France Bugnon, General Manager Exploration (Americas) of IAMGOLD Corporation. The status of all claims was verified using GESTIM, the government's online claim management system available at the following website address: [gestim.mines.gouv.qc.ca/MRN\\_GestimP\\_Presentation/ODM02101\\_login.aspx](http://gestim.mines.gouv.qc.ca/MRN_GestimP_Presentation/ODM02101_login.aspx)

InnovExplo has not performed an independent verification of the legality of any underlying agreement(s) that may exist concerning the claims or other agreement(s) between third parties, but has relied on information provided by Marie-France Bugnon, General Manager Exploration (Americas) of IAMGOLD Corporation who has validated the information provided in Sections 4.5.

According to GESTIM, the Monster Lake Project claims are registered 50% to IAMGOLD Corporation Inc. and 50% to TomaGold Corporation, even though TomaGold only holds a 45% interest in the Monster Lake property with the other 5% held by Quinto Resources Inc.

A detailed list of mining titles, ownership and royalties is provided in Appendix I.



**Figure 4.2 – Claim map for the Monster Lake Project**

#### 4.3.1 **Monster Lake Property**

The Monster Lake property represents part of the former Fancamp property originally owned by SOQUEM Inc. SOQUEM worked on the Fancamp property between 1984 and 2002.

In November 2000, an agreement was reached between SOQUEM and Consolidated Oasis Resources Inc. ("Oasis"). The residual Fancamp property (145 claims) was divided into two parts. SOQUEM became the sole owner of the mineral rights on 49 claims (784 ha) in exchange for a 1.5% NSR royalty in favour of Oasis, and Oasis became the sole owner of the mineral rights on 96 claims (1535 ha) in exchange for a 1.5% NSR royalty in favour of SOQUEM. The granted royalties constituted the only transactions in the agreement; no cash or exploration commitments were involved. SOQUEM's claims were named the Winchester property, whereas the Oasis claims kept the original Fancamp name. Oasis later changed its name to Oasis Diamond Exploration Inc., then Temoris Resources Inc., before becoming Glen Eagle Resources Inc. ("Glen Eagle").

Between 2001 and 2008, Glen Eagle kept the Fancamp mining titles active using historical available work credits. Glen Eagle did not conduct any major exploration activities during that period; only minor sampling programs were done on the property. Many claims expired during the period as Glen Eagle did not accumulate enough new work credits to keep all mining titles active. By the end of October 2008, the Fancamp property consisted of 42 staked claims for an area of 668.2 ha. On November 27, 2008, Glen Eagle added 36 new claims (1,774.4 ha) by electronic map designation. The new mining titles were contiguous with the existing group to form a block of 78 claims with a total surface area of 2,442.6 ha.

In late 2008, Glen Eagle transferred a 70% interest in the Fancamp property to Multi-Ressources Boréal Inc. ("Boréal") in return for a commitment of \$30,000 in exploration work. On September 21, 2009, Glen Eagle approved the sale of the remaining 30% in the Fancamp property for a cash payment of \$5,000. With this agreement, Boréal acquired a 100% interest in the Fancamp property, which still comprised the abovementioned 78 mining titles (42 staked claims and 36 map-designated claims). Boréal changed the name of its new property to Monster Lake. Glen Eagle did not retain any royalty in this agreement. The 42 staked claims remained subject to a 1.5% NSR in favour of SOQUEM (Figure 4.3).

On November 18, 2009, Stellar Pacific Ventures ("Stellar") signed a letter of intent to acquire a 100% interest in the Monster Lake property (composition as described above). Under the terms of the agreement, Stellar had to pay \$125,000 in cash, issue 750,000 shares and incur \$500,000 in exploration work over a 24-month period. Boréal was granted a 1% NSR royalty (Figure 4.3), which is redeemable for \$500,000.

On December 29, 2009, Stellar signed a purchase agreement to acquire a 100% interest in the 325 property (36 claims) owned by G. L. Géoservices Inc. (50%) and Marc Bouchard (50%). In relation with the agreement, Stellar had to pay \$60,000 in cash, issue 435,000 shares and incur \$175,000 in exploration expenditures over a 24-month period. The vendors were granted a 2% NSR royalty (Figure 4.3) of which 1.5% is redeemable for \$1,000,000. Fifteen (15) of the 36 claims expired during the 24-month period of the agreement. Only 21 claims (20 staked claims and 1 map-designated mining claim) totalling 353.3 ha were transferred to Stellar in December 2011.

Between April and June 2011, Stellar added 15 claims (546.5 ha) by electronic map designation.

On May 2, 2011, Stellar entered into a Letter of Intent with Carbon2Green (“C2G”; later TomaGold), whereby C2G would acquire three mining properties (143 claims) from Stellar. The properties were all located in the Chibougamau, Val-d’Or and Urban townships in northwestern Québec. In connection with this transaction, C2G changed its name to TomaGold. The Monster Lake property was included in this transaction. By that time, the Monster Lake property consisted of 114 claims (62 staked claims and 52 map-designated claims) and cells covering an area of 3,342.4 ha in Rale Township. In exchange for the properties, TomaGold issued 22,000,000 class A shares (common shares) of its share capital to Stellar (post-consolidation) at a price of \$0.15 per share for a total consideration of \$3,300,000. As part of the transaction, Stellar had to incur approximately \$700,000 in expenditures on the properties before the end of 2011. As a closing condition, TomaGold completed a concurrent private placement to raise a minimum of \$750,000 and a maximum of \$1,500,000.

At the end of 2013, the historical staked claims of Glen Eagle (42 claims) and of G. L. Géoservices Inc. (50%) and Marc Bouchard (50%) (20 claims) were converted into map-designated claims.

#### **4.3.2 Winchester Property**

The claims of SOQUEM’s Winchester Property to the south of the Monster Lake property expired some time after the November 2000 agreement with Oasis, and the area became open to staking. In 2010, Gaspénor Géo-Sciences Inc. (“Gaspénor”) and MGWA Holding International Inc. (“MGWA”) map-staked the same area covered by the former Winchester property and retained the same property name.

In May 2012, TomaGold signed an agreement to acquire a 100% interest in the Winchester property, which consisted of 21 map-designated claims covering 1,069.9 ha. TomaGold acquired the property in exchange for \$32,000 by issuing a total of 106,666 common shares of TomaGold to MGWA (80,000 shares) and Gaspénor (26,666 shares).

The Winchester property is not subject to any royalty.

#### **4.3.3 Lac à l'Eau Jaune Property**

In April 2012, TomaGold Corporation concluded an agreement with Diagnos Inc. to acquire a 100% interest in the Lac à l'Eau Jaune property, which consisted of 25 map-designated claims covering 1,394.7 ha. The property is adjacent to the Monster Lake property along its northeast edge. TomaGold acquired the property in exchange for 250,000 common shares of TomaGold issued to Diagnos, who retains a 2% NSR royalty (Figure 4.3) of which 1% is redeemable for C\$1,000,000.

#### **4.4 Quinto Resources Inc. Agreement with TomaGold**

In November 2012, TomaGold signed a joint venture agreement with Quinto Resources Inc. (formerly Quinto Real Capital Corporation) ("Quinto") for the exploration and development of the Monster Lake property. The agreement granted Quinto the option to acquire an initial 50% interest in the Monster Lake property in exchange for 1,000,000 shares of Quinto to be issued on closing of the transaction, \$350,000 paid to TomaGold over a four-year period, and the funding of \$6 million in exploration work over a four-year period. Upon earning its 50% interest, Quinto would have the option of acquiring an additional 20% interest by the seventh anniversary of the agreement in exchange for \$4 million in additional exploration work or a feasibility study fully financed by Quinto.

On September 23, 2013, TomaGold and Quinto concluded a definitive agreement to amend their 2012 option agreement. Pursuant to the agreement, TomaGold transferred and sold to Quinto an undivided interest of 10% in the property in exchange for the retrocession by Quinto of all its rights in the 2012 option agreement and its renunciation to all its rights and privileges provided in said agreement. Accordingly, subject to adjustments provided in the amendment, TomaGold gained an undivided interest of 90% in the property and became the sole operator of the project.

Moreover, TomaGold undertook to take charge of the debentures and to indemnify Quinto from the closing of the transaction and to execute the following obligations: TomaGold consented to issue new debentures and to take charge of the monetary payment obligations of the principal amount and interests due from time to time to the holders of debentures of Quinto for an initial aggregate principal amount of \$500,000, the placement of which occurred on February 28, 2013.

#### **4.5 IAMGOLD Agreement with TomaGold**

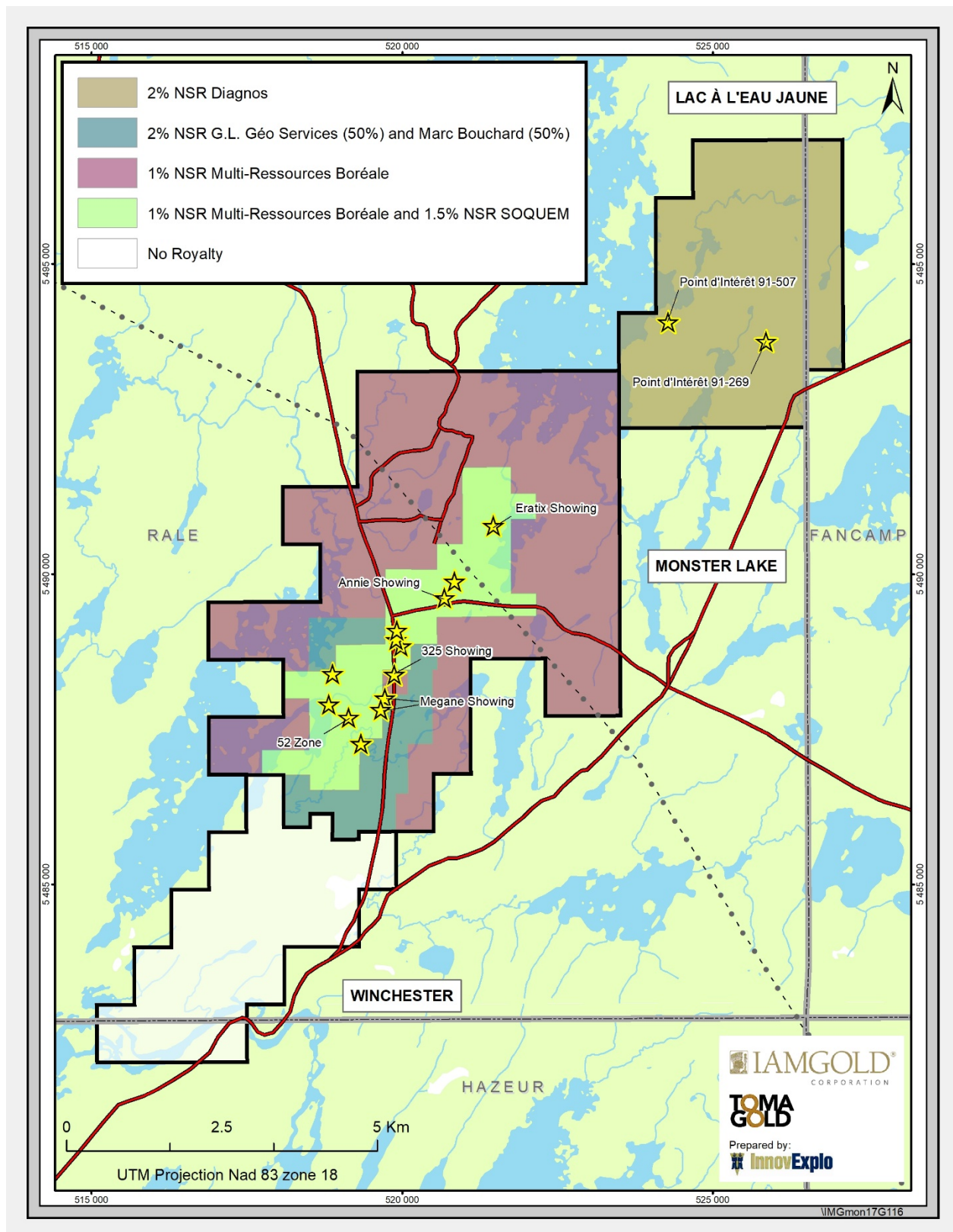
On November 12, 2013, TomaGold finalized an option agreement with IAMGOLD in which IAMGOLD may earn a 50% interest in each of the Monster Lake, Winchester and Lac à l'Eau Jaune properties (the current "Monster Lake Project") for a total of \$17,575,000, including \$16 million in exploration work and \$1,575,000 in payments over five years. IAMGOLD acted as the project operator during the acquisition period of its 50% interest.

On November 2, 2015, TomaGold announced the terms of an amended agreement with IAMGOLD whereby IAMGOLD had acquired a 50% interest in the Monster Lake Project in exchange for a cash payment of \$3,220,000 to TomaGold. For the Monster Lake property, the interests of TomaGold (90%) and Quinto (10%) became diluted on a proportionate basis to become 45% and 5%, respectively.

According to the agreement, IAMGOLD also has the option of acquiring an additional 25% interest in the Monster Lake Project by spending \$10,000,000 on exploration over a 7-year period, of which a minimum of \$500,000 must be spent each year. The effective start date of the exploration work commitment was January 1, 2015.

If IAMGOLD acquires a 75% interest in the Monster Lake Project, TomaGold will have the option to fund its share of the exploration expenditures to retain its interest in the project, subject to a dilution clause if TomaGold is unable to finance its share of exploration expenses. If TomaGold is diluted to a 10% interest in the project, its interest will be converted to a 1.5% NSR royalty with a buy-back clause. IAMGOLD will have the opportunity to repurchase a 0.75% NSR royalty for \$2,000,000 and the payment for the remaining 0.75% NSR royalty would be capped at \$8,000,000.

The agreement also identifies two additional payments that will be made in the event that IAMGOLD decides to build a mine and at the start of commercial production. For each of these steps, IAMGOLD will make an additional payment of \$1,000,000 to TomaGold in cash or in common shares of IAMGOLD (at the discretion of IAMGOLD).



**Figure 4.3 – Royalty map for the Monster Lake Project**

#### **4.6 Required Exploration Permits**

Permits are required for any exploration program which involves tree-cutting to create road access for the drill rig, or to carry out drilling and stripping work. Permitting timelines are short, typically on the order of 3 to 4 weeks. The permits are issued by the Ministère des Forêts, de la Faune et des Parcs (“MFFP”; Ministry of Forestry, Wildlife and Parks).

IAMGOLD has the required permits to execute the drilling and stripping programs.

#### **4.7 Environmental Liabilities**

InnovExplo is not aware of any environmental liabilities with respect to the property.

#### **4.8 Other Significant Factor and Risks**

The Monster Lake Project is located in Eeyou Istchee—James Bay territory on Category III lands belonging to the Government of Québec and is subject to the *James Bay and Northern Quebec Agreement*. Mineral exploration is allowed under specific conditions. The issuers shall be submitted to the Environmental Regime which takes into account the Hunting, Fishing and Trapping Regime. On Category III lands, Eeyou Istchee peoples have exclusive rights to harvest certain species of wildlife and to conduct trapping activities. Each hunting area has a tallyman. The issuers had from time to time communicated with the regional level of government and the Cree Nation Government on these matters.

## **5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

### **5.1 Accessibility**

The Monster Lake Project is easily accessed via an all-season gravel logging road (Figure 5.1 and Figure 5.2) that branches off provincial highway 113 about 10 km east of the town of Chapais. A network of smaller dirt logging roads also provides access to the project with UTV trails also present.

Mining and drilling operations may be generally carried out year-round with some limitations in specific areas of the Monster Lake Project, but surface exploration work (mapping, channel sampling) should be planned from mid-May to mid-October. Lakes are usually frozen and suitable for drilling from January to April. Conditions may be difficult when snow melts in May and for a few weeks during moose hunting season in the fall.

### **5.2 Climate**

The Monster Lake Project area has a subarctic climate, despite its position below latitude 50 degrees latitude. Winters are long, cold and snowy, and summer warm and mild, though short. According to Environment Canada ([climat.meteo.gc.ca/climate\\_normals](http://climat.meteo.gc.ca/climate_normals)), statistics for the the town of Chapais during the 1981–2010 period show a daily average temperature for July of 16.4°C and a daily average temperature for January of -18.8°C. The record low was -43.3 °C and the record high was 35°C. Overall, precipitation is high for a subarctic climate with an average annual precipitation of 996 mm, and 313 cm of snow in the winter season, which runs from October to May with a peak from November to March. There are, on average, 231 days without frost. Precipitation is considerable year-round, although February through April are drier. Climatic conditions do not seriously hinder exploration or mining activities, with only some seasonal adjustments for certain types of work (e.g., conducting mapping in summer and drilling boggy areas in winter).

### **5.3 Local Resources and Infrastructure**

Social and health services, as well as services related to the mining industry, can be found at the towns of Chibougamau and Chapais located less than 40 km from the project or in the community of Ouje-Bougoumou (Figure 5.2). Qualified personnel can be found throughout the region. Chibougamau has a population of approximately 7,500, Chapais 1,500 and Ouje-Bougoumou 740 (Statistics Canada). These localities have quarry-specific equipment and workers specialized in quarrying. The necessary workforce for mining production should not be difficult to find as Chibougamau and Chapais were former mining towns.

Cellular connections, electricity, train infrastructure and other services are found within 50 km of the project. The Chibougamau/Chapais Airport is located 20 km southwest of Chibougamau or about halfway to Chapais along Highway 113.

A high voltage line crosses the Monster Lake property (Figure 5.2).

Water is readily available from the many creeks and lakes found on the Monster Lake Project.

#### 5.4 Physiography

The region is fairly flat with the presence of numerous lakes and wetlands. The Project is covered by thick glacial deposits. Outcrop exposure on the project is average to poor.

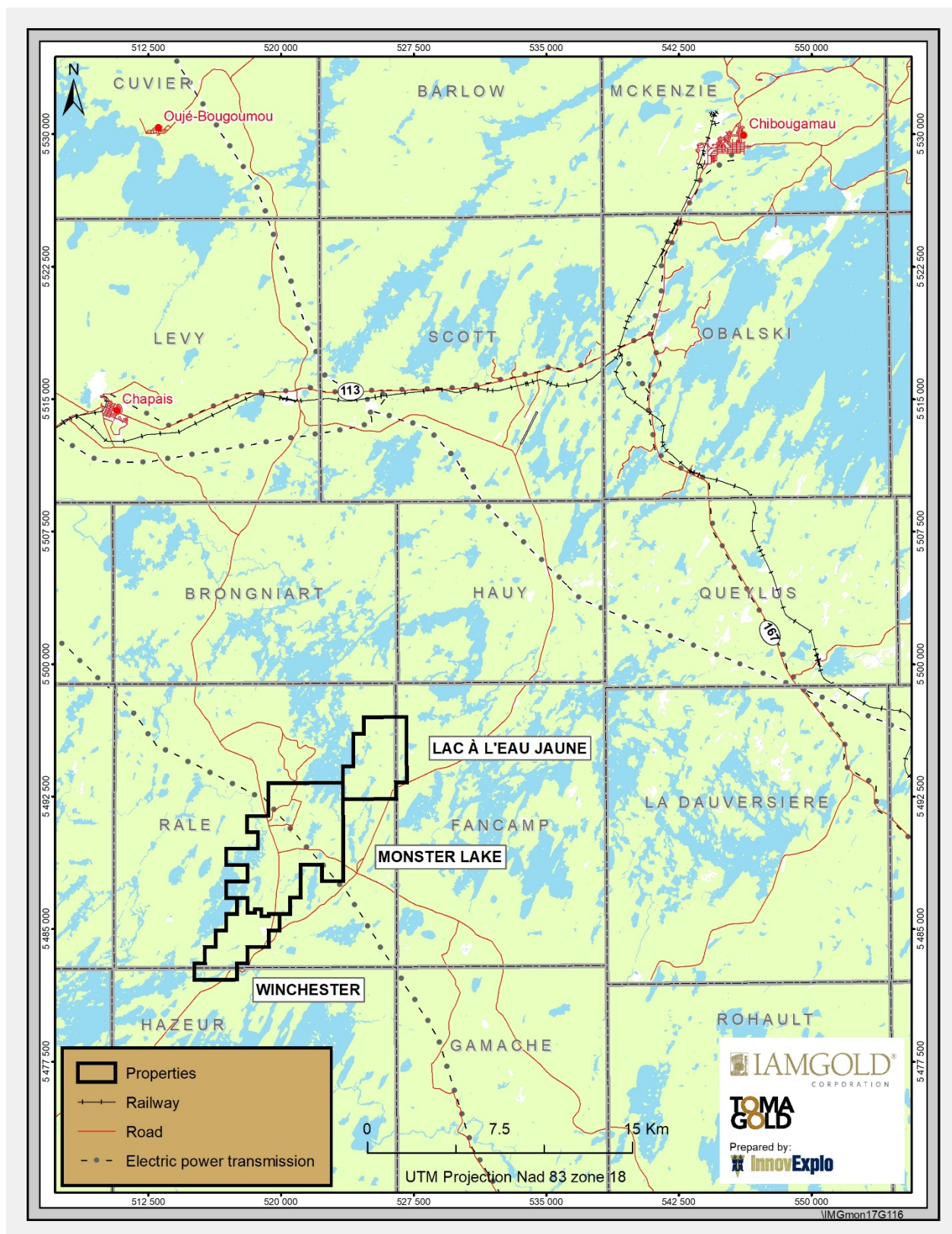
The forest consists of various types of conifers dominated by black spruce and larch in wet areas. The forest has been harvested over most of the Project.

Fauna is typical for this type of forest, with moose, black bears, foxes, partridges, hares, beavers and numerous small mammals.

The altitude varies between 365 masl and 380 masl.



**Figure 5.1 – An all-season gravel logging road on the Monster Lake Project**



**Figure 5.2 – Access and waterways of the Monster Lake Project and surrounding region**

## **6 HISTORY**

Most of the following information was taken from Turcotte (2015) and retains the references therein.

### **6.1 Period: 1936 to 1957**

In 1936, Noranda Mines Ltd carried out preliminary development work on several base metal showings at Lac à l'Eau Jaune, and considerable staking took place. In 1948, the company carried out stripping, trenching and drilling programs, along with some geophysical work. It seems that the results did not warrant further development work at the time (Holmes, 1952).

The Chibougamau region then became the scene of two important staking rushes. The first rush was initiated in the fall of 1949, after Calmor Mines Ltd discovered a mineralized shear zone on the west shore of Lac Calmor (Holmes, 1952). The second began in July 1950, after prospectors H. Norrie and W. Lipsett uncovered a wide zone of shearing and silicification. This discovery later became the Joe Mann mine (discontinuous production from 1956 to 2000).

The first gold discovery near the Monster Lake Project was made by Teck Exploration Company Ltd ("Teck") in 1950 near Lac Chico. Three gold zones were reported by Teck and Mining Corporation of Canada Ltd in this area. The zones were found along a NE-SW structure in the Fancamp Deformation Corridor or associated with the granite intrusion of the Verneuil Stock (Holmes, 1952).

In 1956, Canadian Nickel Company Ltd ("Canadian Nickel") drilled two (2) holes (DDH 13261: 133.8 m; DDH 13265: 125.9 m) in the Lac Irène area (Figure 6.1). These holes passed through volcanic sequences represented by basalt, andesite and tuff. Some mineralized zones with pyrrhotite, pyrite and chalcopyrite were observed in these holes. No assays were reported in the logs. In 1957, Canadian Nickel added another hole by the east shore of Lac Irène. This hole (DDH 13286: 125.0 m) passed through a volcanic sequence with metasedimentary horizons. No assays were reported in the logs. According to Vachon (1986), Canadian Nickel drilled eight (8) holes for a total of 1005.8 m between 1955 and 1957, but only three of them were reported and filed in SIGEOM. SOQUEM was able to locate the historical core from the other five holes. Only the site of hole RS-1-1 was reported on SOQUEM's map. This hole passed through basalts and gabbros, including a horizon of felsic tuff or schist. This horizon was mineralized with pyrite, pyrrhotite and chalcopyrite, and some veins and veinlets of smokey quartz were also observed. This same horizon was observed in hole RS-1-2 to RS-1-5.

### **6.2 Period: 1974 to 1982**

In 1974, Cominco Ltd ("Cominco") began a major exploration program in the area. Geophysical fieldwork started with an airborne electromagnetic (EM) and magnetic

(Mag) survey using the Kenting Canso System (Stemp, 1975). Approximately 190 square miles of ground were covered in two blocks with 1/8-mile line spacing. This resulted in the detection of a large number of conductive intersections, almost all of which could be grouped into 83 anomalous zones.

In 1975, Questor Surveys Ltd ("Questor") was mandated by the Ministry of Energy and Resources of Québec ("MERQ") to carry out airborne EM and Mag surveys in the La Dauversière region (David, 1980). The survey results were only made public in 1977. Following the airborne survey, MERQ staked 64 claims east of Lac à l'Eau Jaune in order to perform more detailed work. These claims became known as the Crown property.

Following the results of Cominco's airborne geophysical survey, the company staked more than 300 claims in the area in 1975. Near the Monster Lake Project, ground-based geophysical follow-up work by Cominco commenced in the winter of 1976 when 31 conductive zones were investigated on 10 grids. During the summer of 1976, detailed geological mapping and soil surveying (B-horizon) were performed on these grids (Shimron and Wallis, 1976). Soil samples were taken over the EM conductors and samples were assayed for copper, lead and zinc. Of these 10 grids, two (RAS-4 and RAS-6) were located on the current Monster Lake Project (Figure 6.1). The RAS-4 grid covered a block of fifteen (15) claims located east of the Lac Irène (Robertshaw and Burton, 1977; a.k.a., the "RAS-4 property"). Almost 15 km of Mag and horizontal loop EM (HLEM) profiles were completed over seven airborne conductive zones on the grid, with lines every 150 m. The RAS-6 property (Figure 6.1) comprised 15 claims to the east of Lac à l'Eau Jaune (Robertshaw and Burton, 1977). Approximately 16.5 km of Mag and horizontal loop EM (HLEM) profiles were completed over two airborne conductive zones on the grid, with lines every 150 m.

The RAS-4 grid covered large areas of open muskeg and swamp. Fieldwork revealed one isolated outcrop of diorite in the north and several outcrops of basalt, andesite and dacite at the south end of the property (Shimron and Wallis, 1976). A strong NNW-magnetic trend was noted on the grid. A NE magnetic trend appears to reflect the presence of pyrrhotite or magnetite in a conductive assemblage (Robertshaw and Burton, 1977). A SW trend was correlated with a basalt exposure and likely defines a thin basalt flow or possibly a gabbroic sill. Cominco observed a discontinuity in the Mag and EM trends, which likely represents a NW-SE fault cutting through the centre of the surveyed area. A total of 90 soil samples were collected on the grid, but no significant results were obtained from assays.

On the RAS-6 grid, mapping revealed basalts trending N and NE, bounded to the west and east by andesitic flows (Shimron and Wallis, 1976). Further east, a very conspicuous sedimentary-tuff horizon was noted, composed of fine-grained and well laminated sediments and crystal tuffs. Extreme microfolding characterizes this sedimentary-tuff (parasitic S-folds). A sulphide content of 1-2% pyrrhotite was noted in the pillow basalts. It was reported that a fair amount of silicification is associated

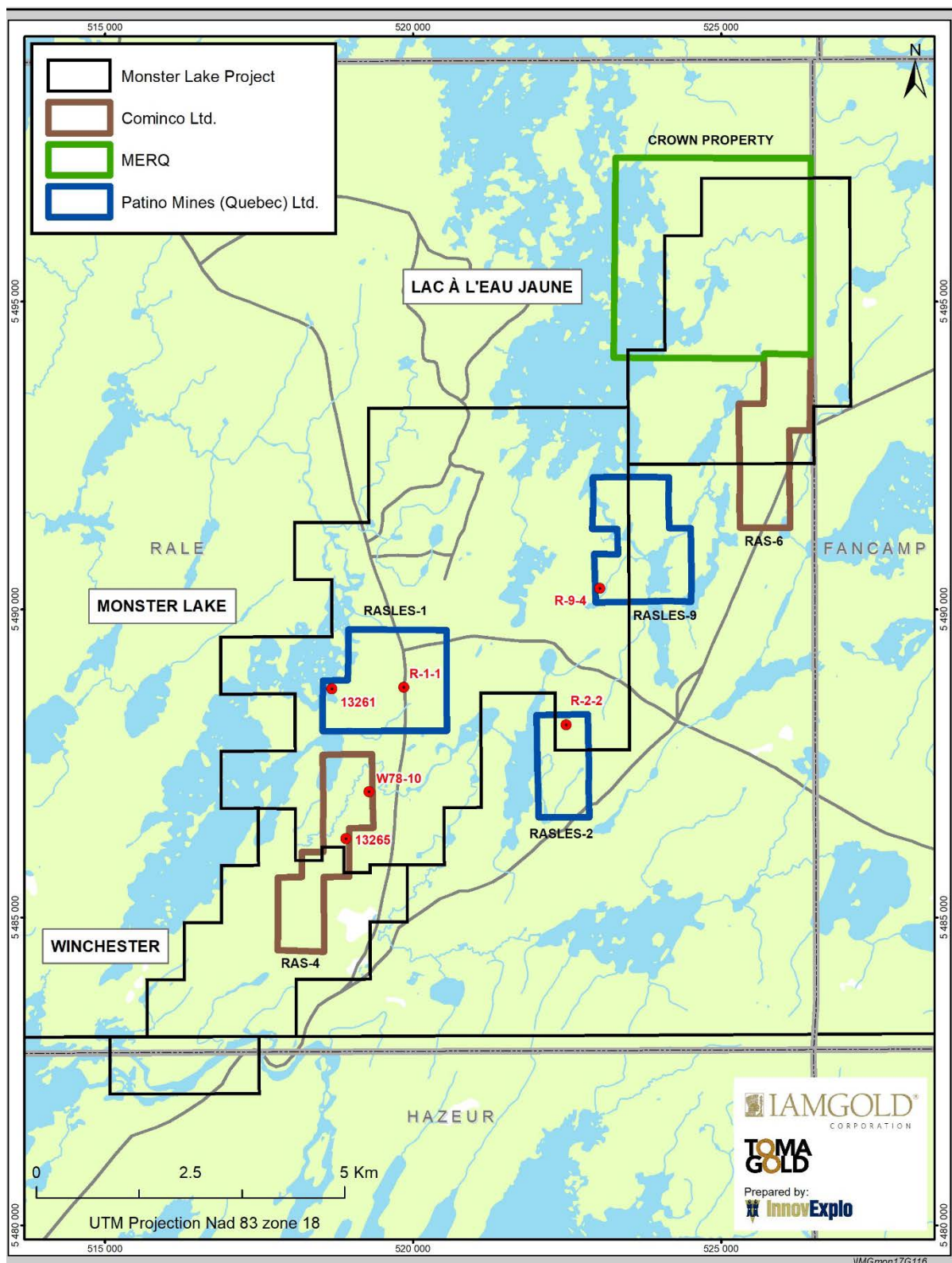
with this mineralization, including a few veins of smokey quartz. The location of airborne conductors closely matches the position of a sedimentary tuff (Robertshaw and Burton, 1977). Magnetic contours delineated several discontinuous, narrow, N-S to NE-SW horizons marked by intense response, which correlated well with mapped outcrops of basalt. A total of 23 soil samples were collected on the grid, but no significant results were obtained.

Following Questor's regional airborne EM surveys in 1975, which had been carried out to the southwest of Chibougamau, Patino Mines (Québec) Ltd ("Patino") staked nine blocks of claims in May 1977 (Born, 1980), in the area of the Monster Lake Project. Of these claim blocks, three were entirely or partly located on the current Monster Lake Project: Rasles #1, #2 and #9 (Figure 6.1). Geophysical surveys (McPhar VHEM and Mag) were conducted over these blocks (Murdy, 1978). The VHEM surveys on Rasles #1 outlined a large fold with two parallel conductors. Four conductors were identified on Rasles #9, including three conductors associated with a magnetic high signature. Geological mapping was completed on these grids. No geophysical results were published for the Rasles #2 block.

In March 1978, Cominco drilled one (1) hole of 182.9 m on the RAS-4 grid to test an EM conductor (Burns and Ewert, 1978). Hole W-78-10A (Figure 6.1) mainly passed through andesite units with some metasedimentary horizons. The conductor was explained by a horizon of cherty sulphide iron formation containing interlayers of pyrite-bearing graphitic argillites, graphitic chert and massive pyrite beds. An average grade of 1.07 g/t Au over 3.5 m was obtained from 71.8 to 75.3 m.

In 1978, Patino carried out a diamond drilling program on their claim blocks in order to explain the geophysical conductors (Gosman, 1978). One hole (R-1-1) was drilled on the Rasles #1 block with a total of length of 106.7 m (Figure 6.1). This hole passed through 55.5 m of andesite, 8.8 m of rhyolite and 42.4 m of andesite. The rhyolite unit was highly silicified, a small percentage of dark smokey grey quartz veins with fragments of rhyolite were also reported. Trace amounts to 30% disseminated pyrite and minor pyrrhotite was observed. A sample from this silicified zone returned 1.37 g/t Au over 0.9 m. Of the two holes drilled on the Rasles #2 block, only one (R-2-2) was located on the current Monster Lake Project (Figure 6.1). Hole R-2-2 (length 75.3 m) passed through a sequence of andesite and intermediate lava with some horizons of sediments and volcanic material. In the sediments, up to 15% pyrrhotite and pyrite were observed locally as stringers and disseminations, along with moderate quartz-carbonate veining parallel to bedding and some graphitic sections. No significant assays were obtained. Four (4) holes were drilled on the Rasles #9 block, with one of them (R-9-4) on the current Monster Lake Project (Figure 6.1). Hole R-9-4 (96.6 m long) passed through a sequence of andesite and intermediate lava. A section of 25 cm with 25-30% of disseminated pyrrhotite and pyrite accompanied with some quartz-carbonate material was reported within slightly graphitic intermediate lava. This section returned a grade of 0.69 g/t Au.

In March 1978, Karl Glackmeyer and Associates was mandated by the MERQ to carry out induced polarization, Mag, a small loop frequency-domain EM (HEM MaxMin) and VLF-EM surveys, totalling 83.2 km of lines spaced at each 125 m, on the Crown property (Lavoie, 1981). Following these grounds geophysical survey, MERQ mandated Les Relevés Géophysiques Inc. to conduct a heliborne Mag and EM survey totalling 208 km with lines spaced 150 m and oriented N-S and E-W. In July 1981, Lavoie (1981) was mandated to carry out the interpretation of all geophysical surveys. Lavoie outlined many targets but recommended more geophysical and geological work to refine them before carrying out any drilling. Following the recommendations of Lavoie (1981), a detailed geological survey was conducted on the Crown property by Gobeil (1981). In the fall of 1981, Géomines Ltée was retained to evaluate the economic potential on the Crown property. The study identified eight anomalous zones, based on geological context and magnetic profile, which warranted additional exploration work. During the winter of 1981-1982, new ground Mag and VHEM surveys was conducted on the Crown property, totalling 77 line-km, with lines spaced every 100 m (Lavoie, 1982). The VHEM surveys outlined three drilling targets. Due to government policy changes, no further work was done on the Crown property and the ground was opened to staking.



**Figure 6.1 – Location of historical work carried out on the Monster Lake Project before 1982. Collars of historical drill holes are shown by red circles (Turcotte, 2015)**

### 6.3 Period: 1983 to 1990

In 1983, Charles D. Robbins ("Robbins") staked 35 claims totalling 560 ha (Figure 6.2). Peter H. Smith, a consulting geologist, was mandated by Robbins to summarize the known geology and geophysics of the property, to describe the results of a reconnaissance soil geochemical survey, and to propose an exploration program (Smith, 1984). The claim group was located on the MERQ's former Crown property. Outcrop was scattered throughout the property and occupied only 2-3% of the total area. The property was underlain by a sequence of intermediate to basic volcanic rocks cut by gabbro and quartz porphyry dykes. Part of the property was cut by a complex diorite mass, part of a larger stock extending southwestward into Lac à l'Eau Jaune. Structurally, this sequence appeared to face east and displayed an overall steep to vertical dip. Vertical to subvertical fracturing trending WNW appeared to be widespread. No showings were reported on the property. The area was dominated by an extremely strong magnetic anomaly (Lavoie 1981; 1982) which trended southward into the central part of the property. No strong conductors were reported on the property (Lavoie, 1981; 1982). The relationship between IP anomalies (Lavoie 1981; 1982) and the diorite contact was of interest, and it was thought that it might represent mineralized fronts related to the diorite intrusion. A soil survey program was carried out in August 1984, and slightly anomalous gold values were detected in the vicinity of the volcanic/intrusive contact zone in the southwestern part of the property.

In 1984, Constable Consulting Inc. was mandated by Glen Kasner to research, compile and assess the work on the Glen Kasner property, and to recommend a gold exploration program (Constable, 1985a). The geology of the Glen Kasner property (Figure 6.2) comprised basalts, intermediate flows, intercalated with tuffs and interflow sediment. The property was located immediately to the northwest of the Fancamp Fault. No gold showings were reported.

During the summer of 1984, SOQUEM conducted a geological reconnaissance in the Rasles and Fancamp townships that led to the discovery of three auriferous erratics blocks with gold values ranging from 3.02 g/t Au to 24.9 g/t Au (Thériault, 1985). Those blocks were located between 400 to 900 m southwest of the auriferous showing discovered during that campaign and named Eratix. The source of these boulders was probably from the Eratix gold-bearing smokey quartz veins located roughly 300 m west of the western shore of the Monster Lake. Following this gold discovery, SOQUEM added 239 new claims to their Fancamp property for a total of 416 claims (Figure 6.2). During the fall of 1984, a detailed geological survey, a 3-line IP survey test, stripping and a drilling program were carried out in the area of the Eratix showing (Vachon, 1985). The geological survey demonstrated that the Eratix showing is hosted by pillowed and porphyritic mafic lavas cut by quartz-feldspar porphyry dykes and minor gabbro. Four shear zones were mapped, and it was found that two of them hosted auriferous smokey quartz veins (native gold) with grades ranging from trace amounts to 1,225.9 g/t Au. An area of 4,000 m<sup>2</sup> was stripped over the Eratix showing.

Four (4) holes (993-84-1 to 993-84-4) totalling 342.6 m were drilled on the showing. The shear zone, which hosts the showing, was observed at a vertical depth of 75 m. The best results obtained were 4.97 g/t Au over 0.67 m (DDH 993-84-1) and 3.22 g/t Au over 0.29 m (DDH 993-84-2). In addition, a new showing was discovered late in 1984. The Quatre-Chemins showing was stripped and mapped (McCann, 1987). This showing consisted of large quartz vein (black and white) in a fold nose. The host rock, porphyritic basalt, contained 5% to 90% sulphides (sphalerite, pyrrhotite, chalcopyrite and pyrite). The best result was 1.35 g/t over 0.95 m.

Between September 1984 and April 1985, Noranda Explorations Limited (“Noranda”) staked 192 claims adjoining the Fancamp property of SOQUEM (Figure 6.2). In July 1985, a geological reconnaissance survey was conducted on the property (Archer et al., 1985). It was determined that the geology comprises mafic lavas, felsic to mafic tuffs, and gabbro, as well as dioritic, tonalitic and granitic intrusions. Mapped shear zones were characterized by sericitization, chloritization, carbonatization and epidotization. The shear zones revealed a loss of K<sub>2</sub>O and a gain of CaO and MgO.

In 1985, the property owned by Robbins was transferred to James U. Blanchard and 12 claims were also added. The Blanchard property covered a total of 752 ha. Geological mapping and reconnaissance geophysics were carried out on the property (Smith, 1985a). According to Smith (1985a), exploration targets of immediate interest were identified in the southern and northern parts of the property. The observed dyke swarms and accompanying geochemically auriferous pyrite in the southern part and the WNW-trending VLF zones in the northern were considered of particular interest. It was suggested that the area in the southern part be covered by an IP survey. A prominent WNW-trending magnetic anomaly is also present in the northern part (Lavoie, 1981; 1982), coincident with the VLF zones outlined by Smith (1985a). Smith (1985a) thought the latter zones could be similar to the series of WNW-trending fracture zones discovered to the east by Mondor Resources Ltd., which carries significant gold mineralization.

In 1985, Constable Consulting Inc. was commissioned by G J. Hinse to assess the gold and base metal potential of the property and to complete a geological survey (Constable, 1985b). The G.J. Hinse property was composed of two claim blocks totalling 22 claims and 352 ha (Figure 6.2). The property was underlain by pillowed basalts and pyroclastic units. The S1 cleavage generally strikes 060° and dip steeply north or south. Bedding, where observed, is subparallel or parallel to the S1 cleavage. Two potential gold environments were identified on this property: (a) black quartz veins ±fuchsite±pyrite, and (b) white quartz veins ±pyrite. Only anomalous gold values (up to 524 ppb) were obtained from the black quartz veins.

During the summer of 1985, Achates Resources Ltd (“Achates”) carried out line cutting, geological surveying, reconnaissance basal till sampling, and HEM, VLF and Mag surveys (Smith, 1985b). Only a small portion of the property is located on the Monster Lake Project (Figure 6.2). Outcrops were rare in the NW sector. The

geophysical surveys confirm the presence of two major structural directions (trending NE and ESE). No anomalous results were obtained by the basal till sampling.

During the winter and spring of 1985, SOQUEM carried out ground geophysics on the Fancamp property (Tittley, 1985). A total of 292 line-km of Mag and 280 km of VLF were completed on the property, with lines spaced 150 m apart. More than 275 EM anomalies and three magnetic anomalies were outlined by the surveys. On July 25, 1985, SOQUEM finalized an option agreement in which Sullivan Mining Group ("Sullivan") might earn a 50% interest in the claims of the Fancamp property. Over the next 48 months, Sullivan had to pay 60% of the project expenditures until spending by SOQUEM and Sullivan was equal. SOQUEM remained project operator. During the summer of 1985, detailed geological, stripping and channel sampling were performed on the Quatre-Chemins showing and a group of outcrops located east of the Eratix showing (Vachon, 1986). An IP survey ( $a = 5$ ,  $n = 2$ ) was carried out in the area of the Eratix showing (Hubert, 1986). Twenty kilometres of lines were covered by this survey, spaced 150 m apart. Between November and December 1985, a total of eight (8) holes (993-85-5 to 993-85-12) were drilled totalling 1,066.3 m (Vachon, 1986). The objective was to test the lateral continuity and depth extensions of the Eratix showing. The best results obtained was 11.01 g/t Au over 1.00 m in hole 993-85-10.

In February 1986, SOQUEM and Sullivan added four (4) holes (993-86-13 to 993-86-16) totalling 338.2 m (Vachon, 1986). As before, the objective was to test the lateral continuity and depth extensions of the Eratix showing. An average grade of 2.45 g/t Au over 4.3 m was returned in hole 993-86-13. In the fall of 1986, stripping and trenching were carried out in the area of the Eratix and Quatre-Chemins showings. Thirteen (13) trenches were excavated, totalling 887 m in length and 5,476 m<sup>2</sup> of exposure (McCann, 1987). The trenches tested previously reported geophysical anomalies. Three trenches led to the discovery of the Nouvelle Zone located about 700 m southwest of the Eratix showing. The best result obtained in a channel was 16 g/t over 1 m. All trenches were geologically mapped. In October and November 1986, SOQUEM drilled 11 holes (993-86-117 to 993-86-26 (including abandoned hole 993-86-24A) totalling 1,147.2 m. Three (3) holes were located near the Quatre-Chemins showing. No significant gold results were obtained. Five (5) holes tested the extensions of the Eratix showing. The best result was 2.7 g/t Au over 0.5 m. Finally, two (2) holes tested the Nouvelle Zone. An average grade of 2.57 g/t Au over 5.1 m (hole 993-86-25) was reported in a shear zone.

In 1986, prospecting, geophysical surveys and sampling were carried out on the Blanchard property by James U. Blanchard (Smith, 1986). A total of 28.5 km of Mag and 30 km of HEM MaxMin surveys were performed on the property. Four (4) conductors were identified.

In the fall of 1986, Noranda carried out geophysical surveys on their Rasles Project (Turcotte, 1986). For the IP survey, a total of 42 km of lines spaced 200 m apart ( $a = 50$ ,  $n = 3$ ) were completed, for the Mag survey, the total was 92 km. Some IP anomalies were reported.

In November 1986, Mag and MaxMin EM surveys were carried out by Achates on their property (Lamothe, 1987). The line spacing was 100 m. The Mag survey totalled 62.5 km, and the MaxMin survey amounted to 55.4 km. Some conductors were detected.

In May 1987, SOQUEM and Sullivan carried out stripping and trenching in the area of the Nouvelle Zone (McCann, 1987). Anomalous gold values were obtained on only two trenches from channel sampling. All trenches were geologically mapped. In the fall of 1987, Cambior Inc. acquired Sullivan's interest in the Fancamp property (McCann, 1990)

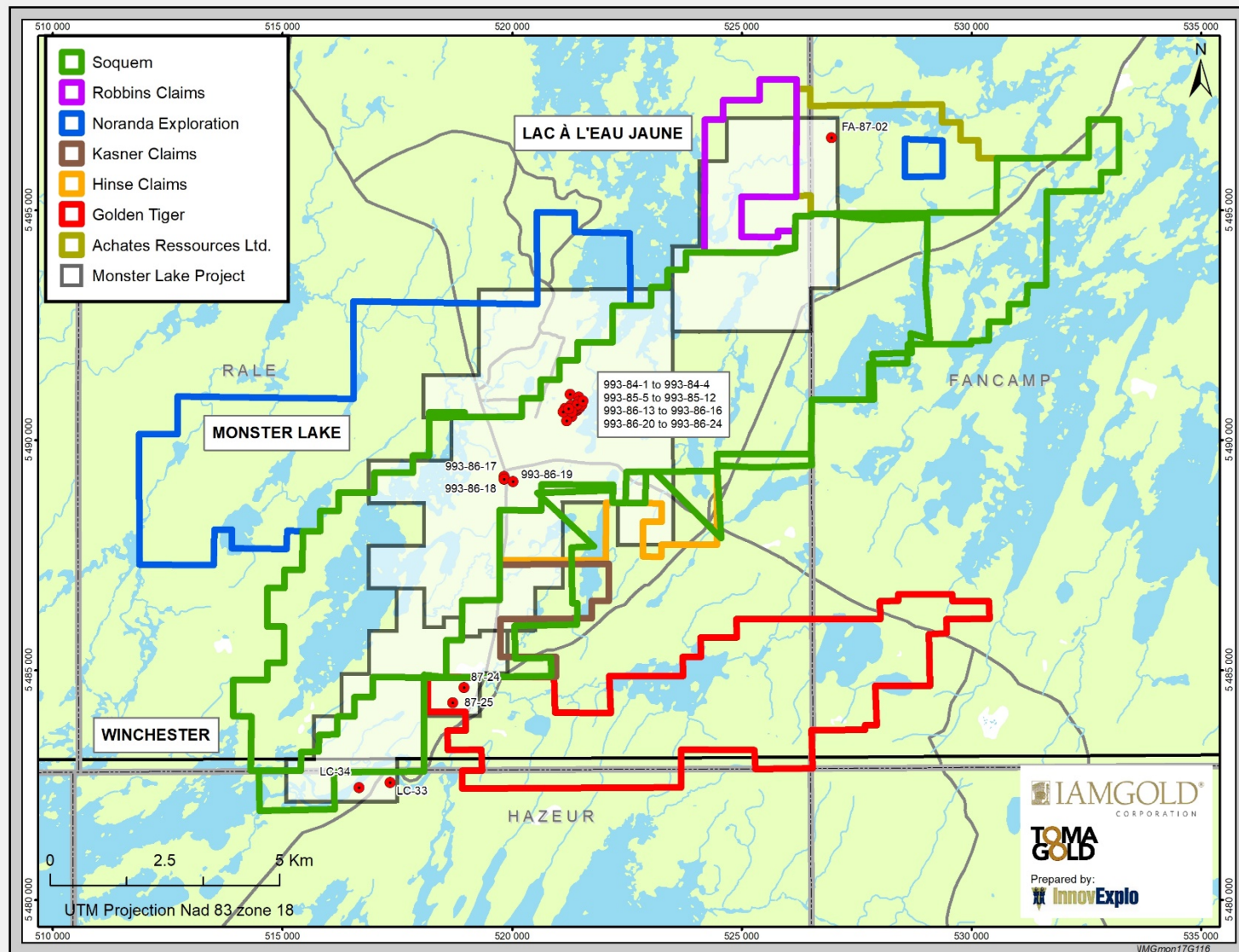
A Mag survey and EM survey (VLF) were carried out in August 1987 on the property owned by G. J. Hinse (Allard, 1987). The surveys were performed over a grid system of lines oriented N315°. Line spacing was 122 m. A total of 66 km of Mag survey and 58.3 km of VLF survey were completed. Some conductors were detected. At the same time, a geological survey was conducted on the property (Sicard-Lochon, 1987).

In 1987, Laforest conducted a compilation of exploration work on the Fancamp property, owned by Achates. In December 1987, Mag, EM VLF, and IP surveys were conducted on the property (Fortin, 1988). A total of 37.2 km of Mag survey, 70.6 km of EM VLF survey, and 12.4 km of IP survey ( $a = 25$ ,  $n = 4$ ) were carried out. The spacing between lines was 100 m. Three anomalous axes were detected by the IP survey. A fault zone, oriented NE, was interpreted based on the EM VLF survey. In December 1987, Achates began a drilling program on their property (Buisières, 1987a). One hole, FA-87-2, was located in the northeast corner of the current Monster Lake Project. This hole, with a total length of 121.9 m, passed through pillowed andesite hosting a large shear zone (about 20 m wide). Quartz veins in the shear zone contained traces to 1% pyrite. No significant gold values were reported.

In 1987, Golden Rocks Exploration Inc. drilled two (2) holes (87-24 and 87-25) totalling 293.4 m (Buisières, 1987b). Hole 87-24 tested an IP anomaly detected by the previous survey done by Golden Tiger. The hole passed through pillowed andesite and some zones containing quartz veins. Hole 87-25 targeted an IP anomaly related to the Fancamp Fault and passed through a sequence of deformed andesite containing quartz-carbonates veinlets. No significant results were reported in these holes.

In 1988, Esso Resources Canada Ltd drilled two (2) holes (LC-33 and LC-34) totalling 609 m on the Monster Lake Project (Figure 6.2). These holes passed through sedimentary and mafic volcanic rocks sequence (Leber, 1988). No significant gold values were reported in these holes.

In May 1989, SOQUEM conducted a heliborne REXHEM-4 survey covering all of the Fancamp property (Saindon and Dumont, 1989). The survey was performed by Sial Géosciences, with flight lines oriented N315° and spaced every 100 m. In August 1989, Cambior ended its partnership with SOQUEM and Cambior's interests were dissolved (McCann, 1990). SOQUEM consequently held 100% of the Fancamp property claims.



**Figure 6.2 – Location of historical work carried out on the Monster Lake Project before 1990. Collars of historical diamond drill holes are shown by red circles (Turcotte, 2015)**

## **6.4 Period: 1991 to 2000**

Between February and March 1991, SOQUEM conducted a magnetic-gradiometric survey and an EM survey (VLF) on the Fancamp property (Figure 6.3). A total of 326 km of lines was surveyed by GEOSIG Inc. (Saïm and Gaucher, 1991). The lines were spaced every 100 m and oriented N315°. Some conductors were detected. At the same time, SOQUEM carried out a drilling program on the property (Bernier, 1991a). Eight (8) holes (993-91-27 to 993-91-34) were drilled totalling 2,126 m. Holes 993-91-27 to 993-91-30, and 993-91-32 were located outside the current Monster lake Project. The purpose of the drilling program was to determine the geological nature and gold potential of geophysical axes and/or topographic lineaments in the Lac Irène and Rivière Eratix area. Many geophysical targets were explained by these new holes. The best result was 4.57 g/t Au over 1.0 m. Between May and October 1991, SOQUEM conducted a large exploration program on their property (Bernier, 1991b). The program consisted of geological and geochemical surveys, trenching, stripping and channel sampling. The work led to the discovery of the Trois-Chemins showing. This showing consisted of a shear zone 7 to 8 m wide containing quartz veins. The best results from channel sampling were 8.0 g/t Au over 2 m and 5.5 g/t Au over 3 m. In the area of Lac à l'Eau Jaune, three showings were found: 91-356 (grab samples up to 6.2 g/t Au), 91-269 (grab samples up to 1.65 g/t Au), and 91-507 (grab samples up to 1.57 g/t Au).

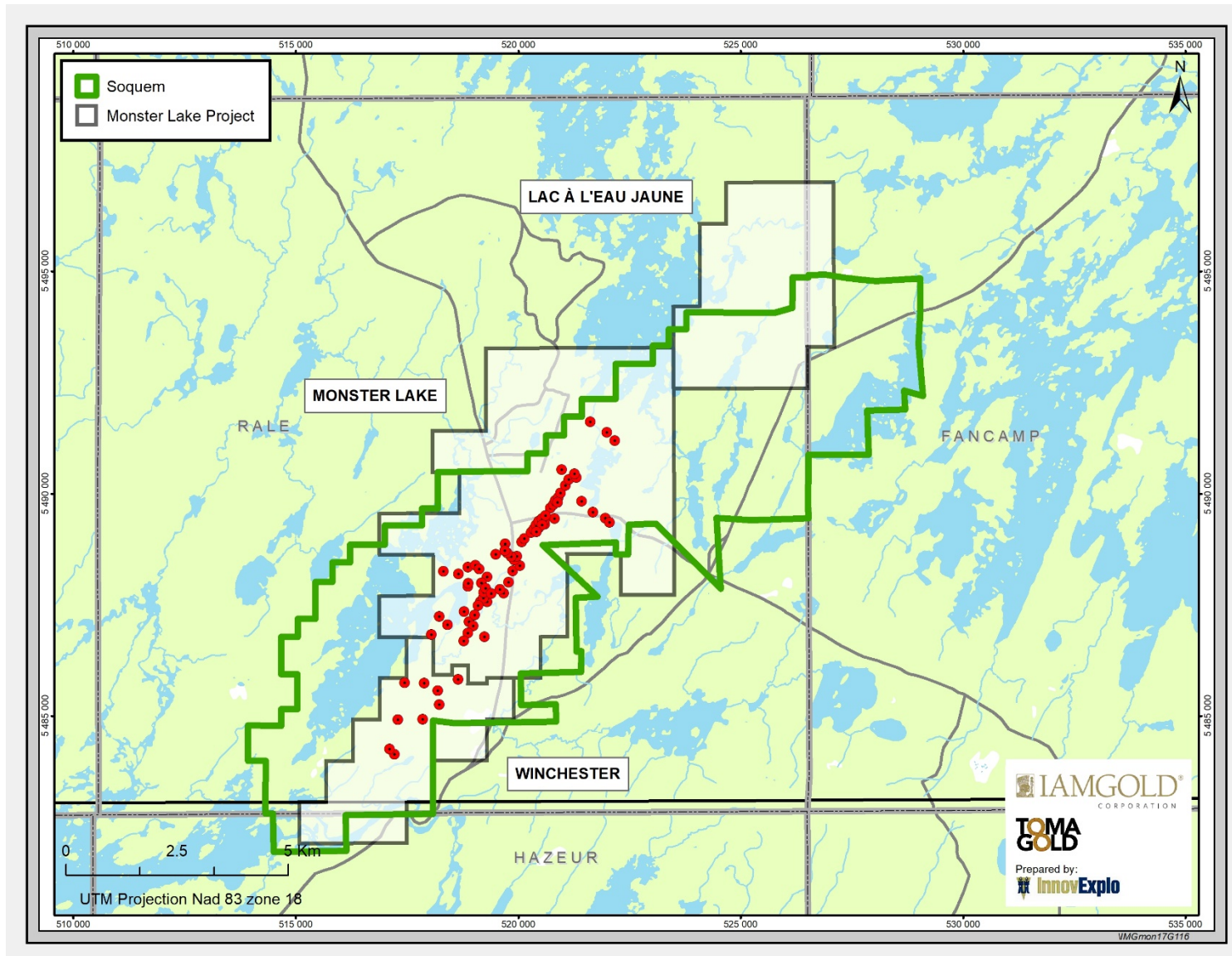
In July 1993, SOQUEM conducted an IP survey ( $a = 20$ ,  $n = 6$ ) over the Eratix and Trois-Chemins showings (Tshimbalanga, 1993). The purpose of this survey was to determine the geophysical signature of the showings. A total of 3.5 km (7 lines) and 3.6 km (6 lines) were covered over the Eratix and Trois-Chemins showings, respectively. This survey produced some anomalies associated with the mineralization of these showings. In September 1993, SOQUEM entered in an option agreement in which Consolidated Oasis Resources Inc. ("Oasis") could earn a 50% interest in the Fancamp claims. In the fall of 1993, SOQUEM and Oasis carried out an IP survey ( $a = 20$ ,  $n = 5$ ) on their Fancamp property (Hubert et al., 1993). The survey was performed by SAGAX Géophysique Inc. ("SAGAX") and covered 67.5 km of lines. Many anomalies were reported. At the end of the year, Pierre de Chavigny, SOQUEM project geologist, completed a compilation of all geophysical and geological work on the property (scale 1 : 5,000), and was instrumental in planning the 1994 drilling program (Folco, 1994).

Between January and April 1994, SOQUEM and Oasis began a drilling program on their property (Bellavance, 1994). A total of 26 holes (993-94-01 to 993-94-26A) were drilled for 2,666 m. The targets of these holes were mainly IP, VLF and Mag anomalies, and a new geological interpretation. The drilling identified new gold zones, located in the hanging wall and footwall of the Nouvelle Zone. These zones were named I, II, III, IV and V. The best intersection corresponded to the Annie showing (Zone III), which returned an average grade of 14.7 g/t Au over 4.5 m (cut at 34.29 g/t Au). Zone IV returned an average grade of 5.05 g/t Au over 2.9 m. During the summer

of 1994, SOQUEM and Oasis completed the IP survey ( $a = 20$ ,  $n = 5$ ) on their Fancamp property (Bérubé, 1994). The survey was performed by SAGAX and covered 25.8 line-km. Many anomalies were reported. At the same time, geological mapping, stripping and drilling were also performed on the property. The purpose of the exploration work was to find the extensions of the gold zones. A new geological mapping (scale 1:2,500) and trenching (23 trenches) were carried out in an area from the Annie showing to the Trois-Chemins showing. In parallel, detailed geological mapping (scale 1:200) was done on the Eratix showing. New drilling targets were generated based on a new interpretation of the IP survey that relied on the combined results of geological mapping and trenching. A drilling program was carried out in September. Six (6) holes (993-94-27 to 993-94-32), consisting of 960 m, were drilled on the Zone III (Annie showing) and Zone IV. The best result was 2.32 g/t Au over 5.1 m (hole 993-94-32) in Zone IV. At the end of the year, Oasis held a 50% in the Fancamp property and SOQUEM held the other 50%.

Between December 1994 and March 1995, SOQUEM and Oasis conducted a drilling program on their Fancamp property (Folco, 1995a). The program tested the extensions of the Nouvelle Zone in particular, as well as Zone III (the Annie showing), Zone IV and the Eratix showing. Many IP axes were also tested by this drilling program. Thirty-seven (37) holes (993-94-33 to 993-95-69) were drilled for a total of 5,705.5 m. Holes 993-95-61 to 993-96-65 were located outside the current Monster Lake Project. The exploration program identified two new gold-bearing structures. The No. 45 structure (2.09 g/t over 3.2 m, hole 993-95-50) and the No. 52 structure (6.1 g/t Au over 5.1 m) were discovered by drilling. During the summer of 1995, geological mapping, stripping and drilling were performed on the property (Folco, 1995b). The purpose of the exploration work was to find the extensions of the gold zones corresponding to the No. 45 and No. 52 structures. Eleven (11) holes (993-95-70 to 993-95-80) totalling 2,078 m were drilled on these gold-bearing structures. The best result was 5.06 g/t Au over 1.6 m in the No. 52 structure (hole 993-95-70).

In May 1996, SOQUEM and Oasis carried out an HEM MaxMin survey on their property (Lambert, 1996). The survey was performed by G. L. Géoservices Inc. A total of 57.1 km of lines, spaced every 100 or 200 m, was covered during this survey. Eight conductors were outlined.



**Figure 6.3 – Location of SOQUEM's former Fancamp property (pre-2000). Collars of historical drill holes are shown by red circles (Turcotte, 2015)**

In 1999, Oasis' interest in the Fancamp property was diluted to 48.41% (Folco and Schmitt, 2002). In 2000, a new agreement was reached between SOQUEM and Oasis. The residual Fancamp property (147 claims) was divided into two parts. SOQUEM became the 100% owner of the mineral rights on 49 claims in exchange for a 1.5% NSR royalty. SOQUEM changed its property name to Winchester property and Oasis' property kept the Fancamp name.

## **6.5 Period: 2001 to 2010**

In 2001, SOQUEM entered in an option agreement in which Plexmar Resources Inc. ("Plexmar") could earn a 50% interest in the claims of the Winchester property. Between 2001 and 2002, SOQUEM and Plexmar carried out a two-phase drilling program. Nine (9) holes (993-01-81 to 993-02-89) were drilled for a total of 1,738 m. The drilling program identified a new gold-bearing structure (the No. 86 structure). The best result was 2.35 g/t Au over 7.4 m (hole 993-02-88). By the end of 2002, Plexmar had earned its 50% interest in the Winchester property.

Between 2001 and 2008, Glen Eagle Resources Inc. ("Glen Eagle"; formerly Consolidated Oasis Resources Inc., Oasis Diamond Exploration Inc. and Temoris Resources Inc.) tried to keep the Fancamp mining titles active using historical available work credits. Glen Eagle did not conduct any major exploration activities during this period. Only minor sampling was carried out on the property.

During the period from January 8 to March 27, 2006, Fugro Airborne Surveys flew an airborne EM and Mag survey over the entire Monster Lake Project area using a MEGATEM II system (Dumont and Potvin, 2006a to 2006g). The system was mounted on a four-engine De Havilland DASH 7 aircraft. Traverse lines were spaced at 200 m apart and control lines 2 km apart. Flight elevation was maintained at a nominal ground clearance of 120 m. This survey was funded by Natural Resources Canada's Targeted Geoscience Initiative (TGI-3), and the project was managed by the Geological Survey of Canada.

In 2006, Diagnos Inc. ("Diagnos") map-staked 21 claims to the east of Lac à l'Eau Jaune. In that same year, Diagnos granted HuntMountain Resources Ltd. ("HuntMountain") the exclusive option to acquire a 100% interest in the property. In the fall of 2007, HuntMountain and Diagnos conducted an exploration program on their property that included geological surveying and rock sampling (D'Amours and Popiela, 2008). In 2008, Diagnos and HuntMountain completed a compilation study followed by a field program again consisting of geological reconnaissance and rock sampling, in addition to soil sampling (Popiela, 2011). Soil samples were sent for MMI analysis, but no significant results were obtained. The best results were for three grab samples that returned values up to 2.64 g/t Au, 20.9 g/t Ag, and 4.52% Cu.

In 2008, Geo Data Solutions Inc. flew a helicopter-borne Mag survey for Tawsho Mining Inc. on a single block (St-Hilaire, 2008). A total of 2,792 line-km was flown to cover the survey area. Traverse lines were oriented N135° with a spacing of 100 m. The survey almost completely covered the former Lac à l'Eau Jaune property owned by Diagnos.

On November 5, 2008, Glen Eagle ceded its 70% interest in the Fancamp property to Multi-Ressources Boréal. On September 21, 2009, Glen Eagle approved the disposition of the remaining 30% of the Fancamp property.

Between September 2007 and June 2009, G. L. Géoservices carried out prospecting and sampling on the 325-property (Lamothe and Bouchard, 2009). The exploration work led to the discovery of the 325 showing, located about 800 m south of the Quatre-Chemins showing. Following this discovery, the company followed up with stripping and channel sampling on the showing. The 325 showing consists of a well-mineralized major shear zone about 5 m wide, with grades up to 12.77 g/t Au over 3.1 m. About 700 m west of the Quatre-Chemins showing, trenches dug in 2009 by G. L. Geoscience exposed an altered shear zone 5 m wide, containing a sulphidized and graphitic horizon. Grab samples returned up to 4.73 g/t Au (trench TR-4).

In October 2009, Stellar AfricaGold Inc. ("Stellar", formerly Stellar Ventures Gold Inc.) signed a letter of intent to acquire a 100% interest in the Monster Lake property owned by Multi-Ressources Boréal. On November 2009, Stellar signed a letter of intent to acquire a 100% interest in the 325 property owned G. L. Géoservices (50%) and Marc Bouchard (50%). This property was adjacent to the Monster Lake property and was subsequently merged with it.

During the summer of 2010, Stellar compiled all the historical work carried out on the Monster Lake property. Stellar's prospecting work in 2009 had led to the discovery of the Megane showing (grab samples up to 2.68 g/t Au). Stellar proceeded to the verification of the positions of historical diamond drill hole casings and trenches in the field. A sampling program on the historical gold confirmed the previously reported gold values. Humus sampling was carried out in an area without outcrop exposure. The Megane showing was stripped over a distance of 125 m, revealing black quartz veins and veinlets in an altered mineralized shear zone about 10 m wide. The best channel results were an average grade of 9.71 g/t Au over 5.2 m and 3.24 g/t Au over 7.2 m. Four other gold showings were also stripped: 325, Annie, Megane South, Berta and Gabrielle (O'Dowd, 2012). The only significant gold results were on the 325 showing, where channel sampling returned an average grade up to 7.26 g/t Au over 1.6 m.

In December 2010, Stellar drilled their property during a 23-hole program totalling 2,983.5 m (holes M-01-10 to M-23-10). The drilling program focused on the 325, Megane and Annie showings, and also on the No. 52 structure (O'Dowd, 2012). Best results are presented in Table 6.1.

**Table 6.1 – Best results from Stellar’s 2010 drilling program (Turcotte, 2015)**

Zone name	Hole	From (m)	To (m)	Core Length (m)	Au (g/t)
52 Structure	M-15-10	79	83	4.0	3.17
325 Zone	M-16-10	47.1	52.4	5.3	4.58
	<i>including</i>	<i>47.1</i>	<i>50.6</i>	<i>3.5</i>	<i>6.54</i>
325 Zone	M-17-10	108.5	110	1.5	34.29
325 Zone	M-18-10	78	83	5.0	5.41

*Note: all assays were cut at 34.2857 g/t Au*

In 2010, Gasp  nor G  o-Sciences Inc. (“Gasp  nor”) and MGWA Holding (“MGWA”) map-staked the area of SOQUEM’s former Winchester property. SOQUEM’s claims had expired and the area was open to staking. During the summer of 2011, Gasp  nor and MGWA completed a geological compilation study and a geological reconnaissance program on their property (Giroux, 2011).

In 2011, Stellar drilled 24 holes (M-23-11 to M-34-11 and M-36-11 to M-11-48) totalling 2,204.0 m (O’Dowd, 2012). The drilling program targeted the 325 and Megane showings and their extensions. Best results are shown in Table 6.2.

**Table 6.2 – Best results from Stellar’s 2011 drilling program (Turcotte, 2015)**

Zone name	Hole	From (m)	To (m)	Core Length (m)	Au (g/t)
325 Zone	M-25-11	49.5	55	5.5	12.98
325 Zone	M-36-11	95	97	2.0	8.38
325 Zone	M-37-11	100	105	5.0	8.05
325 Zone	M-38-11	96	99	3.0	7.22
325 Zone	M-44-11	125	129	4.0	4.92
	<i>including</i>	<i>125</i>	<i>127</i>	<i>2.0</i>	<i>8.37</i>

*Note: all assays were cut at 34.2857 g/t Au*

## 6.6 Period: 2011 to November 2013 (TomaGold Corporation)

On May 2, 2011, **TomaGold Corporation** (“TomaGold”, formerly Carbon2Green) acquired the Monster Lake property from Stellar, along with two other gold projects (Urban and Vassan).

In October 2011, Diagnos carried out geological mapping and rock sampling on their Lac    l’Eau Jaune property, targeting the areas that had not been visited in 2007 and 2008 (Popiela, 2011). No significant results were reported.

In February 2012, TomaGold began a drilling program on their Monster Lake property. During the year, 47 holes were drilled for a total of 6,852.0 m (holes M-12-35, M-12-49 to M-12-72, M-12-72B, M-12-72C, M-12-73 to M-12-78, M-12-79A, M-12-79B, M-12-80 to M-12-90, and M-12-92). The drilling program focused on the 325, Annie and Cominco showings. The best results are presented in Table 6.3.

**Table 6.3 – Best results from TomaGold’s 2012 drilling program (Turcotte, 2015)**

Zone name	Hole	From (m)	To (m)	Core Length (m)	Au (g/t)
325 Zone	M-12-57	49.5	55	5.5	12.98
Annie Zone	M-12-60	69	74.7	5.7	34.29
Annie Zone	M-12-72	116.2	119.2	3.0	5.38
Annie Zone	M-12-72B	32.25	34.5	2.25	7.51
Annie Zone	M-12-72C <i>including</i>	33.75	45	11.25	5.74
		40.5	42.75	2.25	12.60
Annie Zone	M-12-74 <i>including</i>	92.8	98.8	6.0	5.45
		95.8	98.8	3.0	7.35

*Note: all assays were cut at 34.2857 g/t Au*

In April 2012, TomaGold signed an agreement to acquire a 100% interest in the Lac à l'Eau Jaune property owned by Diagnos. In May 2012, TomaGold signed an agreement to acquire a 100% interest in the Winchester property owned by Gaspénor and MGWA.

In August 2012, TomaGold awarded Aecom Energy (Eastern Canada) a contract to carry out a structural study on the Monster Lake property. The report by Trudel (2012) confirmed the lenticular nature of the gold-bearing veins forming pinch-and-swell structural boudins both laterally and vertically. Gold distribution in the shear zone is highly variable due to the discontinuous nature of the veins and the erratic distribution of gold (“nugget effect”). The gold-bearing veins are hosted in highly deformed and altered rocks (carbonatized, sericitized and silicified). The structural analysis of Trudel (2012) demonstrated that the movement was sinistral shearing in the horizontal plane and reverse in the vertical plane. A shallow plunge (25-30°) to the NNE was also documented for the folded quartz veins.

On October 9, 2012, TomaGold announced it had signed an agreement with Services Métallurgiques METCHIB of Chibougamau to carry out mineralogical characterization and metallurgical testing. TomaGold prepared a representative 45-kg composite sample using drill core from the 325 gold zone. The sample was sent to the METCHIB laboratory, and a scoping testwork program was designed to characterize this sample. The study included mineralogical characterization, ball mill work index assessment, gravimetric separation testing, static acid generation testing, cyanidation kinetic

testing and activated carbon adsorption kinetics (Rail and al. 2012). The cyanidation kinetic testing considered the effect of particle size, solid content, cyanide concentration, lead nitrate addition, gravity tail cyanidation, and cyanidation with activated carbon. The average gold head grade obtained for all tests was 4.8 g/t Au. A ball mill work index result of 14.78 kWh/t was obtained with a closing sieve of 106 µm. The ore is considered to be medium in hardness. Gold recovery in the Knelson concentrator was 59% with 10% of the initial mass. Direct cyanidation of whole ore yielded the best recovery (96.3%).

In November 2012, TomaGold signed a joint venture agreement with Quinto Resources Inc. ("Quinto") for the exploration and development of the Monster Lake property. The agreement granted Quinto the option to acquire an initial 50% interest in the Monster Lake property.

In February 2013, TomaGold and Quinto started a diamond drilling program on their Monster Lake property. The main goal of the program was to test the extension of the 325 Zone at a depth of 125 to 300 m. During the year, fifteen (15) holes were drilled for a total of 4,997.4 m (holes M-13-93 to M-13-107). In summary, the drilling program confirmed that the 325 Zone extends more than 150 m along strike and down to a vertical depth of 330 m, with the zone remaining open at depth. Best results are shown in Table 6.4.

**Table 6.4 – Best results from TomaGold's 2013 drilling program (Turcotte, 2015)**

Zone name	Hole	From (m)	To (m)	Core Length (m)	Au (g/t)
325 Zone	M-13-93	243.3	250.2	6.9	15.63
325 Zone	M-13-94	226.5	232.8	6.3	8.94
325 Zone	M-13-95	288.4	295.6	7.2	29.06
325 Zone	M-13-98	274.6	281.9	7.3	12.67
325 Zone	M-13-99	214.4	223	8.6	10.00
325 Zone	M-13-101	282.55	283.45	0.9	34.29
325 Zone	M-13-103	370	372.55	2.6	7.31
325 Zone	M-13-105	355.9	367.2	11.3	8.65
	<i>including</i>	<i>360.9</i>	<i>367.2</i>	<i>6.30</i>	<i>12.20</i>
325 Zone	M-13-106	259.2	261	1.8	18.62

*Note: all assays were cut at 34.2857 g/t Au*

On July 3, 2013, TomaGold announced initial results from the drilling program on its Winchester property adjacent to the Monster Lake property, about 6 km to the south-southwest of the 325 Zone. The drilling program focused on the No. 86 structure discovered in 2002 by SOQUEM. Over the course of the year, four (4) holes were drilled on this property, totalling 1,170.0 m (holes W-13-01 to W-13-04). The best result obtained in the No. 86 structure was 6.94 g/t Au over 3.25 m (hole W-93-02).

## **6.7 Period: November 2013 to 2014 (option agreement with IAMGOLD)**

On November 12, 2013, TomaGold finalized an option agreement with IAMGOLD in which IAMGOLD may earn a 50% interest in each of the Monster Lake, Winchester and Lac à l'Eau Jaune properties.

### **6.7.1 3D modelling and geological database**

In December 2013, IAMGOLD completed some early-stage 3D modelling of the interpreted fold and the Monster Lake Shear. The preliminary model provided a better appreciation of the complexity of the geology and structure of the Monster Lake property (Figure 6.4). In the meantime, historical geological surface mapping on the Monster Lake property was digitized to ensure all available data was utilized and reviewed. This work yielded a more comprehensive geological map of the area.

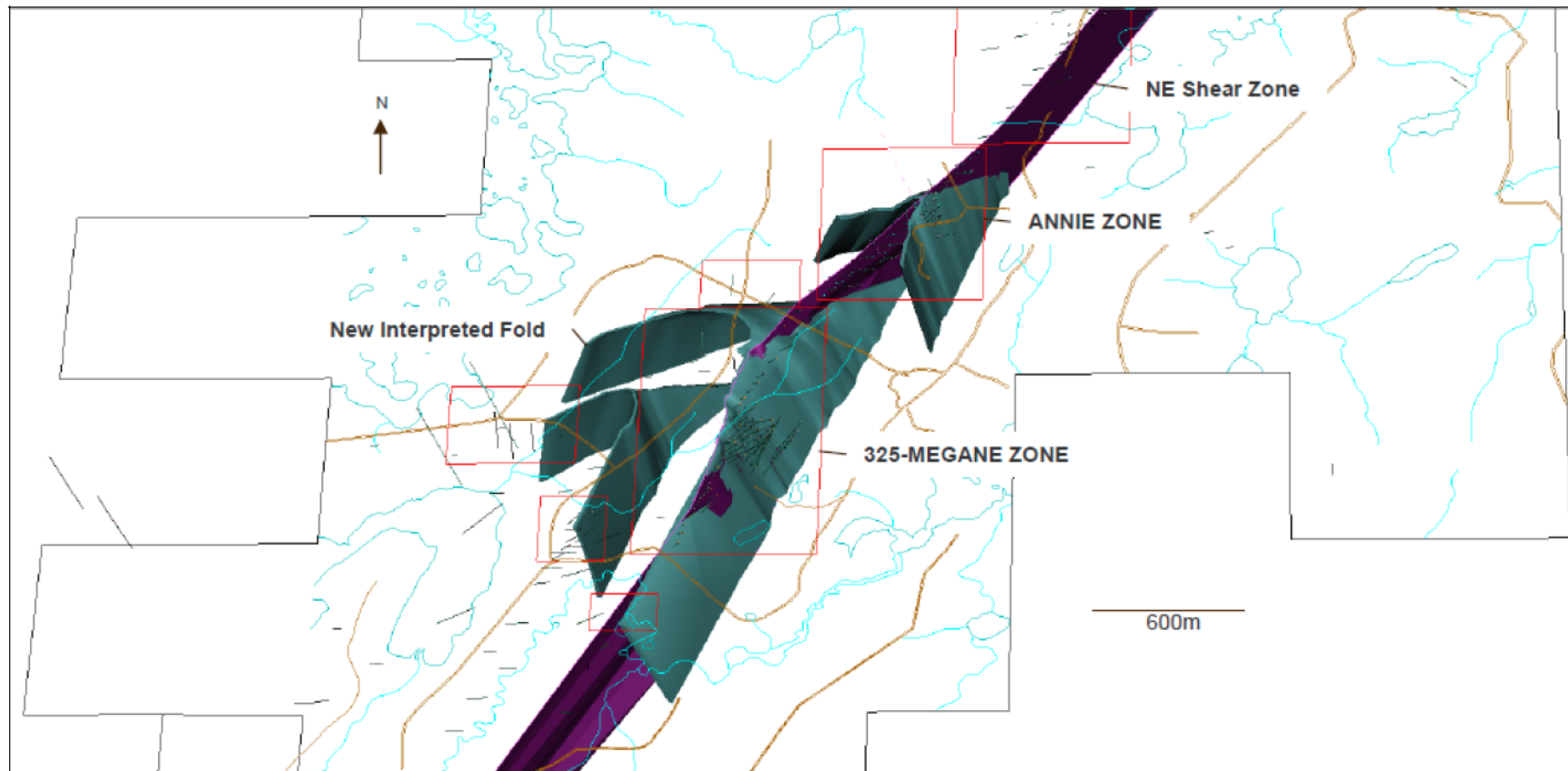
### **6.7.2 Review of historical ground geophysical survey**

SOQUEM provided the original data from historical ground-based magnetic, IP and resistivity surveys over the Megane and Annie showing areas. The dataset was reviewed in detail and it was noticed that considerably different IP and resistivity responses were obtained between the combined 325-Megane area and the Annie area. Several IP inversion sections were generated for Megane.

Highlights of the review are as follows:

- The footwall of the shear zone and mineralization at Megane seem to be characterized by very low resistivity and high chargeability;
- The other side of the fold - interpreted by SOQUEM and inferred by data compilation - is also distinguished by a similar low resistivity/high resistivity zone in the hanging wall; and
- The area surrounding Annie is characterized by a high resistivity/weak chargeability response.

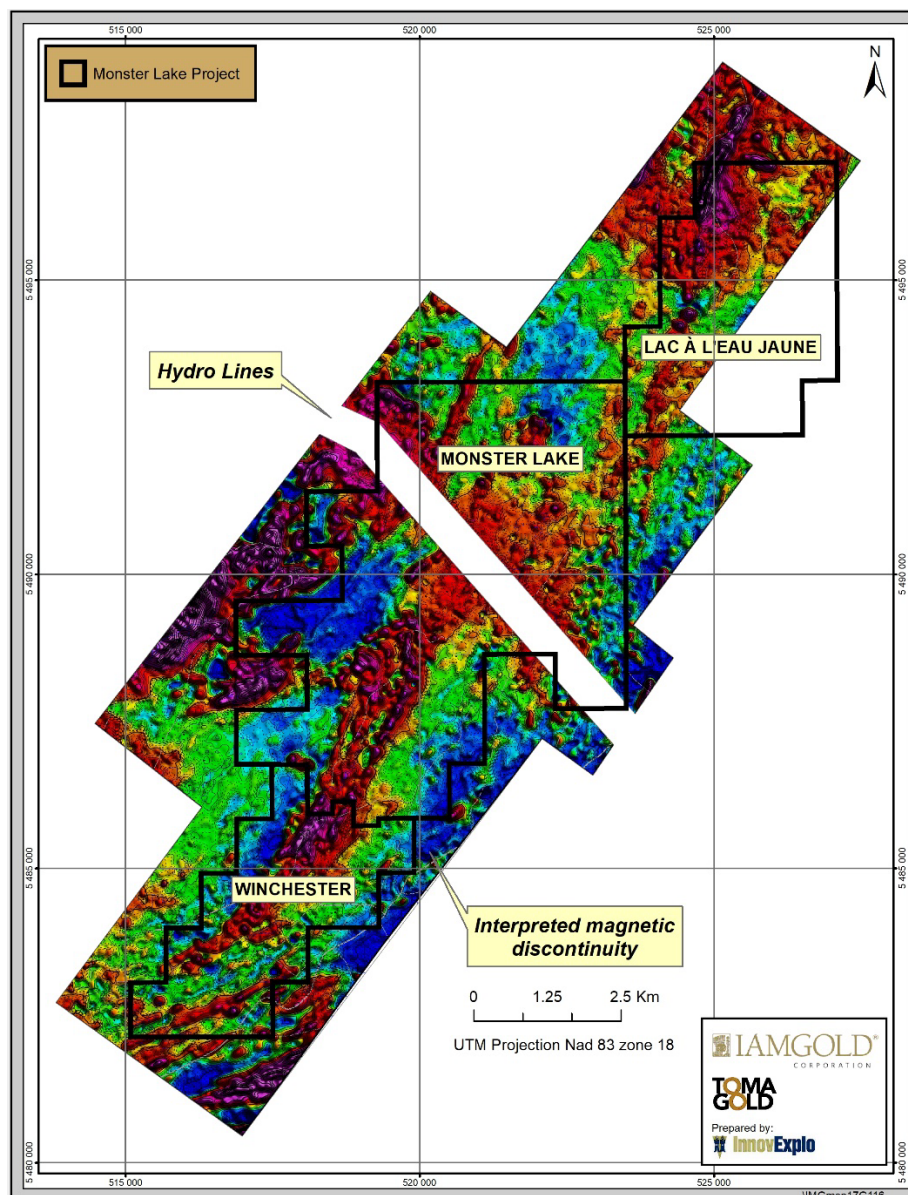
The IP inversion sections were integrated into the 3D geological model to generate new shallow targets.



**Figure 6.4 – Early-stage 3D modelling of interpreted folds and the Monster Lake NE shear zone. From IAMGOLD Report (2014a)**

### 6.7.3 Magnetic survey

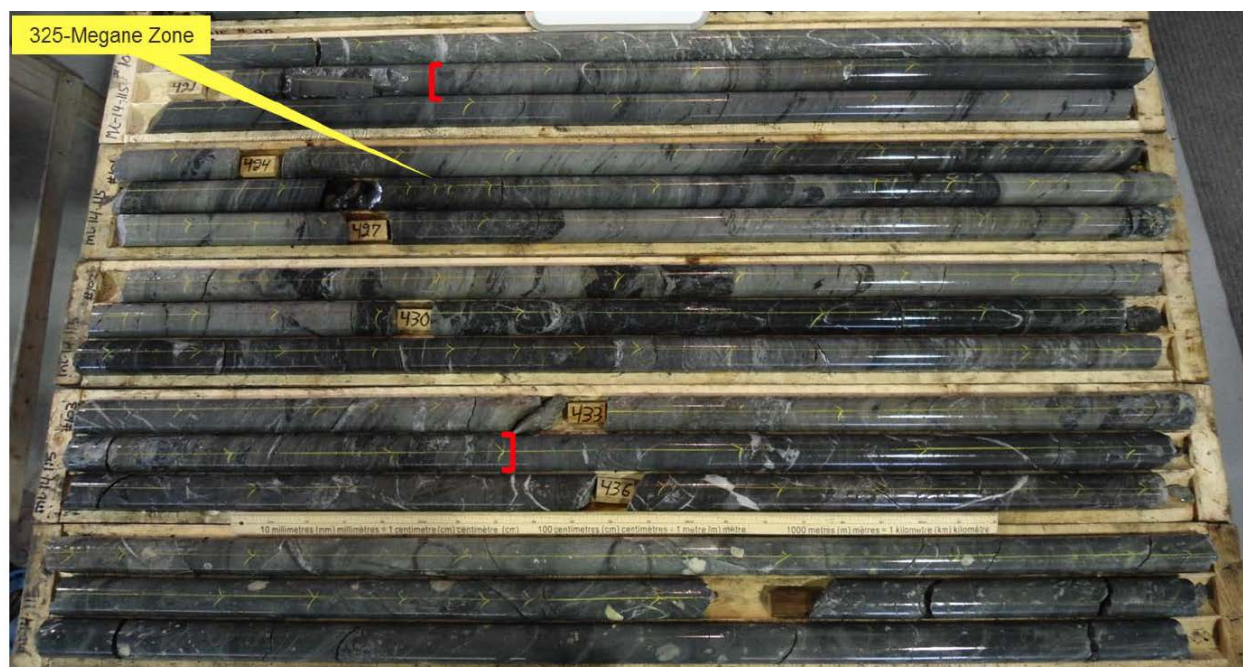
In February 2014, Geophysics GPR International Inc. flew a magnetic survey for IAMGOLD (Figure 6.5; Létourneau and Paul, 2014). The survey consisted of one block covered by 1408.0 line-km with a line spacing of 75 m, a tie-line spacing of 750 m and an average altitude of 45 m. The HeliMAGer™ system is a towed bird system configured as a horizontal magnetic gradiometer with two cesium vapour magnetometers installed at each end of the lateral arm, 6 m apart, and a Totem-2A VLF receiver on the lower arm. The radar altimeter and DGPS system were mounted on the central body of the HeliMAGer™ system. The direction of the flight lines was N140°- N320°, SE-NW and the direction of the tie-lines was N050°- N230°, SW-NE.



**Figure 6.5 – Map of the 2014 IAMGOLD magnetic survey (reduction to pole), processed by IAMGOLD**

#### 6.7.4 2014 Winter Drilling Program

The first drilling program carried out by IAMGOLD started in February and proceeded as scheduled, ending on May 16 2014. Nine (9) holes of NQ-size core were drilled for a total of 4,528.4 m (ML-14-108 to ML-14-116). The program successfully expanded the 325-Megane Zone and identified two additional prospective horizons: the Upper Shear Zone and the Lower Shear Zone. The 325-Megane Zone, previously outlined by TomaGold, is hosted in a thin volcanogenic horizon proximal to the Monster Lake Shear Zone (Figure 6.6). Based on the available information, the three zones appear to be subparallel and approximately 100 m apart. Best results are shown in Appendix II. Drill holes were described individually in the report of Turcotte (2015).



**Figure 6.6 – 325-Megane Zone from hole ML-14-115. Photo from IAMGOLD Report (2014b)**

### 6.7.5 Lithogeochemistry Program

Samples from surface outcrops at the 325-Megane Zone were collected to complement the sampling of two (2) drill holes and better define the alteration and host protolith of the gold mineralization (IAMGOLD Report, 2014c). This helped expand the knowledge on protoliths and certain other lithologies for all types of gold zones throughout the Monster Lake Block, as well as the associated alteration zoning.

Four days were spent selecting and collecting samples to assist the litho-geochemical study. Samples were collected from ten major showings on the Monster Lake Block for a total of 98 samples of various lithological units exhibiting different degrees of alteration (from unaltered to intensely altered). These were analyzed by ICP for litho-geochemical signatures. All samples collected were recorded in detail and photographed.

### 6.7.6 Petrographic Study

In March 2014, IAMGOLD retained IOS Services Géoscientifiques (“IOS”) to conduct a petrographic study on various lithologies observed on the Monster Lake Project (Tremblay, 2014).

Ten (10) core samples from the Monster Lake Project were sent to IOS (Table 6.5). The samples came from three (3) historical holes on the 325 and Annie showings (M-12-60, M13-104 & M13-106). The purpose of the study was to identify and characterize lithofacies and alteration. Thin sections were prepared for microscopic petrography. Some thin sections were polished for an opaque mineral study.

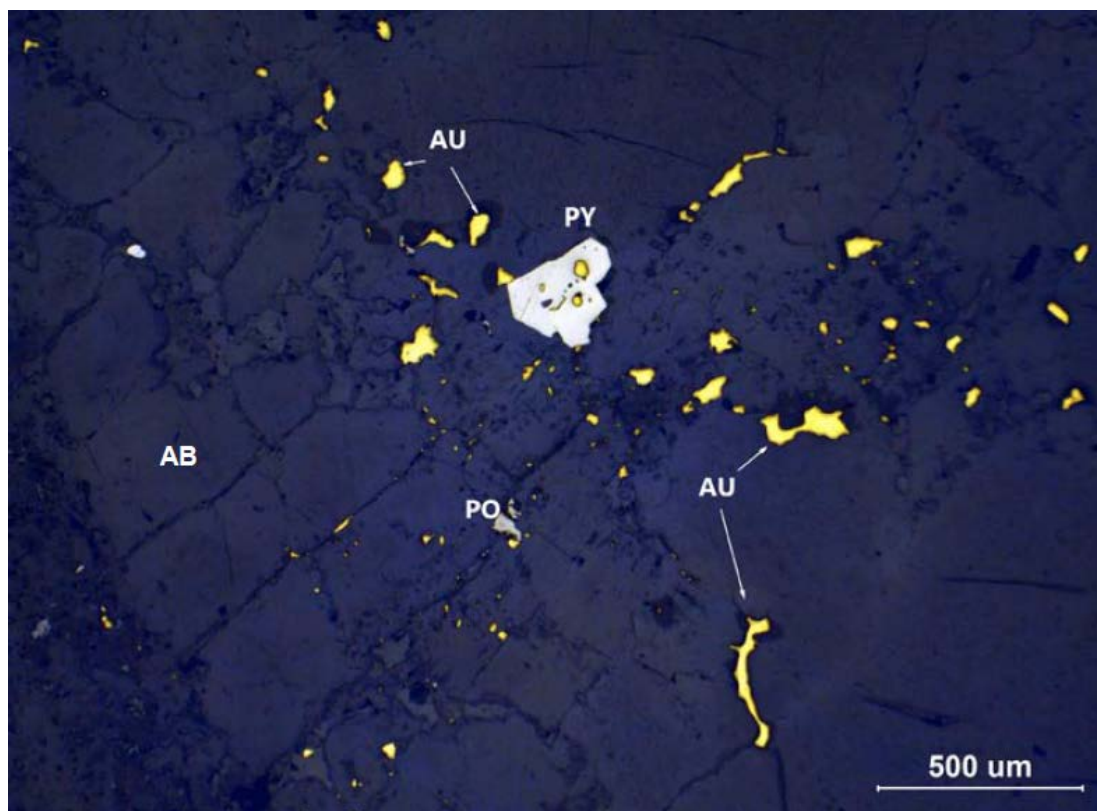
**Table 6.5 – Description of core samples used for the petrographic study (Turcotte, 2015)**

Sample number	DDH number	From (m)	To (m)	Lithology from DDH log	Lithology from Tremblay (2014)
1	M-13-103	90.43	90.55	Crystal tuff	Quartz porphyritic basalt
2	M-13-99	96.60	96.80	Ash tuff	Carbonatized volcanic rock
3	M-13-99	327.00	327.10	Glomeroporphyritic rock	Porphyritic basalt
4	M-13-99	330.36	330.50	Rock with phantoms of megacrysts	Sheared porphyritic andesite
5	M-12-60	74.37	74.50	Strongly altered rock	Mylonitic schist
6	M-12-60	50.45	50.57	Silica zone	Crenulated schist
7	M-12-60	47.10	47.20	Quartz vein (visible gold) + sericite alteration	Cataclastic quartz-albite vein
8	M-12-60	75.47	75.56	Strongly altered rock	Carbonated volcanic rock

Sample number	DDH number	From (m)	To (m)	Lithology from DDH log	Lithology from Tremblay (2014)
9	M-13-106	260.77	260.86	Smokey quartz vein (visible gold)	Brecciated quartz vein
10	M-13-104	275.00	275.19	Mineralized zone	Semi-massive sulphides

The petrographic study identified lithofacies less affected by deformation and alteration, such as porphyritic basalt with coarse porphyritic plagioclase (sample numbers 3 and 4) or basalt with or without quartz phenocrysts (sample 1). An aphyric volcanic rock facies was also observed. This rock was affected by strong penetrative carbonatization associated with muscovite  $\pm$  chlorite (samples 2 and 8, and possibly 6). Sample 5 is a mylonitic schist containing carbonate, quartz, chlorite, muscovite and tourmaline. The protolith cannot be identified but may be porphyritic basalt similar to those of samples 3 and 4.

Gold was observed in samples 7 and 9 but was not in sample 10 despite the high reported gold grade. Sample 7 is a cataclastic quartz-albite vein in which gold was found in several places, especially as free grains (Figure 6.7) associated with carbonate minerals in the fissures of albite-quartz veins. Gold is locally present as inclusions in pyrite or along pyrite grain boundaries, or along the contacts of pyrrhotite and chalcopyrite. Sample 8 is a cataclastic quartz vein in which gold is present along a fissure cut by a series of carbonate-filled fractures. Gold is free or found along cracks in pyrite or along the contacts with sphalerite.



**Figure 6.7 – Reflected-light photomicrograph of sample 7. Free gold grains (AU) in albite (AB) and as inclusions in pyrite (PY). Photo from 2014 IOS report**

In sample 10, semi-massive sulphides are associated with an assemblage of albite, quartz, calcite  $\pm$  tourmaline, which permeates foliated fragments of sericite schist.

Preliminary comments indicate that gold is found as free grains either within the fine cracks in pyrite crystals or along the grain boundaries, and less frequently along the grain boundaries of sphalerite, pyrrhotite and chalcopryrite crystals. The gold size varies from 1 to 750  $\mu\text{m}$ . In these samples, mineralization is hosted by cataclastic quartz veins and by carbonatized (mostly calcite) and silicified deformed and fragmented sericite schists.

According to macroscopic and microscopic observations, host rocks of mineralized zones that were previously identified as a “felsic tuff” unit are better defined as schist, protomylonite and mylonite, all belonging to either the Monster Lake Shear Zone or to thin volcanogenic siltstone and mudstone layers observed throughout the property. The protolith of these rocks will be defined by litho-geochemistry but locally relict minerals are indicative of a strongly silicified and carbonatized porphyritic volcanic protolith.

#### **6.7.7 2014 Summer Field Program**

The 2014 summer field program was prepared during the spring and started on May 23 (IAMGOLD Report, 2014b). The final compilation work for the Monster Lake

property formed the basis for the geological mapping and sampling program to be conducted in this priority area.

Geological data was systematically collected and recorded on a fixed template to ensure comprehensive and consistent records. A field map was updated daily to show progress, and a geological map using Government of Québec mapping standards was produced at the end of the program, along with a digital copy. Property-scale maps were generated at a scale of 1:5000, and detailed maps of selected areas were generated at 1:1000 or 1:500.

The results of the summer mapping program are presented below by claim block. The Monster Lake Block was given top priority during the field work, followed by the Lac à l'Eau Jaune Block, and the Winchester Block was considered a third-order priority area.

#### **6.7.7.1 Monster Lake Block**

Work began on the Monster Lake Block with detailed geological and structural mapping. Reconnaissance work was not necessary because the selected area of interest already had a significant amount of historical work, including geological mapping, stripping, grab and channel sampling and diamond drilling.

The work focused on understanding the structural relationships and completing a coherent geological interpretation. The information was used to help focus efforts at Lac à l'Eau Jaune and Winchester blocks.

Teams began with widespread traverses to gain a better geological understanding. There are several locations along the Monster Lake Shear Zone where thin overburden conceals outcrops, which made the initial exploration work difficult. The Beep Mat system was used to test these areas. The technician began near the known mineralized showings (325, Megane and Gabrielle showings) and travelled along strike, picking up conductive outcrops just below the overburden or swamps. This exploration technique helped identify areas for follow-up work, such as trenching, channel sampling and future drilling. The Beep Mat survey proved to be a very effective exploration tool in this particular area (IAMGOLD Report, 2014c). The interpreted fold was confirmed by outlining a conductive graphitic unit that follows the hinge. A portion of the Big Mama E-W shear zone was delineated, and several areas where the Lower Shear Zone comes within approximately 1.5 m of the surface were identified.

The work continued with detailed mapping of pre-existing trenches and strippings. The following 12 areas were pre-selected for the summer work program (IAMGOLD Report, 2014c, 2014d): Annie-1, Annie-2, Annie-3, Annie-4A, Big Mama, 325, Bertha-1, Bertha-2, Megane-1, Megane-2, Megane 2.5 and Gabrielle). The trenching and stripping work in these areas had been done by the previous claim holder, Stellar.

#### **6.7.7.2 Lac à l'Eau Jaune Block**

Geologists completed an initial reconnaissance mapping and sampling program on the Lac à l'Eau Jaune Block over a two-week period in pre-selected areas of interest. The purpose was to gain a better understanding of the ground in this area of limited historical work. Geologists identified areas suitable for more detailed geological and structural mapping, as well as stripping and channel sampling.

The selection of three main areas of interest was based on, but not limited to, pre-existing showings, Mag anomalies, position along strike of known mineralization and the Monster Lake Shear, abundance of outcrops, and historical grab sample results. Road access was fully explored, and cut lines were identified in the field and geo-referenced.

The team completed widespread traverses. About 33 outcrops were geologically described and sampled. Two out of the three areas selected for first pass mapping were visited. Two locations of dense outcrop exposure were identified for follow-up structural mapping.

#### **6.7.7.3 Winchester Block**

Beep Mat work was also conducted on portions of the Winchester Block in hopes of identifying near-surface anomalous areas for future work (IAMGOLD Report, 2014c). This work was intermittent because other activities were added to the exploration program. The intended work was never completed, and no significant anomalies were identified.

#### **6.7.8 2014 Trenching Program**

IAMGOLD's 2014 trenching program consisted of nine trenches of proposed 30m x 2m x 1.5m dimensions, totalling 990 m<sup>3</sup>. The objective was to test the following targets on the Monster Lake Block:

- Trenches 1, 2, 3, 5 and 6 to test the Lower Shear Zone of the 325-Megane area that had been identified by Beep Mat work earlier in the summer program;
- Trench 4 to test the eastern strike of the Big Mama Shear Zone, more specifically the intersection between this E-W shear and the N-S Lower Shear Zone;
- Trench 8 to test the hinge of the fold; and
- Trenches 7 and 9 to test a triple junction of the Main Shear Zone, the Lower Shear Zone and the Big Mama Shear Zone on the western limb of the fold.

All trenches successfully intersected mineralized zones that included varying degrees of shearing (usually intense) and variable amounts of semi-massive to massive sulphide lenses, black quartz, graphite and alteration assemblages of sericite and chlorite. Detailed mapping and channel sampling were carried out on these trenches.

Highlights documented in IAMGOLD Report (2016b) are as follows:

- Trench TR-007: E5761015: 1.25 m at 16.3 g/t Au, E5761024: 0.30 m at 4.53 g/t Au and E5761023: 0.60 m at 2.09 g/t Au.
- Trench TR-009: E5746652: 1.00 m at 2.83 g/t Au, E5746664: 1.00 m at 2.09 g/t Au and E5746656: 0.50 m at 1.43 g/t Au.
- Trench TR-003: E5761067: 1.10 m at 1.15 g/t Au and E5761067: 0.5 m at 0.78 g/t Au.
- Trench TR-002: E5746670: 0.20 m at 3.12 g/t Au and E574667: 0.5 m at 1.61 g/t Au.

**Table 6.6 – Historical work on the Monster Lake Project (modified from Turcotte, 2015)**

Year	Company	Exploration Work	Comments	Reference
1956-1957	Canadian Nickel Company Ltd	Drilling	3 DDHs for 384.7 m.	Company drill logs
1974	Cominco Ltd	Geophysical survey	Airborne EM and Mag surveys (190 square miles of ground with 1/8-mile line spacing).	Stemp (1975)
1975	MERQ	Geophysical survey	Airborne EM and Mag surveys with lines spaced 650 m.	MERQ (1977) Géomines (1981)
1976	Cominco Ltd	Geological, soil, and geophysical surveys	Detailed geological survey following by soil survey (B-horizon) over EM anomalies, and 31.5 km of HLEM profiles and Mag surveys with line spacing of 150 m.	Shimron and Wallis (1976) Robertshaw and Burton (1977)
1977	Patino Mines (Québec) Ltd	Geophysical surveys	EM (McPhar VHEM) and Mag surveys.	Born (1980)
1978	Cominco Ltd	Drilling	1 DDH totalling 182.9 m; best result: 1.07 g/t Au over 3.5 m.	Burns and Ewert (1978)
1978-1981	MERQ	Geophysical and geological surveys	IP (a = 50 m; n = 2), Mag, small-loop frequency-domain EM (HEM MaxMin), and VLF EM surveys; total of 83.2 km of lines spaced 125 m.	Lavoie (1981) Géomines (1981)
			Heliborne Mag and EM survey totalling 208 km with N-S and E-W lines spaced 150 m. Detailed geological survey.	
1981-1982	MERQ	Geophysical surveys	Magnetic and VHEM surveys over 77 km of lines spaced 100 m.	Lavoie (1982)
1983-1984	Charles D. Robbins	Geological and geophysical compilation Soil survey	Slightly anomalous gold values detected by reconnaissance soil geochemistry survey.	Smith (1984)

Year	Company	Exploration Work	Comments	Reference
1984	Glen Kasner	Geological compilation	No gold showings reported.	Constable (1985a)
1984	SOQUEM	Geological reconnaissance Geological mapping Prospecting Geophysics stripping Drilling	Discovery of the Eratix showing, with averages up to 1,225.9 g/t Au in smokey quartz veins (native gold). 3-line IP survey test. 4 DDHs totalling 342.6 m; best result: 4.97 g/t Au over 0.7 m. Discovery of Quatre-Chemins showing.	Thériault (1985) Vachon (1985) McCann (1987)
1984-1985	Noranda Exploration Ltd	Geological reconnaissance	Shear identified on the Monster Lake property.	Archer et al. (1985)
1985	James U. Blanchard	Geological mapping Geophysics reconnaissance	New geological interpretation based on historical MERQ geophysical surveys.	Smith (1985a)
1985	G. J. Hinse	Geological survey	Mineralized quartz veins observed.	Constable, (1985b)
1985	Achates Resources Ltd	Geological survey Reconnaissance basal till sampling HEM, VLF, and Mag surveys	Geophysical surveys confirm presence of two major structural directions (NE and ESE). No anomalous results obtained in basal till.	Smith (1985b)
1985	SOQUEM Sullivan Mining Group	Geophysical survey Detailed geological mapping Stripping Channel sampling Drilling	Mag survey of 292 line-km with lines spaced 150 m apart, 280 km of VLF EM survey. IP survey of 20 km with lines spaced 150 m apart (a = 5, n = 2). 8 DDHs totalling 1,066.3 m. Best result: 11.01 g/t Au over 1.0 m.	Tittley (1985) Hubert (1986) Vachon (1986)

Year	Company	Exploration Work	Comments	Reference
1986	SOQUEM Sullivan Mining Group	Detailed geological mapping Stripping Channel sampling Drilling	13 trenches with cumulative length of 887 m and total surface area of 5,476 m <sup>2</sup> . Three trenches led to the discovery of the Nouvelle Zone about 700 m SW of the Eratix showing. Best channel result: 16 g/t over 1.0 m. 15 DDHs totalling 1485.4 m; best result: 2.57 g/t Au over 5.1 m.	McCann (1987)
1986	James U. Blanchard	Geophysical survey	28.5 km of Mag and 30 km of HLEM MaxMin surveys; 4 conductors identified.	Smith (1986)
1986	Noranda Exploration Ltd	Geophysical survey	IP survey covering 42 km of lines spaced 200 m (a = 50, n = 3) and 92 km of Mag survey. Some IP anomalies reported.	Turcotte (1987)
1986	Achates Resources Ltd	Geophysical survey	62.5 km of Mag survey and 55.4 km of MaxMin survey; line spacing of 100 m. Some conductors detected.	Lamothe (1987)
1987	SOQUEM Sullivan Mining Group	Detailed geological mapping Stripping Channel sampling	Anomalous gold values obtained on only two trenches from channel sampling.	McCann (1987) McCann (1990)
1987	G. J. Hinse	Geological mapping Stripping Channel sampling	66 km of Mag survey and 58.3 km of VLF survey; line spacing of 122 m. Some conductors detected.	Allard (1987) Sicard-Lochon (1987)

Year	Company	Exploration Work	Comments	Reference
1987	Achates Resources Ltd	Geophysical survey Geological compilation Drilling	37.2 km of Mag survey, 70.6 km of VLF EM survey, 12.4 km of IP survey ( $a = 25$ , $n = 4$ ); line spacing of 100 m. Three anomalous axes detected by IP survey. A NE fault zone was interpreted based on the VLF EM survey. Hole FA-87-2 (121.9 m) cut a large shear zone. No significant gold values.	Buissières (1987a,b) Fortin (1988)
1989	SOQUEM Cambior	Geophysical survey	Heliborne REXHEM-4 survey carried out by Sial Géosciences with flight lines oriented N315° and spaced 100 m apart.	Saindon and Dumont (1989)
1991	SOQUEM	Geophysical survey	326 km of Mag and VLF surveys; line spacing of 100 m. Some conductors detected. 8 DDHs totalling 2,126 m; best result: 4.57 g/t Au over 1.0 m. Discovery of Trois-Chemins showing. Best channel sampling results of 8.0 g/t Au over 2 m and 5.5 g/t Au over 3 m.	Saïm and Gaucher (1991) Bernier (1991a, 1991b)
1993	SOQUEM Consolidated Oasis Resources Inc.	Geophysical survey	Test IP survey on the Eratix and Trois-Chemins showings. 67.5 km of IP survey ( $a = 20$ , $n = 5$ ). Line spacing of 100 m.	Tshimbalanga (1993) Hubert et al. (1993)
1995	SOQUEM Consolidated Oasis Resources Inc.	Geophysical survey Geological mapping Trenching Drilling	Drilling identified new gold zones (No. 54 and No. 52 structures). 48 DDH totalling 7,783.5 m; best results: 6.1 g/t Au over 5.1 m (No. 52 structure) and 2.09 g/t Au over 3.2 m (No. 45 structure).	Folco (1995a,b)
1996	SOQUEM Consolidated Oasis Resources Inc.	Geophysical survey	57.1 km of lines, spaced every 100 or 200 m, covered by HEM MaxMin survey. 8 conductors outlined by the survey.	Lambert (1996)

Year	Company	Exploration Work	Comments	Reference
2001-2002	SOQUEM Plexmar Resources Inc.	Drilling	9 DDH totalling 1,738 m. Drilling identified new gold-bearing structure (No. 86); best result: 2.35 g/t Au over 7.4 m (hole 993-02-88).	Folco (2002)
2001-2008	Glen Eagle Resources Inc.	Sampling	Minor sampling on Fancamp property.	Glen Eagle MD&A
2006	Natural Resources Canada	Airborne EM and Mag survey (MEGATEM II)	Traverse lines 200 m apart, control lines 2 km apart. Monster Lake covered in full by the survey.	Dumont and Potvin (2006a to 2006g)
2006-2008	Diagnos Inc. HuntMountain Resources Ltd.	Geological survey Grab sampling Soil Sampling	Best results were 3 grab samples grading up to 2.64 g/t Au, 20.9 g/t Ag and 4.52% Cu.	D'Amours and Popiela (2008) Popiela (2011)
2009	G. L. Géoservices	Prospecting Stripping Channel Sampling	Discovery of 325 showing. Best channel sampling result: 12.77 g/t Au over 3.1 m.	Lamothe and Bouchard (2009)
2010	Stellar Ventures Gold Inc.	Prospecting Grab sampling Humus sampling Stripping Channel sampling Drilling	Discovery of Megane showing. Best results from channel sampling: average of 9.71 g/t Au over 5.2 m, and 3.24 g/t Au over 7.2 m. 23 DDHs for 2,983.5 m; best result: 34.29 g/t Au over 1.5 m (hole M-17-10).	O'Dowd (2012) Stellar MD&A
2011	Gaspénor Géo- Sciences Inc. MGWA Holding	Geological compilation Geological reconnaissance	No significant results.	Giroux (2011)

Year	Company	Exploration Work	Comments	Reference
2011	Diagnos Inc.	Geological survey Grab sampling	No significant results.	Popiela (2011)
2011	Stellar Ventures Gold Inc.	Drilling	Drilling program on 325 and Megane showings. 24 DDHs for 2,204.0 m; best result: 12.98 g/t Au over 5.5 m (hole M-25-11).	O'Dowd (2012) Stellar MD&A
2012	TomaGold Corporation	Drilling Structural study Mineralogical characterization and metallurgical testing	Drilling program on 325 and Annie showings. 47 DDHs for 6852.0 m; best result: 12.98 g/t Au over 5.5 m (hole M-25-11) on the 325 showing and 34.29 g/t Au over 5.7 m (M-12-60) on the Annie showing.	TomaGold MD&A Trudel (2012) Rail and al. (2012)
2013	TomaGold Corporation Quinto Resources	Drilling	Drilling program on Monster Lake property to test extension of the 325 Zone from 125 to 300 m below surface. 15 DDHs for 4,997.4 m; best result: 29.06 g/t Au over 7.2 m (hole M-13-95). Drilling program on Winchester property on No. 86 structure. 4 DDHs for 1,170.0 m; best result: 6.94 g/t Au over 3.25 m (hole W-13-02).	TomaGold MD&A
2014	IAMGOLD Corporation	Drilling 3D Modelling Lithogeochemistry Petrographic Study Cartography Trenching Magnetic Survey Technical Report (43-101)	9 DDH on Monster Lake property: 325-Megane Zone expanded and two new zones identified: Upper and Lower Shear Zones. See Appendix II for best results. 3D modelling of interpreted fold and Monster Lake Shear.	IAMGOLD Reports Létourneau and Paul (2014) Tremblay (2014) Turcotte (2015)

## **7 GEOLOGICAL SETTING AND MINERALIZATION**

A large part of the general geological information was taken from Turcotte, 2015. IAMGOLD has done systematic geological mapping over the last three years and has revised the geological interpretation with the accumulated information from drilling to get a more detailed local geological model.

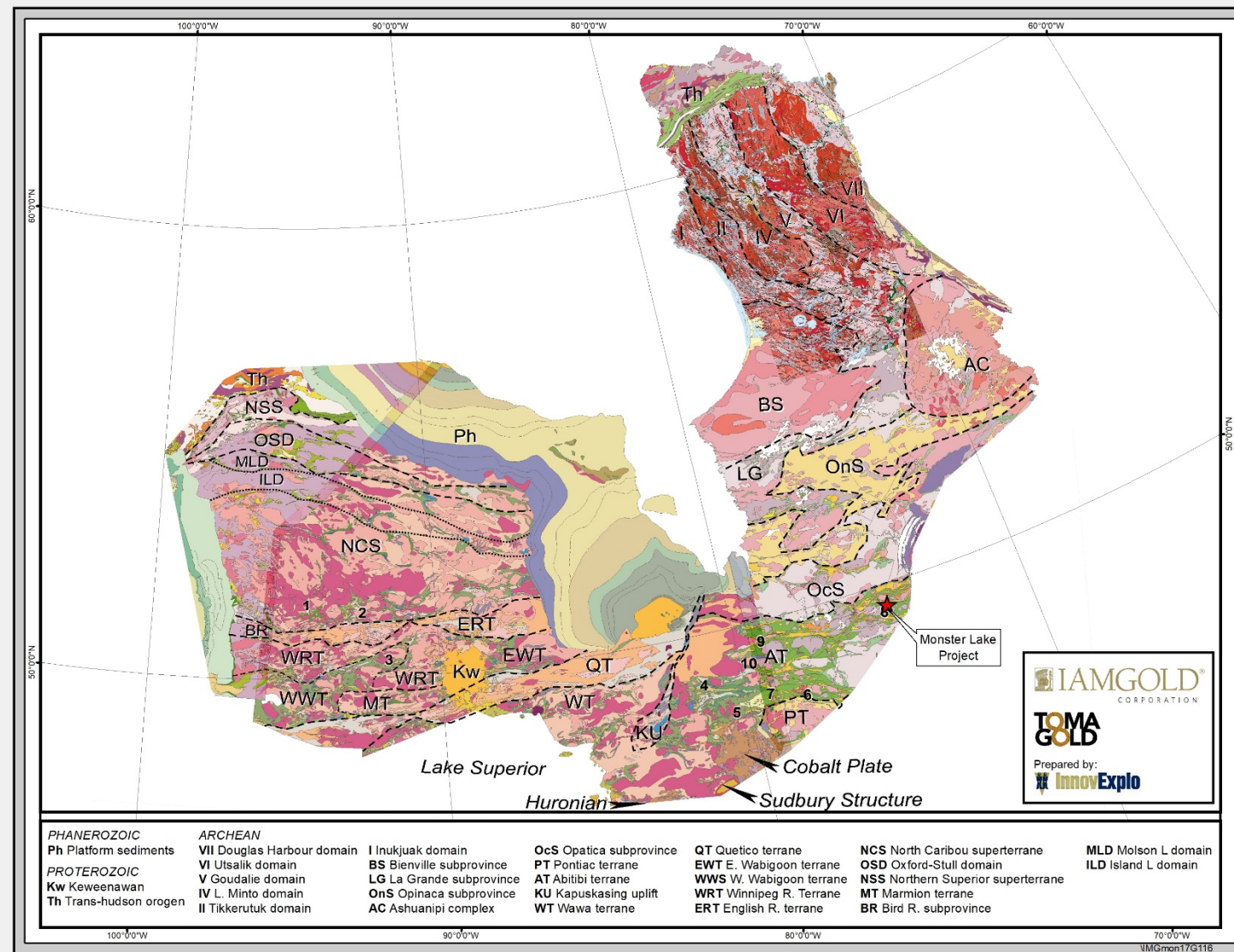
### **7.1 Archean Superior Province**

The Archean Superior Province (Figure 7.1) forms the core of the North American continent and is surrounded by provinces of Paleoproterozoic age to the west, north and east, and by the Grenville Province of Mesoproterozoic age to the southeast. Tectonic stability has prevailed since approximately 2.6 Ga in large parts of the Superior Province. Proterozoic and younger activity is limited to rifting of the margins, emplacement of numerous mafic dyke swarms (Buchan and Ernst, 2004), compressional reactivation, large-scale rotation at approximately 1.9 Ga, and failed rifting at approximately 1.1 Ga. With the exception of the northwest and northeast Superior margins that were pervasively deformed and metamorphosed at 1.9 to 1.8 Ga, the craton has escaped ductile deformation.

A first-order feature of the Superior Province is its linear subprovinces, or “terrane”, of distinctive lithological and structural character, accentuated by subparallel boundary faults (Card and Ciesielski, 1986). Trends are generally east-west in the south, west-northwest in the northwest, and northwest in the northeast. In Figure 7.1, the term “terrane” is used in the sense of a geological domain with a distinct geological history prior to its amalgamation into the Superior Province during the 2.72 Ga to 2.68 Ga assembly events, and a “superterrane” shows evidence for internal amalgamation of terranes prior to the Neoarchean assembly. “Domains” are defined as distinct regions within a terrane or superterrane.

The Monster Lake Project is located within the Abitibi terrane. The Abitibi terrane hosts some of the richest mineral deposits of the Superior Province (Figure 7.1), including the giant Kidd Creek massive sulphide deposit (Hannington et al., 1999) and the large gold camps of Ontario and Québec (Robert and Poulsen, 1997; Poulsen et al., 2000).

Within the Abitibi terrane, the Project is located in the Matagami-Chibougamau mineral belt, which extends eastward from the Detour Lake area in Ontario through the Québec towns of Joutel, Matagami, Chapais and finally Chibougamau. The belt is characterized by Zn-Cu massive sulphide deposits (Faure et al., 1990), Cu-Au vein deposits, and local but important lode gold deposits (Lacroix et al., 1990). Of minor importance are metasedimentary iron deposits, layered intrusion Ti-V deposits, copper porphyry deposits, and intrusion-hosted nickel deposits (Card and Poulsen, 1998).



**Figure 7.1 – Mosaic map of the Superior Province showing major tectonic elements, from Percival (2007)**

Data sources: Manitoba (1965), Ontario (1992), Thériault (2002), Leclair (2005). Major mineral districts: 1 = Red Lake; 2 = Confederation Lake; 3 = Sturgeon Lake; 4 = Timmins; 5 = Kirkland Lake; 6 = Cadillac; 7 = Noranda; 8 = Chibougamau; 9 = Casa Berardi; 10 = Normétal.

## 7.2 Abitibi Terrane (Abitibi Subprovince)

Previously, the Abitibi Greenstone Belt was subdivided into northern and southern parts based on stratigraphic and structural criteria (e.g., Dimroth et al., 1982; Ludden et al., 1986; Chown et al., 1992). Previous publications used an allochthonous model of greenstone belt development that portrayed the belt as a collage of unrelated fragments. Thurston et al. (2008) presented the first geochronologically constrained stratigraphic and/or lithotectonic map (Figure 7.2) covering the entire breadth of the Abitibi Greenstone Belt from the Kapuskasing Structural Zone eastward to the Grenville Province. According to Thurston et al. (2008), Superior Province greenstone belts consist of mainly volcanic units unconformably overlain by largely sedimentary Timiskaming-style assemblages, and field and geochronological data indicate that the Abitibi Greenstone Belt developed autochthonously.

The Abitibi Greenstone Belt is composed of east-trending synclines of largely volcanic rocks and intervening domes cored by synvolcanic and/or syntectonic plutonic rocks (gabbro-diorite, tonalite, and granite) alternating with east-trending bands of turbiditic wackes (MERQ-OGS, 1984; Ayer et al., 2002a; Daigneault et al., 2004; Goutier and Melançon, 2007). Most of the volcanic and sedimentary strata dip vertically and are generally separated by abrupt, east-trending faults with variable dip. Some of these faults, such as the Porcupine-Destor Fault, display evidence for overprinting deformation events including early thrusting, later strike-slip and extension events (Goutier, 1997; Benn and Peschler, 2005; Bateman et al., 2008). Two ages of unconformable successor basins occur: early, widely distributed Porcupine-style basins of fine-grained clastic rocks, followed by Timiskaming-style basins of coarser clastic and minor volcanic rocks which are largely proximal to major strike-slip faults, such as the Porcupine-Destor, Larder-Cadillac and similar faults in the northern Abitibi Greenstone Belt (Ayer et al., 2002a; Goutier and Melançon, 2007). In addition, the Abitibi Greenstone Belt is cut by numerous late-tectonic plutons from syenite and gabbro to granite with lesser dykes of lamprophyre and carbonatite. The metamorphic grade in the greenstone belt displays greenschist to sub-greenschist facies (Joly, 1978; Powell et al., 1993; Dimroth et al., 1983; Benn et al., 1994) except around plutons where amphibolite grade prevails (Joly, 1978).

The following more detailed description of the new subdivision of the Abitibi Greenstone Belt is mostly modified and summarized from Thurston et al. (2008) and references therein.

The Abitibi Greenstone Belt is now subdivided into seven discrete volcanic stratigraphic episodes on the basis of groupings of numerous U-Pb zircon ages. New U-Pb zircon ages and recent mapping by the Ontario Geological Survey and Géologie Québec clearly show similarity in timing of volcanic episodes and ages of plutonic activity between the northern and southern Abitibi Greenstone Belt as indicated in Figure 7.2. These seven volcanic episodes are listed from oldest to youngest:

- Pre-2750 Ma volcanic episode 1;
- Pacaud Assemblage (2750-2735 Ma);
- Deloro Assemblage (2734-2724 Ma);
- Stoughton-Roquemaure Assemblage (2723-2720 Ma);
- Kidd-Munro Assemblage (2719-2711 Ma);
- Tisdale Assemblage (2710-2704 Ma);
- Blake River Assemblage (2704-2695 Ma).

Two types of successor basins are present in the Abitibi Greenstone Belt: early turbidite-dominated (Porcupine Assemblage; Ayer et al., 2002a) laterally extensive basins, succeeded by aerially more restricted alluvial-fluvial or Timiskaming-style basins (Thurston and Chivers, 1990).

The geographic limit (Figure 7.2) between the northern and southern parts of the Abitibi Greenstone Belt has no tectonic significance but is herein provided merely for reader convenience and is similar to the limits between the internal and external zones of Dimroth et al. (1982) and that between the Central Granite-Gneiss and Southern Volcanic zones of Ludden et al. (1986). The boundary passes south of the wackes of the Chicobi and Scapa groups with a maximum depositional age of  $2698.8 \pm 2.4$  Ma (Ayer et al., 1998, 2002b).

The Abitibi Subprovince is bounded to the south by the Larder Lake–Cadillac Fault Zone, a major crustal structure that separates the Abitibi and Pontiac subprovinces (Figure 7.2; Chown et al., 1992; Mueller et al., 1996a; Daigneault et al., 2002, Thurston et al., 2008).

The Abitibi Subprovince is bounded to the north by the Opatika Subprovince (Figure 7.2) a complex plutonic-gneiss belt formed between 2800 and 2702 Ma (Sawyer and Benn, 1993; Davis et al. 1995). It is mainly composed of strongly deformed and locally migmatized, tonalitic gneisses and granitoid rocks (Davis et al., 1995).

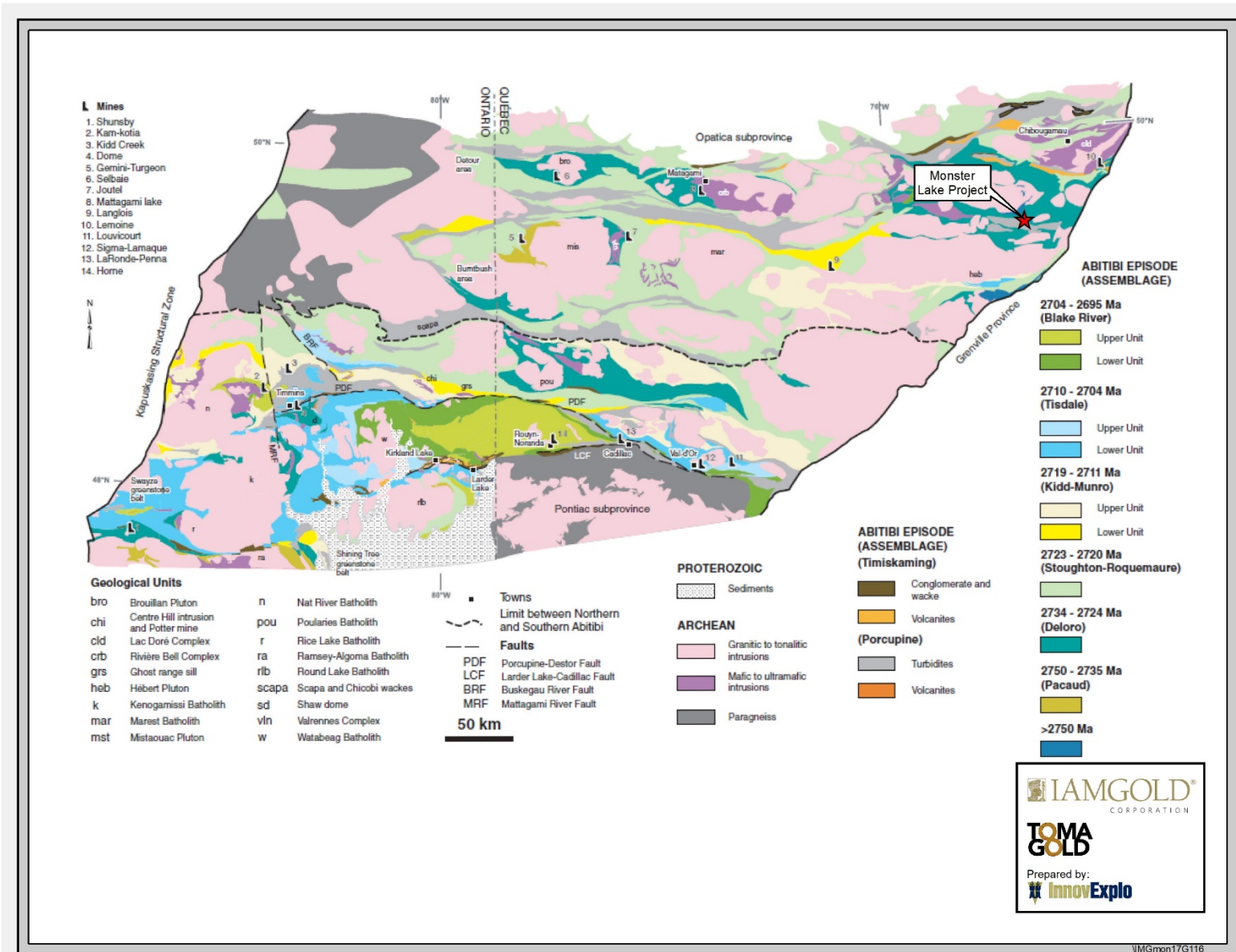


Figure 7.2 – Stratigraphic map of the Abitibi Greenstone Belt. The geology of the southern Abitibi Greenstone Belt is based on Ayer et al. (2005) and the Québec portion on Goutier and Melançon (2007). Figure modified from Thurston et al. (2008)

### 7.3 Regional Geological Setting

The Monster Lake Project is located in the eastern part of the Caopatina-Desmaraisville segment of the Abitibi Greenstone Belt, south of the Chibougamau and Chapais mining camps, more specifically between the Kapunapotagen Fault to the north and Guercheville Fault to the south, and the Grenville Front to the east. The geological setting and mineralization context in the Chibougamau region has long served as a reference framework for understanding the Caopatina-Desmaraisville segment (Guha et al., 1991; Pilote et al., 1996.).

Numerous studies have been carried out on the Monster Lake Project area, notably: Holmes (1952, 1959); Lyall (1953, 1959); Duquette (1970); MERQ (1977); Gobeil and Racicot (1982); Gobeil and Racicot (1983); Racicot et al. (1984); Tait et al. (1986); MERQ (1989); Champagne (1989), Chown et al. (1991a, 1991b); Guha et al. (1991); Tait (1992a, 1992b); MERQ (1993); Pilote et al. (1996); Chown et al. (1998); Dion and Simard (1998,1999); Goutier and Melançon (2007); Leclerc et al. (2011, 2012); and Faure (2012).

The following description of the eastern part of the Caopatina-Desmaraisville segment (Figure 7.3) is mostly modified and summarized from Dion and Simard (1999) and Faure (2012), and retains the references therein.

The eastern part of the Caopatina-Desmaraisville segment is underlain by the 2734–2724 Ma Deloro Assemblage (Figure 7.2). Several volcanic cycles are distinguished in this area (Daigneault and Allard, 1990; Guha et al., 1991; Leclerc et al., 2012.; Leclerc et al., 2017):

- The first volcanic cycle consists of the Chrissie Formation represented by a lower member of basalts and an upper member of felsic volcanics containing the oldest rhyolites of the Abitibi ( $2798.7 \pm 0.7$  and  $2791 \pm 3.7 / - 2.8$  Ma: Davis and Dion, 2012; David and Dion, 2010).
- The Roy Group consists of two volcanic cycles:
  - The first cycle includes Obatogamau and Waconichi formations. The Obatogamau formation consists of large sequences of mafic lavas. Volcaniclastic rocks, pyroclastic rocks, and felsic flows of the Waconichi Formation mark the end of volcanic cycle II.
  - The second cycle of the Roy Group includes the Bruneau and the Blondeau Formations, composed of tholeiitic basalts for the Bruneau Formation and calc-alkaline basalts, volcaniclastic and sedimentary rocks for the Blondeau Formation.

Several regional pre-deformation folds are preserved in the region (Daigneault and Allard, 1990). These folds, associated with the Kenoran orogeny, are oriented N-S to NNW but without the development of schistosity. One of these folds, the Muscocho Syncline (Figure 7.4), is located between the La Dauversière and Muscocho plutons. Both limbs are cut by the regional schistosity.

Following the development of these folds, the main deformation occurred and was characterized by N-S shortening. This structural episode was the origin of the E-W tectonic grain marked by the direction of large folds axes, the regional schistosity, and the large deformation corridor shown by longitudinal faults. Three large structures are known in the region: 1) the Drullettes Syncline, 2) the La Dauversière Anticline, and 3) the Opawica Anticline (Figure 7.4). The regional schistosity is well developed and is generally EW trending, except near the felsic intrusions where it seems to mold itself to the contacts of these intrusions. This schistosity is the dominant planar element in the region.

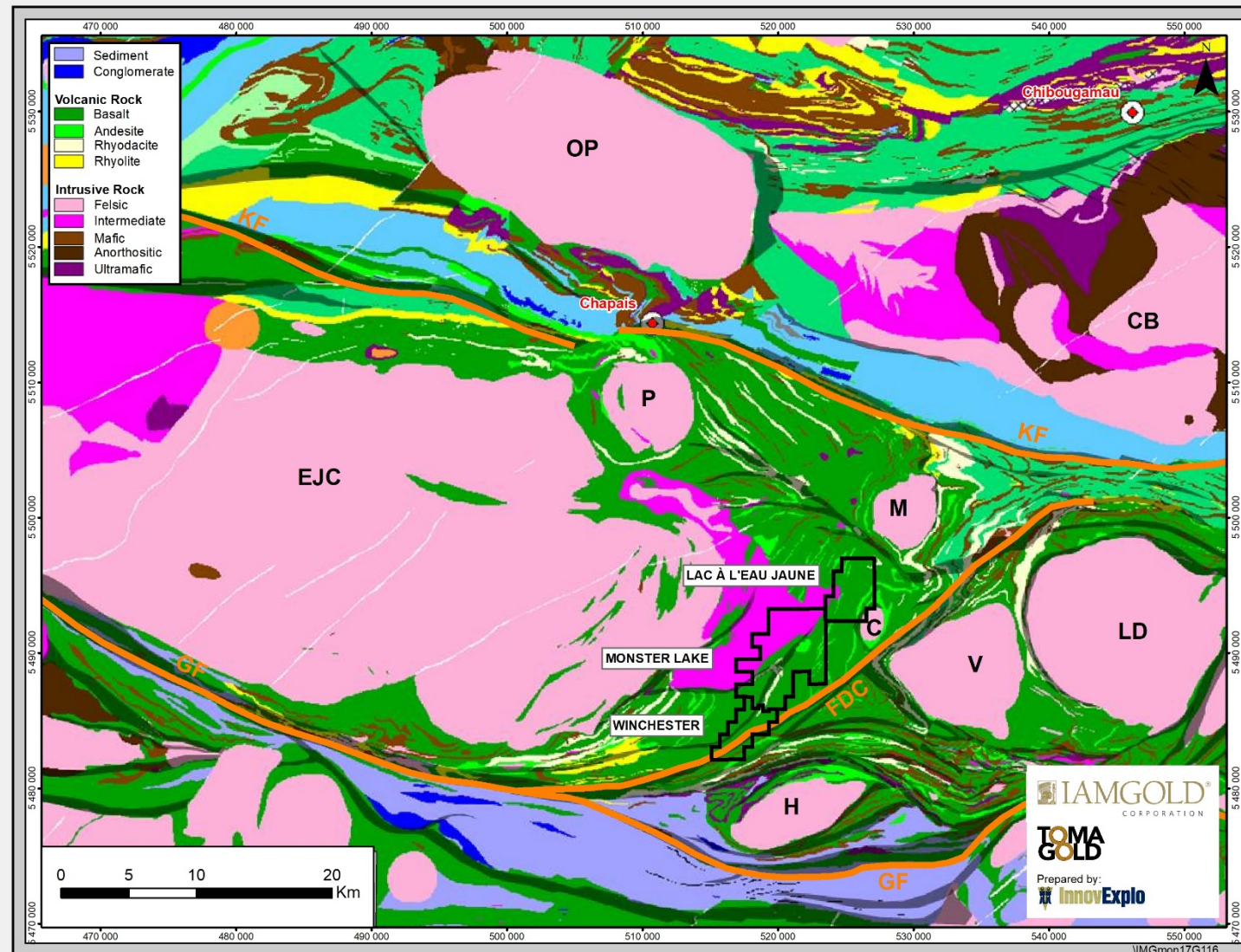
The late deformation episode is represented by two shear cleavages that cut or fold the main regional schistosity where the deformation is weak. In the strongly deformed areas, a crenulation cleavage affects the regional schistosity or the schistosity related to the deformation corridors. Asymmetric “Z” folds can be observed where the cleavage is well developed.

In the Caopatina-Desmaraisville segment, the faults are grouped into four groups based on their direction and overlapping relationships: EW, SE, NE, and NNE faults. The EW and SE longitudinal faults are the oldest and associated with the regional schistosity of the main deformation episode. The NE faults cut the regional schistosity and structures related to the EW faults. Late NNE faults are commonly related to the Grenvillian orogeny.

The EW faults, mainly represented by the Kapunapotagen and Guercheville faults, are parallel to the trend of the regional schistosity. The two faults are typical of east-trending ductile faults that crosscut the Abitibi Subprovince and are characterized by pure shear with dextral reactivation (Daigneault and Archambault 1990; Daigneault 1996). Their widths can reach up to 1 km and they are characterized by an intense schistosity, the presence of mylonitic zones, and carbonate- and sericite-rich alteration. The Guercheville Fault has a typical magnetic signature characterized by the presence of many INPUT anomalies mainly associated with graphitic sedimentary rocks.

The NE faults are well documented in the Fancamp Deformation Corridor (FDC) area between the Eau Jaune Complex and the Verneuil Pluton. The FDC is oriented NE-SW (Tait, 1992b; Legault et al., 1997; Legault and Daigneault, 2006). The FDC has an average width of 600 m, can be followed for up to 32 km, and dips steeply (80°) toward the SE. The FDC is different from other deformation zones in the Abitibi Subprovince by its NE orientation and the presence of two intense cleavages. Many gold showings, including the Chevrier deposit (Figure 7.3), are spatially associated with the FDC (Legault and Daigneault, 2006).

The only mine in the eastern part of the Caopatina-Desmaraisville segment was the former Joe Mann mine (Figure 7.3), which produced 4,754,375 metric tonnes at grades of 8.26 g/t Au and 0.3% Cu (Houle, 2011).



**Figure 7.3 – New geological interpretation of the eastern part of the Caopatina-Desmaraisville segment. Adapted and modified from Faure (2012)** CB = Chibougamau Pluton. C = Chico Pluton. EJC = Eau Jaune Complex. H = Hazeur Pluton. LD = La Dauversière Pluton. M = Muscocho Pluton. OP = Opémisca Pluton. P = Presqu'île Pluton. V = Verneuil Pluton. GF = Guercheville Fault. KF = Kapunapotagen Fault. FDC = Fancamp Deformation Corridor.

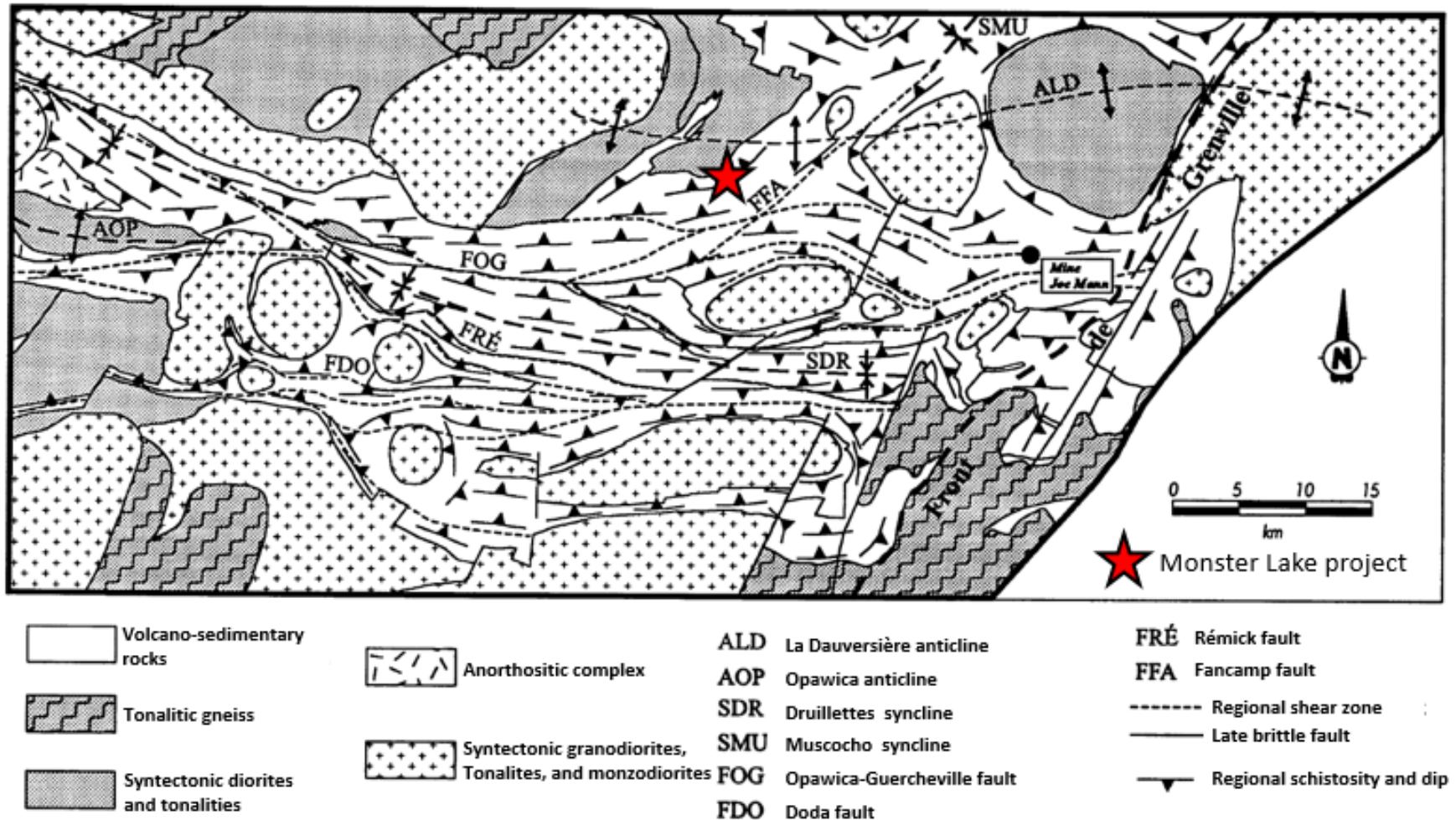


Figure 7.4 – Major regional structural elements in the Caopatina-Desmaraisville segment. Adapted and modified from Dion and Simard (1999)

## 7.4 Local Geological Setting

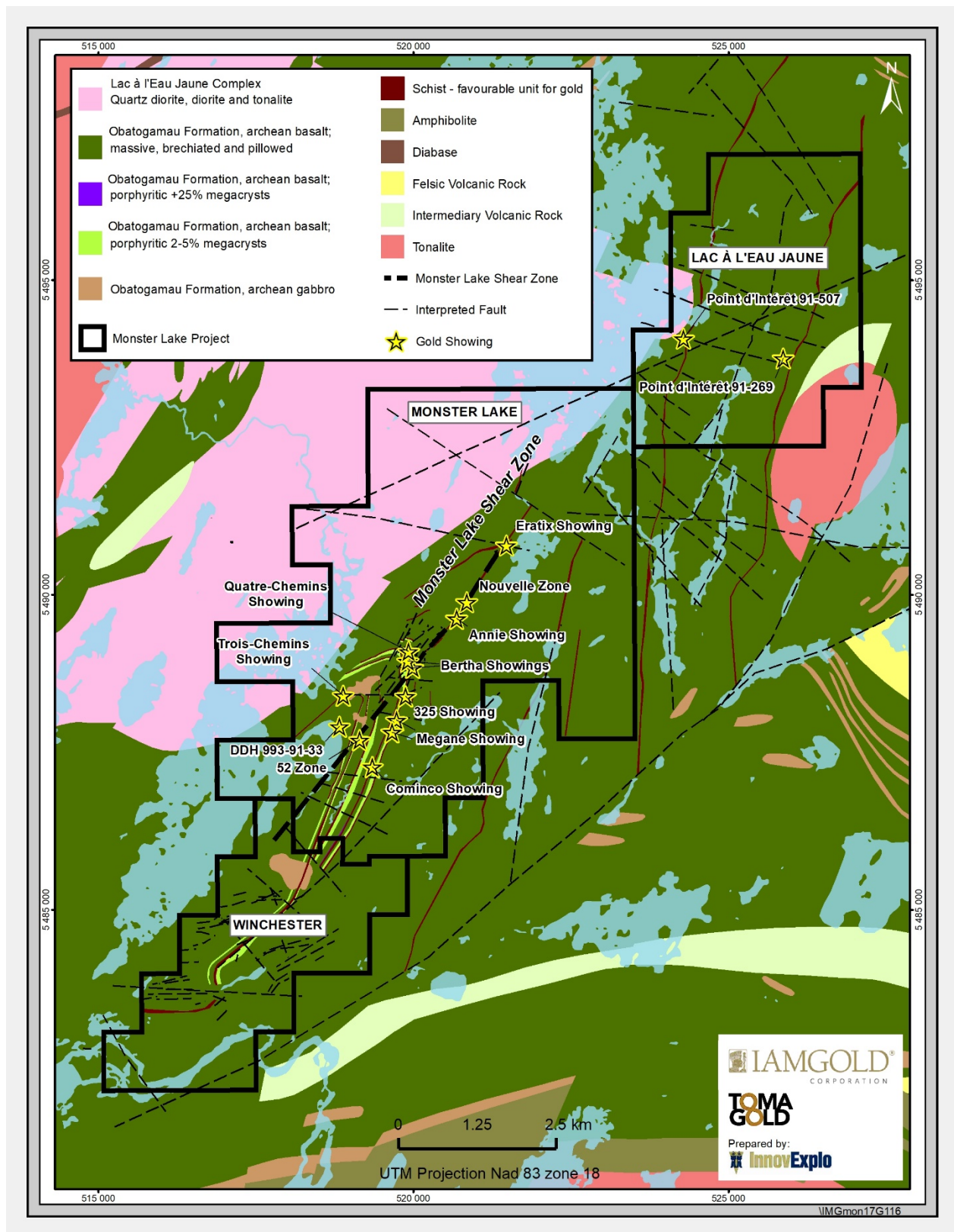
The stratigraphy of the Monster Lake Project is dominated by mafic volcanic rocks of the Obatogamau Formation represented by massive and pillowed basalts. These mafic flows are folded, sheared and strike NE, dipping steeply to the SE. The polarity within pillowed basalt is generally SE. Some basalt units also show horizons of distinctive porphyritic texture in which plagioclase phenocrysts may reach 2.5 to 3 cm and constitute up to 25% of the rock volume. Other basalt flows display aphanitic texture. Locally, the mafic flows are cut by comagmatic mafic dykes.

Multiple thin graphitic volcanogenic horizons are also observed. These thin horizons are abundant throughout the property and are considered favorable units used to channel the flow of the hydrothermal fluid (Figure 7.5 and Figure 7.6). The nature of the rocks within this horizon is often difficult to establish. Some imbricated, less deformed and less altered rocks are locally present. In these cases, clear lithologies can be recognized, often interbedded volcanogenic siltstone and mudstone layers. In general, the upper contact between the volcanogenic siltstone and mudstone layers and the basalts seems to be more gradational with the onset of the shearing gradually starting in the basalt unit progressively increasing in intensity and ductile deformation once in the siltstone and mudstone layers. The lower contact is sharp. Outside the shear zone, rocks are only slightly deformed.

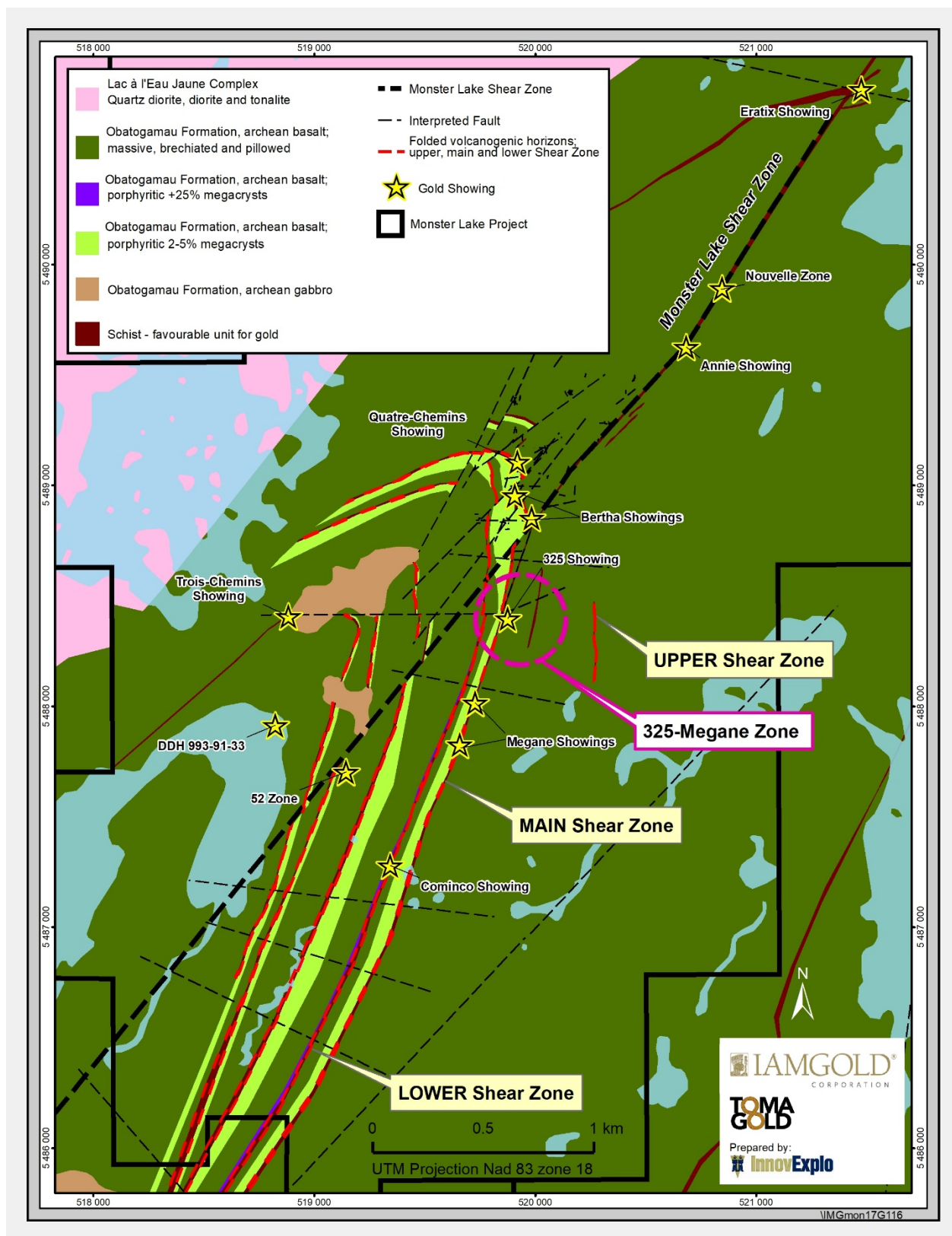
The entire sequence has been folded, resulting in a major fold in the center of the property. It can easily be traced using EM-Input anomalies near Lake Irene. This fold is interpreted as being an antiform plunging weakly toward the NE (Figure 7.5 and Figure 7.6).

This folded supracrustal sequence is cut by many EW to ENE, NNE and NE shears related to the Guercheville and Fancamp faults. Among them, the Monster Lake Shear Zone, at least 4 km long and 3 to 10 m wide, is present on the Monster Lake Project. Its direction is ENE (N020° to N045°) dipping subvertically to the SE. The nature of the rocks in the Monster Lake Shear Zone is often difficult to establish, but it is likely that many are carbonatized sheared basalts. The rocks on either side of the shear zone are generally basalts of the Obatogamau Formation.

In the northwestern part of the Project, mafic flows are intruded by the Eau Jaune Complex (EJC). The EJC is a pre- to syn-tectonic multiphase intrusion of dioritic to tonalitic composition. Many dioritic to tonalitic dykes related to the EJC cut the supracrustal rocks.



**Figure 7.5 – Geology of the Monster Lake Project with major gold occurrences**



**Figure 7.6 – Close-ups of the Monster Lake property, key gold showings, zones and structures**

## **7.5 Mineralization**

Mineralization is mostly associated with smokey quartz veins (grey to black) and sulphide minerals in the wall rocks (in order of abundance: pyrite, pyrrhotite, chalcopyrite and sphalerite).

The Monster Lake Shear Zone, formerly known as the Nouvelle Shear Zone, contains several gold showings: Annie showing, Eratix showing and the 52 showing (Figure 7.5).

Several of the folded graphitic volcanogenic horizons host gold showings like 325 Showing, Megane showing and the Cominco showing. All the showings associated with this horizon are located on the eastern limb of the fold. Three of these horizons have been well defined by surface mapping and diamond drilling; The Main Shear Zone, Lower Shear Zone and the Shear Upper Zone (Figure 7.6). The Main Shear Zone hosts the 325-Megane Zone.

The following discussion presents these showings from NE to SW.

### **7.5.1 Eratix showing**

The Eratix showing (Figure 7.5) was discovered by SOQUEM in 1984 when prospecting revealed a spectacular mineralized boulder with visible gold (Thériault, 1985). SOQUEM stripped the showing and exposed many outcrops of basalt belonging to the Obatogamau Formation (Figure 7.7). Porphyritic pillowed basalt is the most common facies, with pillows up to 3 m in diameter. Several feldspar and quartz porphyritic dykes of tonalitic composition, probably related to the Eau Jaune Complex, are also present. The structural trend follows a NS to NNE (N020°) direction. The presence of molar tooth-shaped pillows suggests proximity to a fold hinge. South of the stripping, pillowed basalts are consistently overturned with tops to the south. Gold values are associated with smokey quartz veins in a double alteration halo of quartz, muscovite and carbonate alteration. Disseminated sulphides are less common here than in similar gold showings in the area.

Detailed mapping of the stripped areas (Bellavance, 1994) identified three shear systems with overall orientations described as N090°, N065° and N045° with auriferous quartz veins. The oldest of the shear systems is the Eratix shear, striking N090° and dipping 75°. Gold-bearing quartz veins are approximately parallel to this direction. The stretching lineation is steep, plunging 53° toward N190° with an 80° west pitch, suggesting that movement was mainly in a subvertical direction. The N090° shear is driven by a sinistral N065° shear that becomes parallel to the Monster Lake Shear, which is oriented N045°. The relationship between the N065° system and the N045° system, with evidence of sinistral movement with subhorizontal components, suggests that the N065° system postdates the Monster Lake Shear.

Opaque minerals observed in the smokey quartz veins include gold, pyrrhotite, chalcopyrite and pyrite. Generally, the mineralized zones are sericitized, silicified and carbonatized (Champagne, 1989).

The best results obtained from channel sampling were 16.00 g/t Au over 1.52 m and 17.04 g/t Au over 1.83 m (Thériault, 1985). In 2015, IAMGOLD drilled this showing and obtained 7.70 g/t Au over 0.77 m (TW) from hole ML-15-146 and 1.10 g/t Au over 0.69 m (TW) and 1.06 g/t Au over 0.76 m (TW) from hole ML-15-149 (IAMGOLD Report, 2015a).

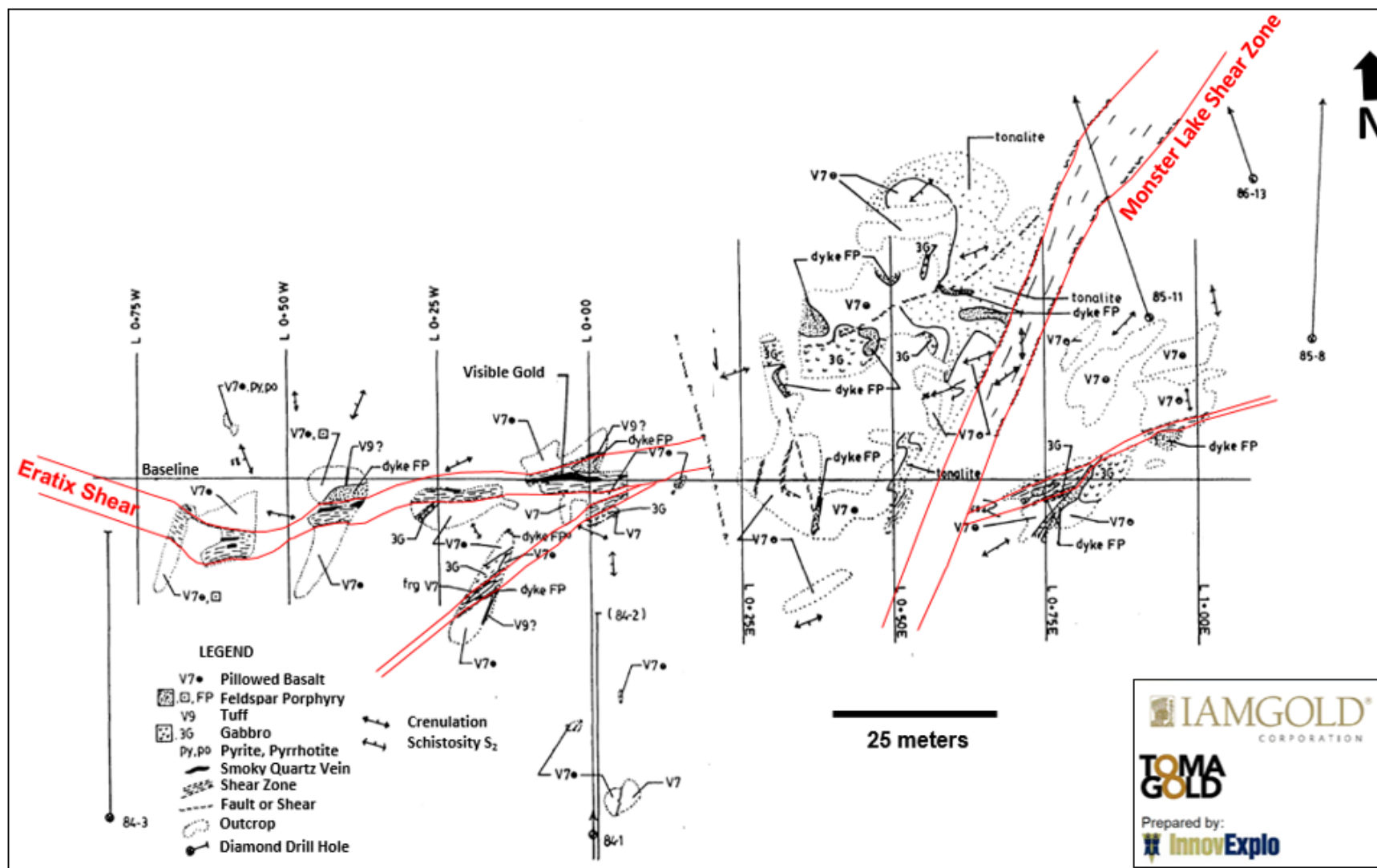


Figure 7.7 – Simplified geology of the Eratix showing. Modified from Turcotte (2015), adapted and modified from Vachon (1985) and Champagne (1989)

### 7.5.2 Nouvelle Zone showing

The Nouvelle Zone showing (Figure 7.5) was discovered by SOQUEM in 1986 by trenching (McCann, 1987). This showing is about 700 m south-southwest of the Eratix showing in the Monster Lake Shear Zone. It is characterized by altered and mineralized schists, sometimes brecciated, containing smokey quartz veins and veinlets. These veins are typically millimetres to centimetres thick, but can sometimes reach up to 60 cm. The veins are stretched, lenticular and parallel to the shear. The shear cuts the pillowed/massive and porphyritic basalt of the Obatogamau Formation. The shear is frequently located at the contact with the porphyritic facies. Basalts contain some gabbro sills that occasionally represent the host lithology to mineralization.

The shear zone is between 8 and 25 m wide. At the centre of the shear is a 5-m-wide mineralized zone accompanied by intense silicification, sericitization and ankeritization (Folco, 1995a). Locally, fuchsite is observed in contact with quartz veins. Along the shear boundaries, alteration is characterized by chlorite and calcite. Mineralization consists of trace amounts to 15% pyrite and pyrrhotite, mainly disseminated in sheared rock, and locally with traces of chalcopyrite. Native gold is locally observed in smokey quartz veins and veinlets.

The best channel result was 16.23 g/t Au over 1.00 m. Drilling results yielded gold values up to 10.51 g/t Au over 0.7 m.

### 7.5.3 Annie showing / Annie Shear Zone

The Annie showing (Figure 7.5) was discovered by SOQUEM in 1994 by drilling (Bellavance, 1994). The showing is located about 1.6 km southwest of the Eratix showing in the Monster Lake Shear Zone.

Five mineralized zones (zones I to V) are contained in decametric to metric shear zones characterized by schistose rocks, locally brecciated and injected by centimetric quartz and/or carbonate veins and veinlets. These shear zones occur within and parallel to the hanging wall and footwall of the Monster Lake Shear. They are frequently found at the contact between massive/pillowed basalt and porphyritic basalt of the Obatogamau Formation.

Mineralization consists of trace amounts to 10% sulphides, mainly pyrite and pyrrhotite. The sulphides are mainly disseminated in quartz-carbonate veins and their wall rocks. Traces of chalcopyrite and graphite are locally observed. Native gold grains are sometimes visible in smokey quartz veins and veinlets. Alteration is similar to the Nouvelle showing. The best drilling result was 14.7 g/t Au over 4.5 m in Zone III (DDH 993-94-23, CL, gold values cut at 34.29 g/t). Zone IV assayed 5.05 g/t Au over 2.9 m (CL) (DDH 993-94-23, gold values are cut at 34.29 g/t Au). In 2017, hole ML-17-202 intersected the southwestern extension of the Annie Shear Zone and returned 0.96 g/t Au over 0.94m (TW), 1.08 g/t Au over 1.22m (TW) and 3.91 g/t Au over 1.13m (TW).

Hole ML-17-204 intersected the northeastern extension of the Annie Shear Zone and returned 2.74 g/t Au over 3.83 m (TW).

#### **7.5.4 Quatre-Chemins showing**

SOQUEM discovered the Quatre-Chemins showing (Figure 7.5 and Figure 7.6) in 1984 by prospecting (McCann, 1987). This showing is located about 700 m south-southwest of the Eratix showing and about 550 m to the west of the Annie showing.

The Quatre-Chemins showing consists of a smokey and white quartz vein found on six outcrops (McCann, 1987). The vein was followed for a linear length of 400 m. The vein can reach up to 12.0 m thick. The host rock is silicified porphyritic basalt of the Obatogamau Formation. Some gabbro sills were observed in the basalt. Mineralization is associated with the graphitic volcanogenic horizons. SOQUEM noted the presence of graphitic argillite levels near the quartz veins.

Mineralization is composed of 5% (locally up to 30%) sulphides represented by pyrite, pyrrhotite, chalcopyrite and sphalerite. These sulphides are distributed in the quartz veins (generally <1% pyrite, pyrrhotite and chalcopyrite) and in the enclosing schist and walls of the veins where sulphides are commonly found as irregular layers of massive pyrite-pyrrhotite from 1 to 10 cm thick. In the latter, minor sphalerite and chalcopyrite are also present. The rocks containing mineralization are strongly silicified, brecciated and locally carbonatized. SOQUEM also noted the presence of limonite and sericite in the schist enclosing the quartz veins.

The mineralized zone forms a large fold with a NE axis. This fold has a typical magnetic signature and can be traced with EM-INPUT conductors. Channel sampling returned up to 1.35 g/t Au over 0.95 m.

#### **7.5.5 Bertha Showings**

Bertha showings were discovered by IAMGOLD (IAMGOLD Report 2016d) and are located approximately 200 to 300 m southeast of the Quatre-Chemins showing.

Bertha showings consist of grey quartz, sulphides mineralized horizons with silice and sericite-rich schists and basalts. Semi-massive sulphides (mostly pyrrhotite) are locally observed. Schistosity is lightly undulating and locally, tough to be refold by 2<sup>nd</sup> generation folds. Sulphide-rich rocks are generally highly silicified and weakly carbonatized.

Mineralization is associated with the graphitic volcanogenic horizons and consists of sulphides beds composed mostly of pyrrhotite, chalcopyrite and minor pyrite usually distributed in the quartz veins. A 10 cm thick black quartz vein is observed 10 m north of the showing.

Best assays grades were obtained in massive sulfides beds. Three channel samples have grade varying from 1.28 to 1.56 g/t Au (IAMGOLD Report 2016d).

### 7.5.6 Trois-Chemins showing

The Trois-Chemins showing (Figure 7.6) was discovered by SOQUEM in 1991 by prospecting (Bernier, 1991b). This showing is located about 125 m east of Irène Lake and about 1.5 km west of the Monster Lake Shear Zone.

The showing consists of a carbonatized shear zone 7 to 8 m wide that cuts through basalts of the Obatogamau Formation. The shear zone, oriented N075° and dipping 80° to 85°, contains a gold-bearing smokey quartz vein about 0.5 to 2.5 m wide with 10% to 40% disseminated pyrite, as well as many decimetric quartz veins with irregular veinlets.

The best channel sampling results were 87.1 g/t Au over 1.0 m, 8.0 g/t Au over 2.0 m, and 5.5 g/t Au over 3.0 m. Only one hole was drilled below the showing. Hole 993-94-01 cut the shear zone, but no gold values were obtained (Bellavance, 1994).

### 7.5.7 Main Shear Zone (including 325-Megane Zone)

The Main Shear Zone (Figure 7.5 and Figure 7.6) represents the joining of two showings: the 325 showing rediscovered by G.L. Géosciences Inc. in 2009 and the Megane Showing discovered by Stellar in 2010. The showings are approximately 800 m apart. The original drill discovery was made by SOQUEM in 1995 and was known as the 45 Zone (Folco, 1995a). SOQUEM interpreted the 45 Zone as a NNE-SSW ductile shear zone, parallel to stratigraphy.

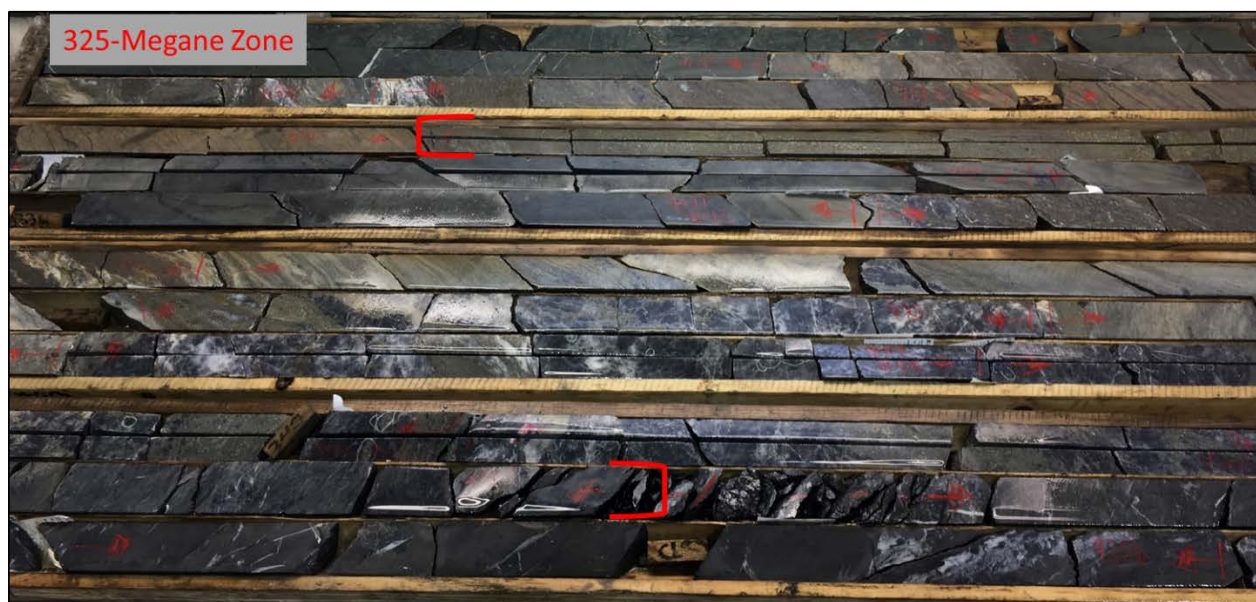
The Main Shear Zone consists of a major carbonatized shear zone, oriented N020°, dipping 80° and well mineralized over a width of about 5 m (Figure 7.8 and Figure 10.2).

The 325-Megane Zone is one of the high-grade lenses of the Main Shear Zone (Figure 10.3).

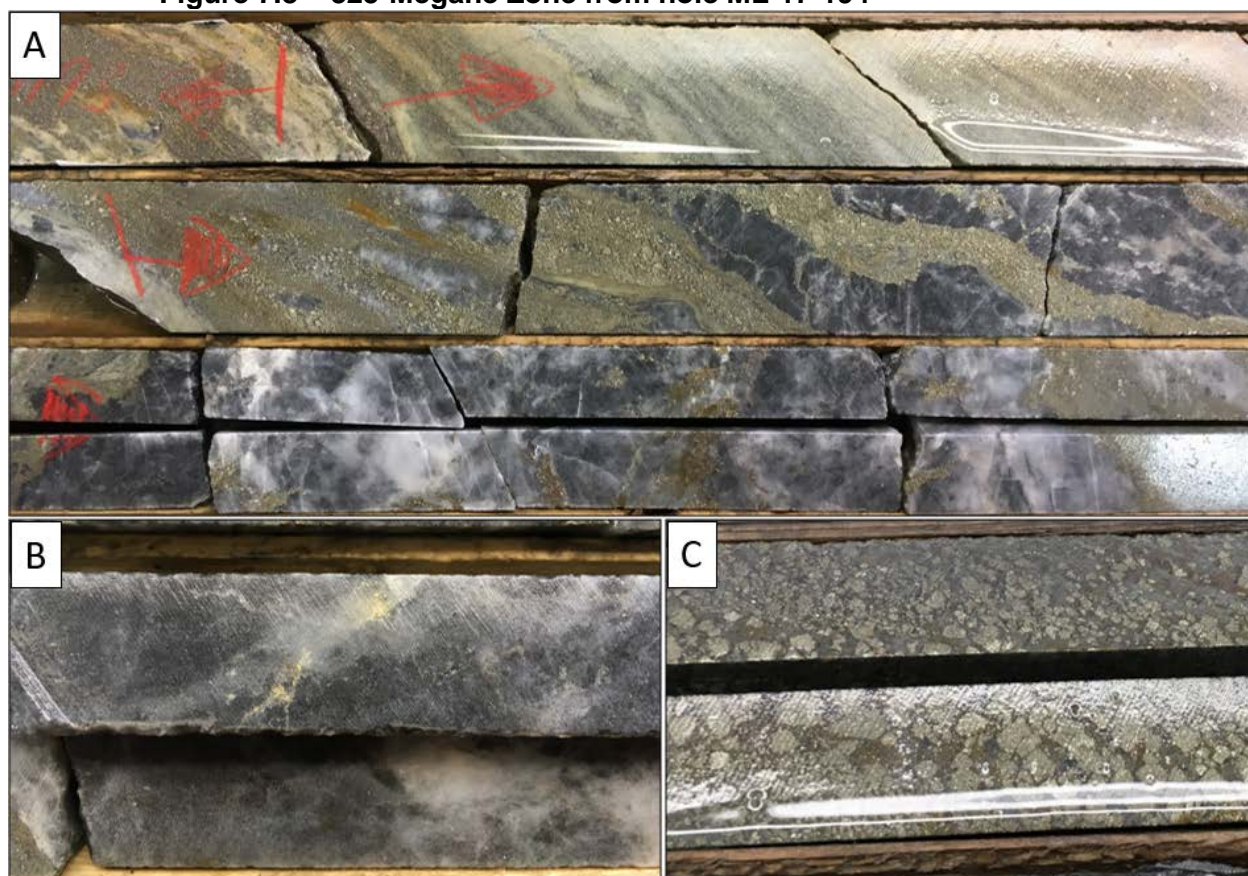
The mineralized zone is associated with a sulphide-rich graphitic volcanogenic horizon as centimetric to decimetric interbeds. In some places, mineralization corresponds to a brecciated shear zone (chlorite-carbonate schist) containing disseminated sulphides and lenticular smokey quartz veins. In some places, smokey quartz stringers are present as millimetric to centimetric veinlets. The mineralization consists of 1% to 30% sulphides, mainly pyrrhotite with lesser amounts of pyrite and traces of chalcopyrite and sphalerite. Visible gold is frequently observed and can reach up to 0.5%. Semi-massive sulphides are often observed. The best grades are usually found inside black quartz veins, which can reach a few metres thick (Figure 7.9).

In 2010, channel sampling by Stellar yielded 7.26 g/t Au over 1.6 m and 2.1 g/t Au over 2.1 m and 9.71 g/t Au over 5.2 m and 3.24 g/t Au over 7.2 m. The best drilling results are 46.33 g/t Au over 10.6 m (CL) (ML-14-130), 67.42 g/t Au over 4.6 m (CL) (ML-17-197), 80.28 g/t Au over 6.5 m (CL) (ML-17-198B) and 121.67 g/t Au over 4.85 m (CL) (ML-17-194). These results are presented in Appendix II.

The 325-Megane Zone and the Main Shear Zone are the main focus of the 2018 MRE (Item 14).



**Figure 7.8 – 325-Megane Zone from hole ML-17-194**



**Figure 7.9 – Close-ups of the 325-Megane Zone in hole ML-17-194 : A) Sheared basalt with sericite-ankerite  $\pm$ fuchsite alteration assemblage (top row), semi-**

massive sulphides and stringers with pyrrhotite, pyrite and traces of chalcopyrite in a black quartz vein (middle and bottom rows); B) Visible gold in a black quartz vein; C) Coarse grains of semi-massive pyrite.

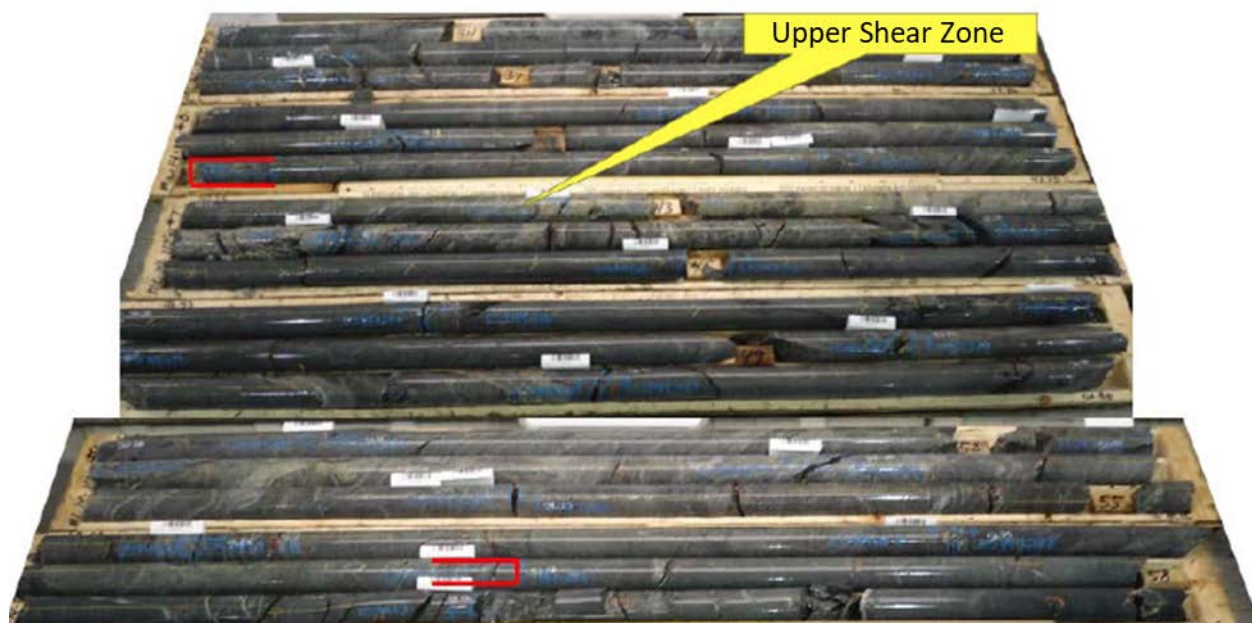
### 7.5.8 Upper Shear Zone (Upper 325-Megane Zone)

The Upper Shear Zone is located about 300-400 m east of the Main Shear Zone and was discovered by IAMGOLD in 2014 by drilling (Figure 7.6 and Figure 10.2).

The zone is characterized by moderate to strong shearing with small to large amounts of black quartz veins hosted in a thin volcanogenic horizon. The zone is moderate to strongly altered with a calcite, albite and sericite ( $\pm$ fuchsite) assemblage, and it is weakly mineralized except where specks and stringers of pyrrhotite are observed locally, running parallel to foliation. Visible gold has sometimes been observed (Figure 7.10).

The best drilling results were 12.35 g/t Au over 1 m (CL) (ML-17-198B) and 1.81 g/t Au over 1.9 m (CL) (ML-14-108).

The 2018 MRE does not include the Upper Shear Zone (Item 14).



**Figure 7.10 – Upper Shear Zone in hole ML-14-112. Photo adapted from IAMGOLD Report (2014a).**

### 7.5.9 Lower Shear Zone (Lower 325-Megane Zone)

IAMGOLD discovered the Lower Shear Zone approximately 100 m west of the Main Shear Zone in 2014 by drilling (Figure 7.6 and Figure 10.2).

This shear zone is very similar to the Main Shear Zone and can be characterized by strongly altered interbedded volcanogenic siltstone and mudstone layers and grey-

white quartz veins (black quartz locally). The Lower Shear Zone is often intersected by felsic unit. Mineralization consists of 1-25% sulphides, mainly fine-grained pyrrhotite with lesser amounts of pyrite and traces of chalcopyrite occurring as disseminations and thin stringers running parallel to shearing. The unit shows a strong to moderate alteration characterized by silicification, sericitization, chloritization and albitization (Figure 7.11).

The best drilling results are 13.65 g/t Au over 3.77 m (CL) (ML-14-110), 85.27 g/t Au over 2.55 m (CL) (ML-17-191), 39.48 g/t Au over 1.8 m (CL) (ML-17-199) and 7.42 g/t Au over 2.9 m (CL) (ML-17-208). These results are presented in Appendix II.

The 2018 MRE includes the Lower Shear Zone (Item 14).



**Figure 7.11 – Lower Shear Zone in drill hole ML-17-184.**

#### **7.5.10 Zone 52**

The Zone 52 showing (Figure 7.5) was discovered by SOQUEM in 1995 by drilling (Falco, 1995a). This showing is located about 500 m west of the 325-Megane Zone.

The structure is characterized by a decametric NNE-SSW shear zone cutting massive to pillowed basalts of Obatogamau Formation. The mineralization is frequently located at the contact of porphyritic flows. The shear zone consists of a wide sericite-carbonate alteration envelope. Mineralization is associated with the Monster Lake Shear Zone.

The mineralization occupies a zone 1 to 11 m wide in the centre of the shear. It is composed of trace amounts to 10% disseminated pyrrhotite, pyrite, and chalcopyrite accompanied by millimetric to metric smokey quartz veins and veinlets. Visible gold was reported in quartz veins. Locally, traces of sphalerite and galena are observed.

Auriferous mineralization is also identified as a late phase of calcite in brecciated smokey quartz veins.

The best result obtained during the 1995 drilling program was 6.10 g/t Au over 5.1 m. Hole ML-15-144 returned 1.87 g/t Au over 1.26 m, 1.58 g/t Au over 1.91 m and 1.15 g/t Au over 1.33 m (TW) (IAMGOLD Report, 2015a).

#### **7.5.11 Cominco and Gabrielle showing**

Cominco discovered the Cominco showing (Figure 7.5) in 1978 with a drillhole (W-78-10A) testing a geophysical conductor (Burns and Ewert, 1978). It is located roughly 400 m south-southeast of the 52 showing and 500 m southwest of the Megane showing.

The Cominco showing was later rediscovered and named the Gabrielle showing. In their reports, IAMGOLD refers to this showing as the Gabrielle showing.

The showing is associated with a metric to decametric shear zone oriented NNE-SSO (Folco, 1995). Within the shear zone the rock is highly sericitized, carbonated and injected with grey to black quartz (O'Dowd, 2011). Hole W-78-10A intercepted a graphitic cherty sulphide iron formation containing interlayered horizons of pyrite-bearing graphitic argillites, graphitic cherts and massive pyrite beds.

The cherty sulphide iron formation horizon with 15-20% pyrite and pyrrhotite and a ratio of 3:1 with minor blebs and stringers of chalcopyrite. The pyrite-bearing graphitic argillites horizon contains 10-15% pyrite with minor pyrrhotite in a very graphitic matrix. The black graphitic chert forms horizons of 15 to 20 cm thick and contains only minor sulphides although thin band and stringers of massive pyrite occur. The highest gold grades were found in the horizon described as highly contorted graphitic metasediments with 5-10% pyrite and pyrrhotite with massive graphite and within a fine grained light grey silty metasediment (Burns and Ewert, 1978). The shear zone often contains a gold-bearing black quartz vein about 0.5m wide with 5% to 10% disseminated sulphides. Some visible gold was also observed.

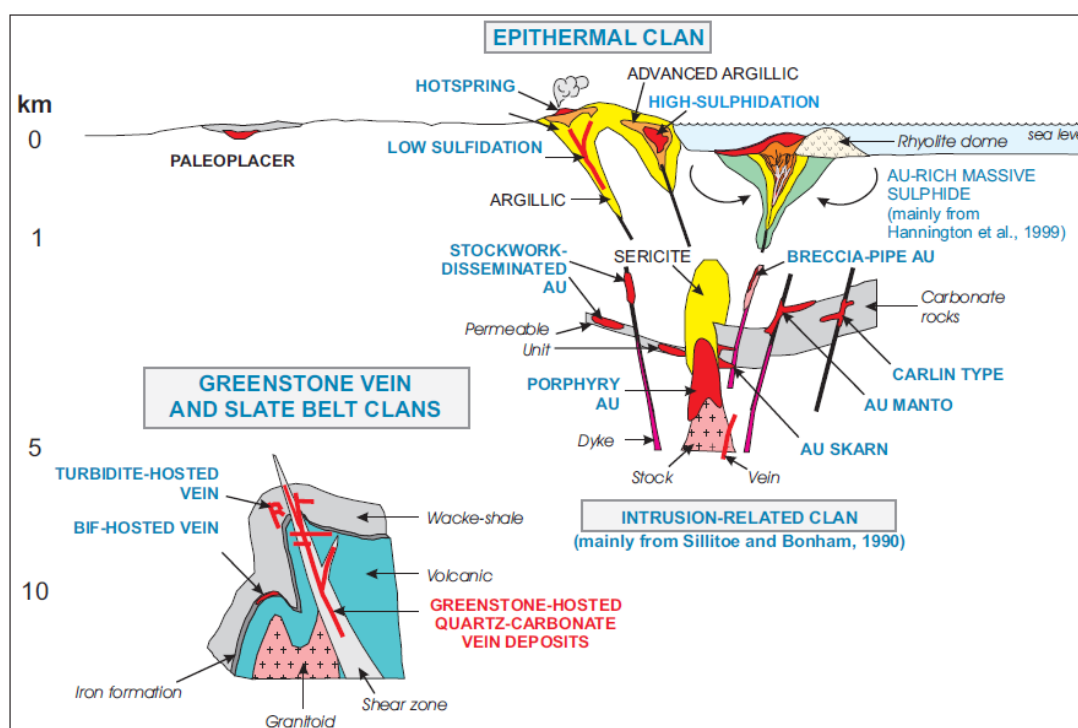
Mineralization is also found on surface with channel samples returning gold values of 24.45 g/t on 1 m (sample 14447) and 13.21 g/t on 1 m (sample 14465; O'Dowd, 2011), and 185.0 g/t and 21.3g/t on two (2) grab samples in a black quartz vein (IAMGOLD Report 2016d). IAMGOLD tested the downdip extension of the Gabrielle showing in 2014 with two (2) holes. Both holes intersected the planned targets: volcanogenic horizon but no significant results were obtained (IAMGOLD Report, 2015b).

## 8 DEPOSIT TYPES

Most of the following information was taken from Turcotte, 2015.

Much has been published on gold deposits in the last decade, leading to significant improvement in the understanding of some models, the definition of new types or sub-types of deposits, and the introduction of new terms (Robert et al., 2007). However, significant uncertainty remains regarding the specific distinction between some types of deposits. Consequently, some giant deposits are ascribed to different deposit types by different authors.

As represented in Figure 8.1, thirteen globally significant types of gold deposits have been recognized, each with its own well-defined characteristics and environment of formation. As proposed by Robert et al. (1997) and Poulsen et al. (2000), many of these gold deposit types can be grouped into clans; i.e., families of deposits that either formed by related processes or are distinct products of large-scale hydrothermal systems.



**Figure 8.1 – Inferred crustal levels of gold deposition showing the different types of gold deposits and the inferred deposit clan (note the logarithmic depth scale). From Dubé and Gosselin (2007), modified from Poulsen et al. (2000).**

These clans effectively correspond to the main classes of gold models, such as the reduced intrusion-related and oxidized intrusion-related orogenic classes (Hagemann and Brown, 2000). Deposit types such as Carlin, gold-rich VMS, and low-sulphidation are viewed by different authors either as stand-alone models or as members of the

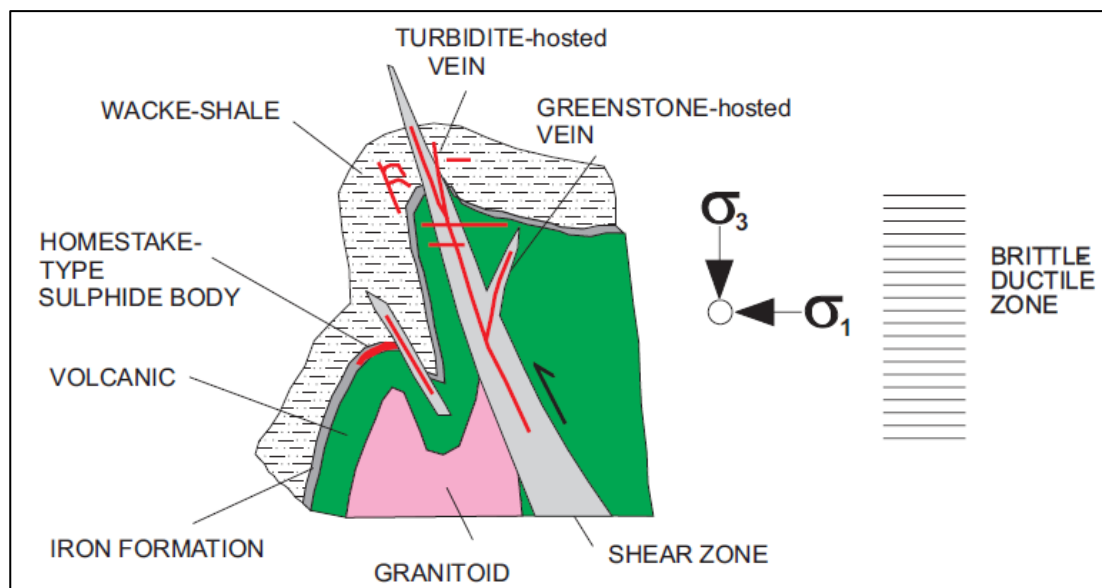
broader oxidized intrusion-related clan. They are treated here as stand-alone deposit types, whereas high- and intermediate-sulphidation and alkaline epithermal deposits are considered as part of the oxidized intrusion-related clan.

The gold showings in the eastern part of the Caopatina-Desmaraisville Segment are grouped into four distinct categories represented by types A-I to A-IV (Dion and Simard, 1999). These categories were based on the nature of the enclosing rocks and the structural context. These categories are:

- **A-I Type:** Gold mineralization associated with E-W shear zones (subparallel to stratification) cutting mafic volcanic and intrusive rocks:
  - **A1a Type:** Quartz-sulphide;
  - **A1b Type:** Low disseminated pyrite.
- **A-II Type:** Gold mineralization associated with NE and NW shear zones cutting mafic volcanic and intrusive rocks.
- **A-III Type:** Gold mineralization associated with felsic to intermediate rocks.
- **A-IV Type:** Gold mineralization associated with felsic volcanic rocks, graphitic sedimentary rocks and/or iron formations.

The gold zones observed on the Monster Lake Project can be associated with an A-II type orogenic gold occurrence model related to NE shear zones. Most of these gold zones are associated with thin volcanogenic horizons and the NE trending Monster Lake Shear Zone. The Monster Lake Shear Zone is probably a second-order shear related to the major Guercheville Fault. The gold zones, with their quartz-carbonate veins, also correspond to structurally controlled, complex epigenetic deposits hosted in deformed metamorphosed terranes (Dubé and Gosselin, 2007).

At the district scale, greenstone-hosted quartz-carbonate-vein deposits are associated with large-scale carbonate alteration commonly distributed along major fault zones (Figure 8.2) and associated subsidiary structures (Dubé and Gosselin, 2007). At the deposit scale, the nature, distribution and intensity of the wall-rock alteration is largely controlled by the composition and competence of the host rocks and their metamorphic grade. Typically, the alteration haloes are zoned and characterized at greenschist facies by iron-carbonatization and sericitization, with sulphidation of the immediate vein selvages (mainly pyrite, less commonly arsenopyrite).



**Figure 8.2 – Schematic diagram illustrating the setting of greenstone-hosted quartz-carbonate vein deposits (from Poulsen et al., 2000)**

Ore-grade mineralization also occurs as disseminated sulphides in altered (carbonatized) rocks along vein selvages. Ore shoots are commonly controlled by: 1) the intersections between different veins or host structures, or between a gold- and/or competent rock type such as iron-rich gabbro (geometric ore shoot); or 2) the slip vector bearing structure and an especially reactive of the controlling structure(s) (kinematic ore shoot). For laminated fault-fill veins, the kinematic ore shoot will be oriented at a high angle to the slip vector (Robert et al., 1994; Robert and Poulsen, 2001).

The main gangue minerals are quartz and carbonate with variable amounts of white micas, chlorite, scheelite and tourmaline. The sulphide minerals typically constitute less than 10% of the ore. The main ore minerals are native gold with pyrite, pyrrhotite and chalcopyrite without significant vertical zoning (Dubé and Gosselin, 2007).

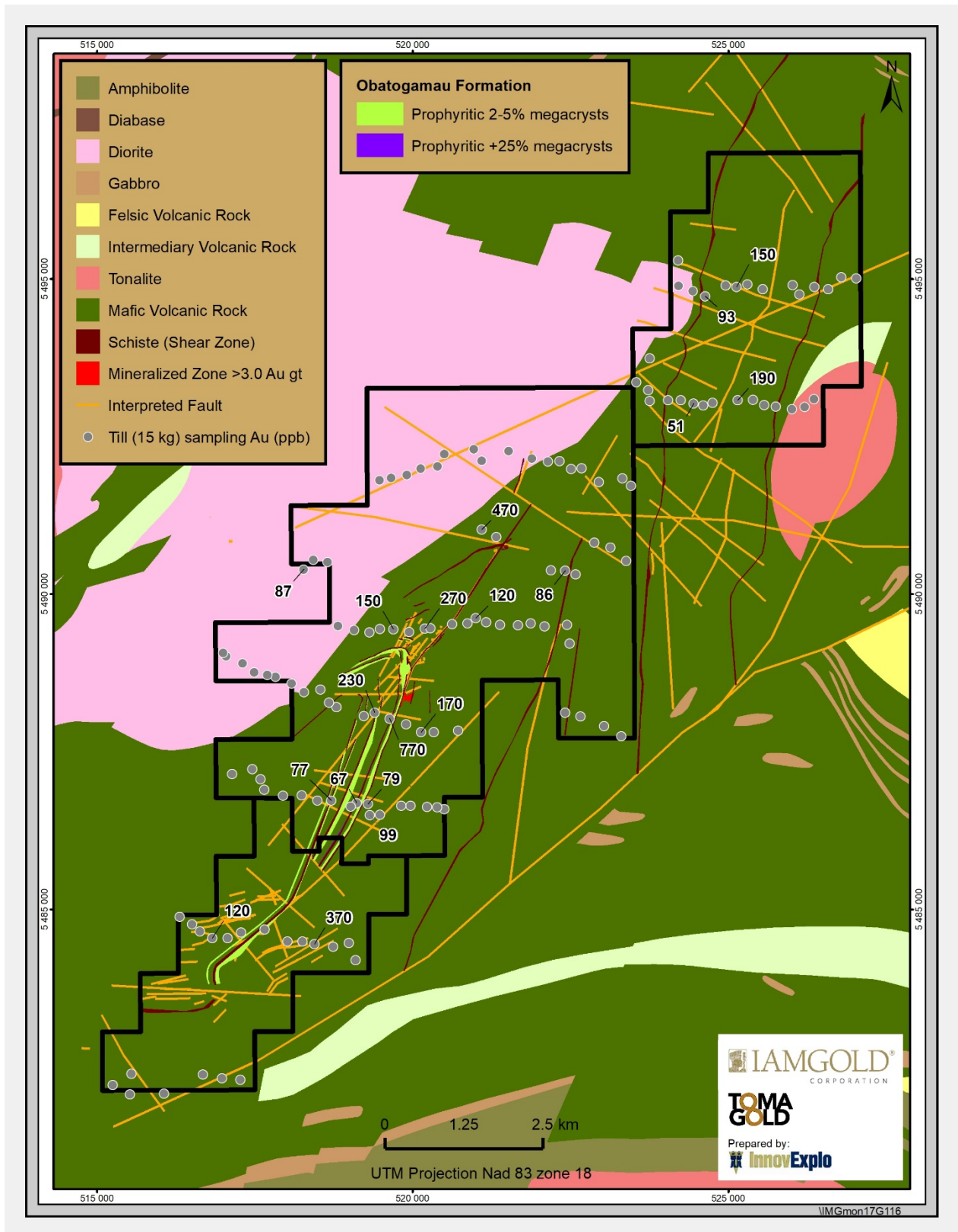
## **9 EXPLORATION**

This item presents the exploration work performed by IAMGOLD on the Monster Lake Project since 2014.

### **9.1 2014-2015 Till Surveys**

In 2014, IAMGOLD retained Rémi Charbonneau of Inlandsis Consultants to carry out a till survey on the Monster Lake Project. The 2014 program consisted of 137 samples collected along nine E-W lines spaced 200-400 m apart, covering the entire Project (Figure 9.1). A binocular microscope study and gold grain analysis was part of the mandate. A significant amount of gold was observed under the microscope. The survey returned three occurrences of auriferous tills: Main Train, Eratix and Northeast. While it was determined that the Main Train was derived from known gold zones, the Eratix and Northeast occurrences could not be explained by known bedrock sources (Charbonneau, 2015).

Ninety-eight (98) glacial sediment samples were collected in 2015 to test the Northeast and Eratix areas identified in 2014. The Northeast area returned three nearly contiguous samples with more than 260ppb Au. The Eratix Sector returned a small cluster of high gold values (three samples with 400 to 1900 ppb Au) associated with a few coarse grains and arsenic in the dense mineral fraction. Significant gold targets within both sectors were identified (Charbonneau and Robillard, 2015).



**Figure 9.1 – Results of the 2014-2015 till survey programs on the Monster Lake Project**

## 9.2 2015 Summer Field Program

Field mapping work during the summer of 2015 targeted the areas of the Trois-Chemins and Monster Lake East showings on the Monster Lake, Winchester and Lac à l'Eau-Jaune blocks (Figure 9.2 and Figure 9.3). The objective was to collect enough data to assess the geological potential of these areas.

Daily traverses were planned by identifying areas of potential outcrops using aerial images (e.g., Google Earth). Geologists and geotechnicians used a Garmin CX65 GPS for surveying purposes and Brunton Transit, Suunto MC2G5006, Silva Ranger CL and Silva Ranger 75 compasses.

At each outcrop encountered, the following information was collected: a GPS point; an outcrop description (sketch, lithology, alteration, mineralization, structure, etc.); photograph(s); and grab sample(s) if necessary. If a sample was taken, a unique identifying tag was assigned. The work was carried out in several stages, including:

- General mapping of existing outcrops and new outcrops for a better understanding of local geology.
- Beep Mat surveys to find new conductive targets for mapping and sampling purposes. The survey followed a conductive graphitic unit defining the limbs and nose of a fold, an E-W structure (Big Mama) as well as the Lower Shear Zone.
- Detailed mapping of showings (historical, new targets, etc.) to gain a better understanding of the spatial distribution of the different entities encountered.

### ***Trois-Chemins and Monster Lake East areas (Monster Lake Block)***

Bedrock was reached in only 8 of 14 trenches. Six trenches were closed immediately as no bedrock was encountered. Trenches were 15 by 30 m long by 2 to 3 m wide with a depth of 1.5 m, for a total excavated volume of approximately 1057.5 m<sup>3</sup>. The excavation work was carried out using a 320-excavator belonging to Alain Maltais Enterprises of Chibougamau. During excavation, organic material was removed and set apart from the other soil horizons for future use during reclamation. If present, water was drained from the trench before outcrop washing. Manual washing was done with a pump and hose system as well as shovels and pick axes, if required, to remove the more difficult material. Detailed mapping was carried out and channel samples were collected by geotechnicians using a hydraulic circular hand saw on predefined intervals traced by the geologist. For this, two notches are cut side by side to a depth of 15 to 20 cm to create a channel from which the samples were then extracted in their entirety using a hammer and chisel. Ninety-four (94) channel samples were taken on the Trois-Chemins showing (Monster Lake Block).

The most significant results are presented in Table 9.1.

This work confirmed the geological potential of the historical Trois-Chemins outcrop. A major structure dominates this zone and can be observed on three contiguous

outcrops. The shear zone is approximately 7 m wide and 40 m long. The mean schistosity is N64° and the dip is from 62° to 90° to the southeast. This shear zone affects altered basalt (carbonatization, sericitization, silicification) and served as a channel for circulating hydrothermal fluids. Gold-bearing channel samples were taken along a black quartz vein that appears to be at a lithological contact in the fold nose. The 2015 samples confirmed previous results and the continuity of mineralization in the main black quartz vein.

**Table 9.1 – Significant results (>0.5 g/t) of the 2015 sampling programs on the Trois-Chemins showing. (IAMGOLD Report, 2016c)**

OUTCROP	SAMPLE	WT_KG	AU_PPM	AU_FA_PPM	AU_FA2_PPM	AU_FA3_PPM	AU_GA_PPM
AF001	E6706601	1.66	29.600	>10.0			29.6
AF001	E6706602	2.15	26.500	>10.0			26.5
AF001	E6706603	1.42	27.600	>10.0			27.6
AF001	E6706606	3	4.900	4.9			
AF001	E6706607	3.43	2.010	2.01			
AF001	E6706612	3.47	7.195	7.4			6.99
AF001	E6706614	2.79	0.975	0.975			
AF001	E6706615	3.56	1.750	1.75			
AF001	E6706621	3.7	0.736	0.736			
AF001	E6706622	2.32	6.810	6.88			6.74
AF001	E6706624	2.89	0.987	0.987			
AF001	E6706630	1.95	0.779	0.547	1.01		
AF001	E6706636	3.32	0.530	0.53			
AF001	E6706637	2.97	0.615	0.615			
AFF001	E6706640	1.99	4.850	4.85			
AFF001	E6706641	2.57	1.920	1.92			
AFF001	E6706644	3.88	51.700	>10.0			51.7
AFF001	E6706645	4.37	2.780	2.78			
AFF001	E6706648	3.48	2.345	2.62	2.07		
AFF001	E6706652	2.11	1.000	1			
AFF001	E6706655	1.93	0.852	0.852			
AFF001	E6706658	3.35	1.685	1.73	1.64		
AFF001	E6706661	2.99	3.475	3		3.95	
AFF001	E6706664	1.65	0.964	0.964			
AFF001	E6706665	2.4	1.140	1.14			
AFF001	E6706670	3	0.948	0.948			
AFF001	E6706674	0.8	0.574	0.574			
TR-15-14	E6706687	<b>3.3</b>	1.440	<b>1.44</b>			
TR-15-14	E6706691	<b>1.38</b>	0.695	<b>0.695</b>			
TR-15-14	E6706697	<b>2.39</b>	1.260	<b>1.26</b>			
TR-15-14	E6706698	<b>4.14</b>	1.320	<b>1.32</b>			

Seventeen (17) grab samples were collected on the Monster Lake East showing. Only three returned gold values: 0.761 g/t Au, 0.658 g/t Au and 0.623 g/t Au. The first sample was taken in a small sheared and oxidized area, the second in a white quartz vein near a sheared area, and the third in a milky quartz lens in a felsic unit. The location of the 2015 field program is presented in Figure 9.2.

The work in the Trois-Chemins and Monster Lake East areas uncovered the main lithologies known in the region. Large geological assemblages were recorded, including the stacking of a volcanic series typical of the Obatogamau Group (pillowed to massive flows, and megaporphyric feldspar basalt) and intrusions related to the Chico Stock and Eau Jaune Complex.

### ***Lac à l'Eau Jaune Block***

Prospecting work took place from May 2 to July 21, 2015, including compilation days. The eastern part of the block (unexplored in 2014) was fully explored except for the far northeast end, which is swampy. Ninety-four (94) outcrops were examined and 21 grab samples collected (Figure 9.3).

The geological units in the area covered consist mainly of pillowed basalt (metric to decimetric pillows, often deformed), sometimes massive, and an outcrop displaying a megaporphyry with 20% feldspar megaphenocrysts. The southeastern part of the block revealed volcanoclastics and blocks and lapilli tuffs units. Thin dykes were also observed and described as intermediate intrusive and tonalite units.

The relationship between mineralization and structure could not be clearly established. No significant results were obtained except for a sample grading 0.406 g/t Au. This sample is located at the 91-269 historical showing discovered by SOQUEM in 1991 where a grab sample returned 1.65 g/t Au (IAMGOLD Report, 2015d).

### ***Winchester Block***

Prospecting took place from June 19 to September 9, 2015, including compilation days. Most of the block was explored except for the southwest sector where no access could be found (swampy area with many streams). A total of 370 outcrops were examined, 4 trenches excavated, 38 grab samples collected and 32 channel samples sawed (Figure 9.4). The majority of outcrops required manual stripping of the overburden, which averaged 10 to 15 cm thick. Several stripping points were planned on the widest outcrops. See the Monster Lake Block description above for details about the trenching and channelling work. The trenches measured 30 m long by 4 m wide with an average thickness of 1.5 m of overburden for a total of excavated volume of 720 m<sup>3</sup>.

The trenches targeted Beep Mat anomalies and lithologies with potential (altered basalt zone in the south) as well as a graphitic sulphide and quartz unit. No significant results were obtained, although samples analyzed by ICP-MS showed anomalous levels of silver, copper and zinc in massive sulphide units (IAMGOLD Report, 2015c).

### 9.3 2016 Summer Field Program

Field mapping work during the summer of 2016 targeted the eastern and western parts of the Monster Lake Block and the western part of the Lac à l'Eau-Jaune Block.

The 2016 program followed the same approach (procedures and equipment) as the 2015 program. The work was carried out in several stages, including:

- General mapping of existing outcrops and new outcrops for a better understanding of the local geology.
- Beep Mat surveys to find new conductive targets for mapping and sampling purposes.
- Detailed mapping of showings (historical, new targets, etc.) to gain a better understanding of the spatial distribution of the different entities encountered.

On the Monster Lake Block, 79 outcrops were examined, 7 trenches were excavated, 20 grab samples were collected, and 152 channel samples were cut (Figure 9.2). For details about the trenching and channelling work, see the 2015 description above.

The trenches measured approximately 6 to 40 m long by 3 to 13 m wide. Detailed mapping was carried out on these trenches.

Only one of the 20 grab samples (S476021) yielded a significant value (10.150 g/t Au). It was collected on trench TR-16-02 and is a sample of blackish-smokey quartz, highly oxidized with 0.5% pyrrhotite and chalcopyrite and with molybdenite plating.

The results of the channel sampling program were not significant. The two best results are presented below (IAMGOLD Report, 2018a):

- Sample S476378 (TR-16-01) with a value of 2,200 g/t Au. It is a strongly sheared basalt, highly sericitized and weakly silicified and chloritized, with 1% foliated pyrite and traces of chalcopyrite. Also observed: a brecciated vein with 1-2% pyrrhotite and traces of pyrite and chalcopyrite.
- Sample S476339 (TR-16-02) with a value of 2.320 g/t Au. It is a cataclastic smokey quartz vein with millimeter-scale clusters of pyrite and chalcopyrite.

On the Lac à l'Eau-Jaune Block, 95 outcrops were examined and 16 grab samples collected and sent to ALS Laboratory. The results were not significant. The best value was 0.999 g/t Au for S476116, a sample containing a 3 cm smokey quartz vein and quartz fragments (30% of the sample) in a sericite-chlorite altered and sheared basalt unit apparently devoid of sulphides in the sampling area (IAMGOLD Report, 2017a).

## **9.4 2017 Field Program**

Mapping and sampling work on the Monster Lake Block was conducted from October 10 to 21, 2017 by the IAMGOLD team (Figure 9.2). Forty-eight (48) channel samples were collected and sent to ALS Laboratory.

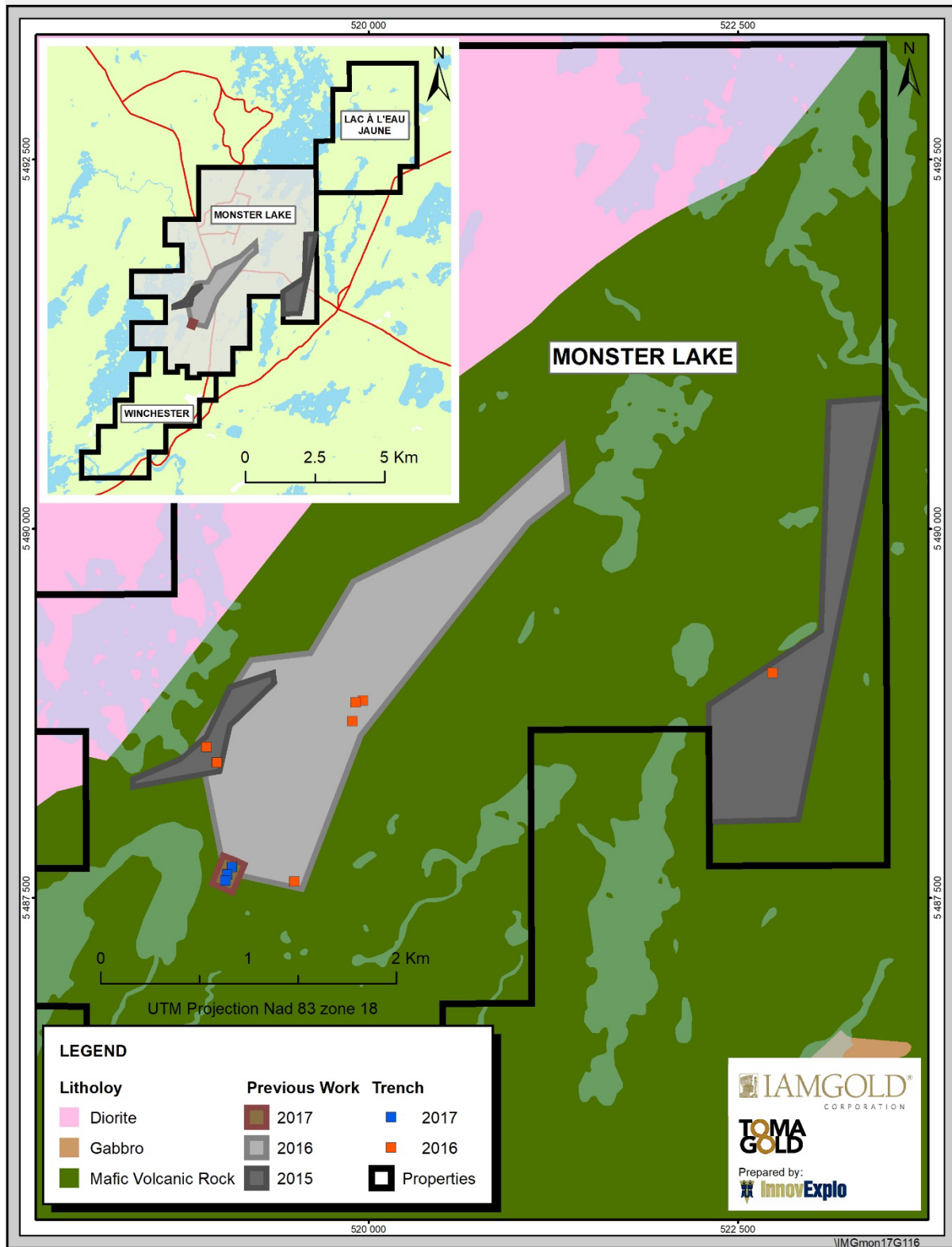
Three of the five trenches excavated in fall 2017 were mapped.

The 2016 program followed the same approach (procedures and equipment) as the 2015 program. A magnetic declination of  $-15^{\circ}$  was applied. For details about the trenching and channelling work, see the 2015 description above.

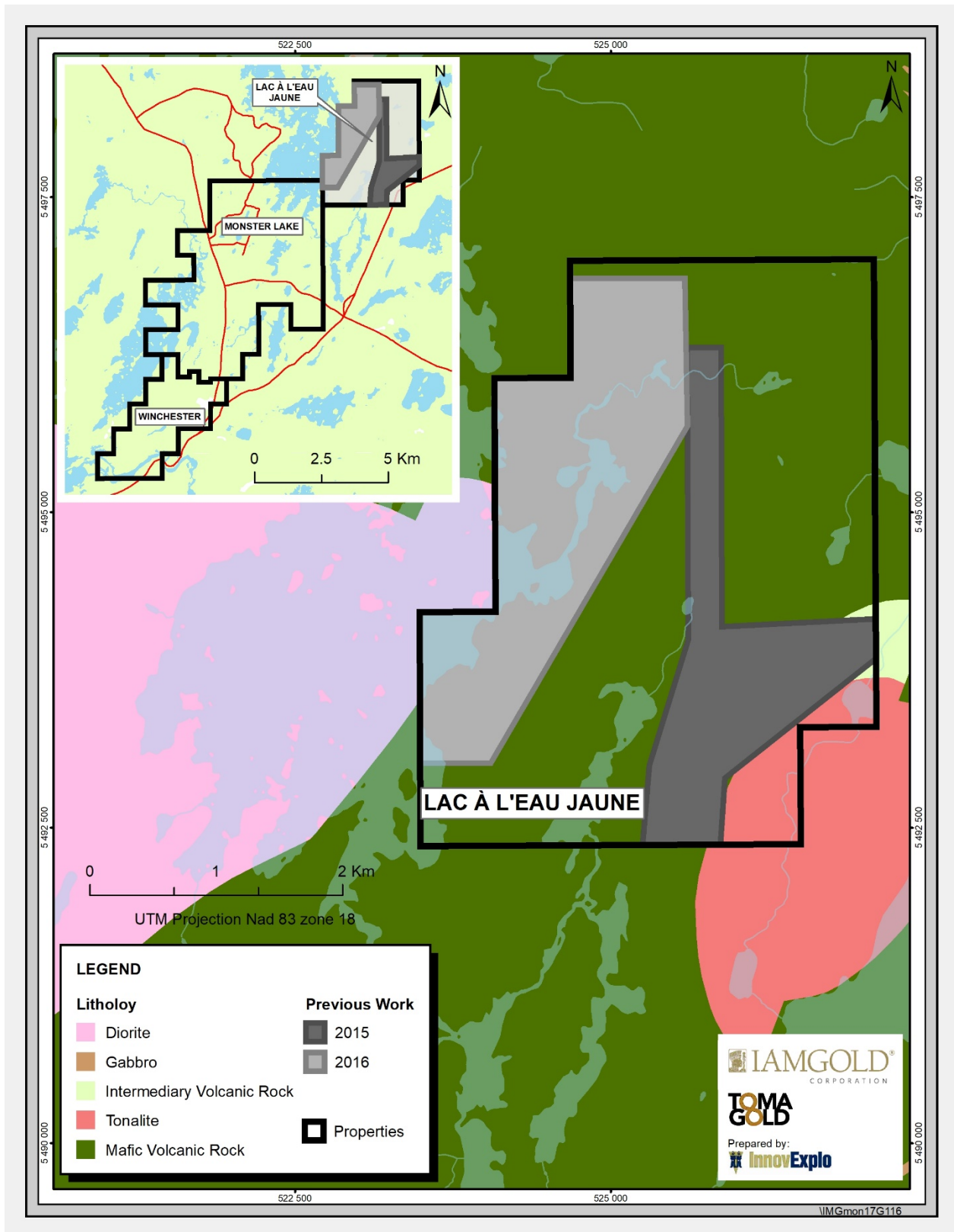
The following are some of the most significant results obtained in 2017:

- 7.67 g/t Au over 0.80 m (IMGVD17252) for a sample of basalt in trench TR-17-10;
- 7.11 g/t Au over 0.60 m (IMGVD17280) for a sample from a sheared area in trench TR-17-04; the sample consists of 50% of black quartz vein containing 5% pyrrhotite and 5% pyrite; and
- 4.910 g/t Au over 0.50 m (IMGVD17253) for a sample from a sheared area in trench TR-17-10; 80% of the sample is a black quartz vein containing 5% pyrrhotite and 1% pyrite.

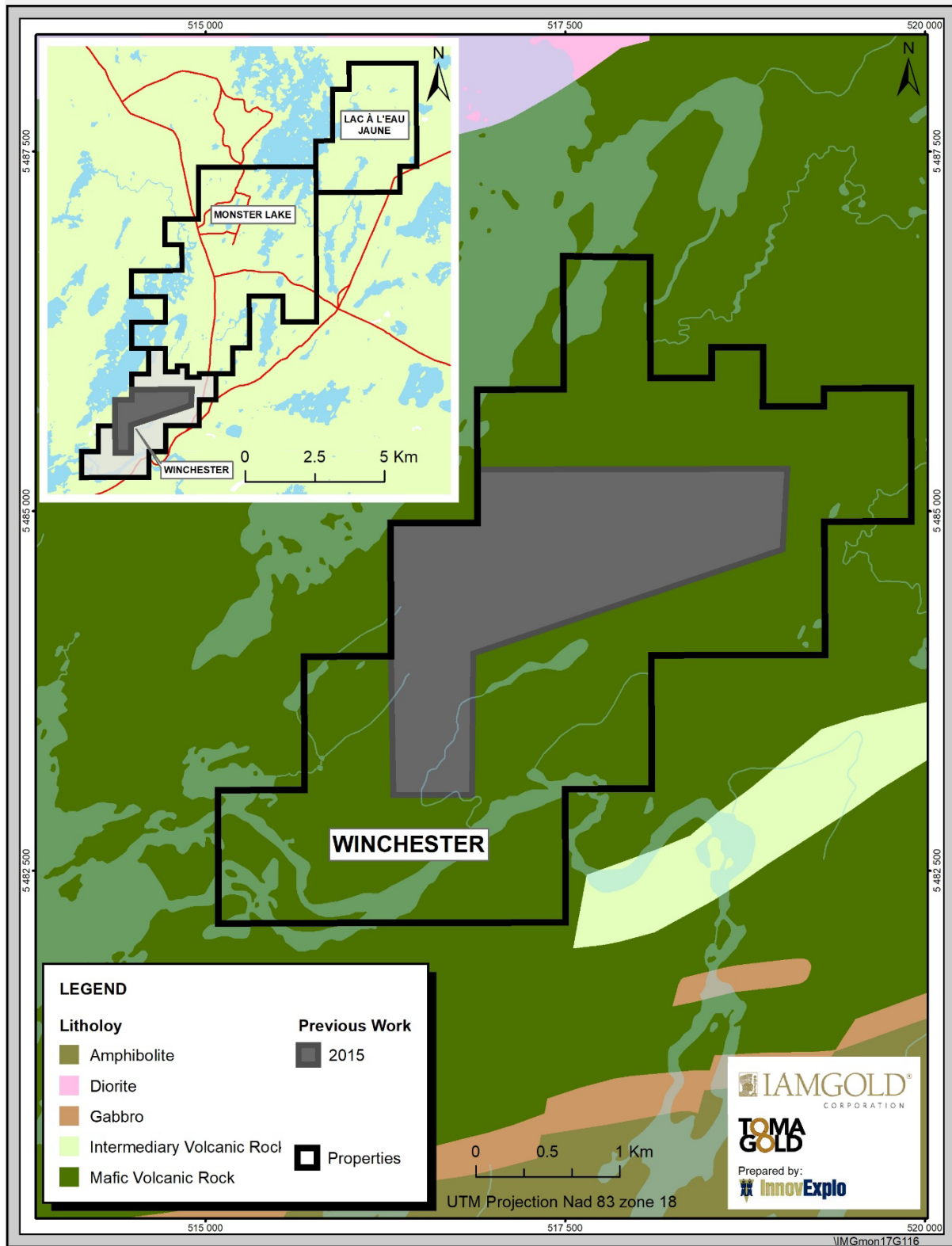
Only 6% of the samples returned gold values greater than 0.5 g/t (IAMGOLD Report, 2018b).



**Figure 9.2 – Location of the exploration work conducted by IAMGOLD on the Monster Lake Block between 2015 and 2017.**



**Figure 9.3 – Location of the exploration work conducted by IAMGOLD on the Lac à l'Eau Jaune Block in 2015 and 2016.**



**Figure 9.4 –Location of the exploration work conducted by IAMGOLD on the Winchester Block between 2015 and 2017.**

## **10 DRILLING**

Information in this item was obtained from the IAMGOLD exploration team. All drilling at the Monster Lake Project is conducted from surface with a maximum drill hole length of 738 m. The core diameter for the 2014 to 2017 drilling was NQ (47.6 mm core diameter). All diamond drilling carried out between 2014 and 2015 was contracted to Forage M. Rouillier Inc. based in Amos (Québec). In 2016, drilling was contracted to Chibougamau Diamond Drilling Ltd based in Chibougamau (Québec). In 2017, the drilling contractor was Spektra Drilling Canada Inc. based in Val-d'Or (Québec). Figure 10.1 shows the location of the 2014 to 2017 drilling programs.

### **10.1 Drilling Methodology**

Diamond drill holes are planned using vertical cross-sections, vertical longitudinal sections and level plans in order to intersect the mineralized zone at the proper angle (perpendicular to its strike and dip wherever possible).

IAMGOLD employees survey the drill hole collars and mark their positions with foresights and backsights. A handheld Garmin GPSMAP 62s with a Universal Transverse Mercator (UTM) 1983 North American Datum (NAD83) system is used to record position data, and compass and chain methods are used to locate two foresight tickets and one backsight picket. A few drill holes were aligned using a REFLEX TN14 GYROCOMPASS directly on the drill.

Once the drill rig is positioned at the planned location, the downhole dip and drill hole orientations are surveyed using a REFLEX EZ-SHOT unit. Reflex surveys start 15 m below the casing, and readings are taken every 30 m downhole. The results are immediately sent to IAMGOLD's geologists to respond quickly to problems. Although magnetic minerals affected the Reflex instrument, it is for the most part adequate in determining the deviation of the drill hole while it is in progress. In the first test, a deviation margin for azimuth and inclination of  $\pm 2^\circ$  was tolerated for the infill holes and  $\pm 5^\circ$  for the exploration holes.

The core is marked with blocks at the beginning and end of each drill run interval at the drill site. For the 2017 drilling campaign, after the end of the hole was reached, measurements (azimuth, plunge and magnetism) were also taken every 3 m using a REFLEX Multi-shot device. Multi-shot deviation tests were electronically transferred to the Gems Logger database.

After a hole is completed and the rig moved off the drill site, the casing is covered with a steel cap and a wooden or steel marker is placed next to the casing with the hole collar identification.

Surveyor Paul Roy returned to sites and surveyed the casing locations and elevations using a differential GPS (GNSS Leica GS15). Paul Roy also completed a differential GPS survey for 178 historical holes mainly drilled by SOQUEM, Stellar and TomaGold.

## **10.2 Downhole Core Orientation Survey**

Core is oriented and marked during drilling using a Reflex ACT electronic orientation tool. The drillers use the kit to trace a mark (short line) on the underside of the core oriented with the Reflex Act tool before the core is removed from the core tube. This line corresponds to the underside of the core as it was in the hole before breaking off with the core tube.

When receiving oriented core from the drill, the core is assembled with each piece placed in its original position. The driller's core mark is aligned so that a continuous line can be drawn with a grease pencil along the whole run. Arrows pointing down hole are marked on each piece of core.

A direct measurement of the alpha angle can be made by rotating the core until the surface to be measured appears to make a maximum angle with the core axis (CA).

Accurate measurement of the beta angle can be made using specially constructed circular protractors or, more simply, a flexible wrap-around protractor printed on paper or heavy transparent film.

Both angles (alpha and beta) are then entered into a spreadsheet in Gems Logger software, along with the hole orientation survey data, to obtain the true orientation of the structures. The orientations can then be determined using a stereographic plotting program.

## **10.3 Core Recovery and RQD measurements**

Core recovery is calculated by measuring borehole core recovery in percentage over each drilling run of 3 m. Rock-quality designation (RQD) is a rough measure of the degree of jointing or fracture in a rock mass, measured as a percentage of the drill core in lengths of 10 cm or more in each run (3 m). The percent core recovery for each run and the RQD are recorded in the log spreadsheet in Gems Logger software. Core recovery and RQD are generally very good on the Monster Lake Project.

## **10.4 Recent Diamond Drilling**

IAMGOLD has completed many diamond drilling programs on the Monster Lake Project since 2014. At the effective date of this report, total drilling on the Project amounted to 85,158.1 m in 363 surface DDH. Since 2014, 45,012.38 m of drilling was completed (108 surface DDH). The reader should refer to Item 10 in Turcotte (2015) for detailed information on the 2014 winter drilling campaign.

### **10.4.1 2014 drilling program**

A total of approximately 12,767.3 m of NQ-size core was drilled in 28 holes during two diamond drilling programs in 2014 (Figure 10.1).

The drilling program was designed to target areas of high potential and to provide IAMGOLD with sufficient information to better understand the geological controls on gold mineralization. The holes were positioned at the junctions of major N-S and E-W structures, in the nose of the fold, and in the extensions of the Annie and Gabrielle showings and the 325-Megane Zone (infill and expansion drilling).

The programs successfully expanded the 325-Megane Zone and identified two additional mineralized zones: the Upper Shear Zone and Lower Shear Zone. Based on the available information, all three zones appear to be subparallel and approximately 100 to 400 m apart (Figure 10.1). The 325-Megane Zone, previously outlined by TomaGold, is related to the Main Zone.

Results and Highlights are presented in Appendix II and details are provided below by area.

Five (5) holes tested the **hinge of the fold** (ML-14-117, ML-14-119, ML-14-121, ML-14-122 and ML-14-123). The objective was to determine if the known mineralized shear zone along the eastern fold limb was continuous around the nose of the fold and along the western limb. These holes targeted the positive trenching results from 2014. All holes intersecting the targeted shear zones revealed some similarities with the volcanogenic horizon hosting the 325-Megane Zone. The most important observations were that these holes lacked significant amounts of black quartz and that the intensity of deformation in the shear zones along the western limb appears to be less than along the eastern limb of the fold. Highlights included 8.78 g/t Au over 0.65 m (CL) in hole ML-14-122 in the nose of the fold. No other significant results were obtained at this location (IAMGOLD Report, 2015b).

Eight (8) holes were drilled to **expand and infill the 325-Mégane Zone**. Drilling in this area was very successful. All holes intersected their planned targets and results yielded several high-grade intersects. The 325-Megane Zone was expanded downdip to the NE and infill holes confirmed the presence of mineralization within this ore shoot. Infill holes ML-14-130 and ML-14-131 returned particularly exceptional results and hole ML-14-132 yielded encouraging results in the NE downdip extension. The final hole, ML-14-133, was drilled to test the SW downdip extension but did not return significant results (IAMGOLD Report, 2015b).

Only one of the two holes drilled at the **Annie showing** intersected the planned target, the Monster Lake Shear Zone. The second hole missed the target and was likely stopped to early. No significant results were obtained (IAMGOLD Report, 2015b).

Two (2) holes tested the **downdip extension of the Gabrielle showing**. Both holes intersected the planned targets: volcanogenic horizon; Main Shear Zone and the Lower Shear Zone. No significant results were obtained (IAMGOLD Report, 2015b).

#### 10.4.2 2015 drilling program

A total of approximately 11,719 m in thirty (30) DDH was drilled at the Monster Lake Project in 2015. (Figure 10.1).

The first drilling campaign was designed to evaluate priority targets identified by a target-generation exercise completed over the entire property. The target areas evaluated by drilling included the western limit of the prominent folded unit along which new fold showings were identified in 2014; the southwest and northeast strike extensions of the 325-Megane Zone and the Main Shear Zone; and the Zone 52 and Erratix prospect areas. A few holes were also drilled to better delineate the 325-Megane Zone. (IAMGOLD news release of June 25, 2015)

The second campaign was designed to evaluate targets developed by previous drilling and the 2015 mapping and trenching programs. Targeting continued to focus on the extensions of the Main Shear Zone (hosting the 325-Megane Zone) and the Monster Lake Shear Zone as well as adjacent structures identified by the exploration program (IAMGOLD news release of February 22, 2016).

The grade continuity of the **325-Megane Zone** was tested by nine (9) infill holes (ML-15-134 to ML-15-136, ML-15-138, ML-15-155, ML-15-158 and ML-15-160 to ML-15-162). The zone was intersected and some positive results obtained, but generally lower than expected. Holes ML-15-134, ML-15-155, ML-15-158, ML-15-161 intersected the best results due to their central position within the zone. The other holes, ML-15-135, ML-15-136, ML-15-138, ML-15-160 and ML-15-162, were all drilled just outside the zone as seen in the longitudinal section (Figure 10.3), which would explain the lower than expected results; however, they did improve the lateral definition of the 325-Megane Zone.

Four (4) holes tested the **NE downdip extension of the 325-Megane Zone**. The low assay results in holes ML-15-140 and ML-15-150 confirmed they were drilled beyond the zone. Overall, the results were not very encouraging with the exception of a small interval hosting 1.93 g/t Au over 0.82 m (TW) in hole ML-15-140. No significant results were obtained in hole ML-15-150 and holes ML-15-143 and ML-15-152 were only slightly more successful. These results suggest that the zone weakens with depth and plunges to the NE (IAMGOLD Report, 2015a).

The positive results in hole ML-15-147 (3.64 g/t Au over 10.72 m (TW)) are probably due to the intersection of two prominent structures; the Monster Lake Shear Zone and an **E-W structure** often called the New Min Zone. This intersection between structures produces the two distinct shear orientations seen in the hole: an orientation of 20° to 30° CA in the upper portion and 50° to 60° CA in the lower portion. It can also explain why the interval is so large (+50 m) when all other holes in the area have intervals ranging between 2 to 10 m (IAMGOLD Report, 2015a). IAMGOLD tested the E-W structure again during the second phase of drilling with hole ML-15-156 and obtained

0.53 g/t Au over 0.25 (TW). This zone corresponds to a chlorite-carbonate-sericite shear containing 5-10% sulphides (pyrrhotite and pyrite) and traces of chalcopyrite (IAMGOLD Report, 2016a).

Holes ML-15-157 and ML-15-159 targeted the **downdip extension of the Upper Shear Zone**. No significant results were obtained in hole ML-15-159 and a single intersect of 0.57 g/t Au over 0.77 m (TW) was encountered in hole ML-15-157 (IAMGOLD Report, 2016a).

Holes ML-15-137 and ML-15-139 tested the **western limb of the folded unit** for mineralization similar to the 325-Megane Zone. Mineralization was weak and the sheared intervals showed less deformation and minor amounts of black quartz compared to the eastern limb. Results were unimpressive from this location (IAMGOLD Report, 2015a).

ML-15-141 tested a **magnetic anomaly in the western limb of the fold**. This hole intersected two small shear zones that did not yield any significant results, however, it did intersect a 68-m-wide magnetic gabbro at 163.00 m, which is likely the reason for the magnetic anomaly (IAMGOLD Report, 2015a).

Three (3) holes, ML-15-142, ML-15-146 and ML-15-149, tested the **Eratix Showing at depth**. All three intersected the planned targets: a subvertical shear zone plus some smaller shears. The zones were small and grades were low. No significant results were received from hole ML-15-142, whereas hole ML-15-146 yielded a single intersect of 7.70 g/t Au over 0.77 m (TW) and hole ML-15-149 yielded 1.10 g/t Au over 0.69 m (TW) and 1.06 g/t Au over 0.76 m (TW) (IAMGOLD Report, 2015a).

Hole ML-15-144 tested the **downdip extension of the 52 Shear Zone**. It intersected the targeted shear zone but yielded lower results than expected (IAMGOLD Report, 2015a).

Five (5) holes (ML-15-145, ML-15-148, ML-15-151, ML-15-153 and ML-15-154) targeted the **SW extension of the Main Shear Zone**, south of the 325-Megane Zone. Drilling in this location was successful in the sense that all holes intersected their planned targets: the Main Shear Zone and the Lower Shear Zone. However, although the intervals hosted encouraging amounts of sulphides and moderate to strong alteration, they lacked significant amounts of black quartz and yielded low grades (IAMGOLD Report, 2015a).

Results and highlights are presented in Appendix II.

#### 10.4.3 2016 drilling program

The 2016 winter diamond drilling program started in February and ended in April. The program consisted of twenty-two (22) holes totaling 8,104.50 m and was designed to test multiple target areas, such as the northeastern extension of the 325-Megane

Zone; historical results from the Trois-Chemins showing; the junction between E-W and NE-SW structures to the east of the Trois-Chemins and Monster Lake East showings; the nose of the folded unit; the SW extension of the 325-Megane Zone; and the intervals in two (2) infill holes drilled on the 325-Megane ore shoot.

The holes targeting the 325-Megane and Lower Shear zones show encouraging results in terms of geological continuity. No significant results were encountered in the other targets. In some holes, black quartz veins were observed but did not yield gold values.

Holes ML-16-163 and ML-16-176B were both drilled as **infill holes on the 325-Megane Zone** to ensure grade continuity. Results were mixed overall, with a small interval of 0.86 g/t Au over 0.64 m (TW) in ML-16-163 and encouraging results of 8.64 g/t Au over 0.63 m (TW), 0.55 g/t Au over 0.70 m (TW), 2.30 g/t Au over 0.75 m (TW) in ML-16-176B. (IAMGOLD Report, 2016b).

Two (2) holes, ML-16-166 and ML-16-164, tested the downdip extension of high grades obtained during historical and 2015 channel sampling at the **Trois-Chemins showing**. Historical channel samples collected by SOQUEM in 1991 yielded promising results such as 106.7 g/t Au, 22.7 g/t Au, 16.8 g/t Au and 15.00 g/t Au. IAMGOLD returned to this outcrop in 2015 and duplicated some of the positive results initially reported by SOQUEM. Highlights of this work include 51.7 g/t Au, 29.6 g/t Au, 27.6 g/t Au, 26.5 g/t Au, 6.99 g/t Au and 6.74 g/t Au. Both holes intersected a sheared interval which was characterized by a weak schistosity and 5% to 40% transposed and boudinaged white or clear quartz veins and minor amounts of transposed and brecciated black quartz veins. Mineralization consisted of trace amounts of disseminated pyrrhotite and pyrite ( $\pm$ chalcopyrite). No significant results were obtained in these holes. (IAMGOLD Report, 2016b)

Four (4) holes, ML-16-167, ML-16-169, ML-16-170 and ML-16-181, targeted the **junction of NNW and E-W structures** located approximately 400 m east to the of the Trois-Chemins showing. All intersected a shear zone with a large black quartz vein (0.9-1.1m thick) hosting 1% to 3% disseminated pyrite and pyrrhotite ( $\pm$ chalcopyrite). This zone is probably the northern extension of Zone 52. The quartz vein was not encountered in hole ML-16-181. No significant results were obtained.

Three (3) holes, ML-16-172, ML-16-173 and ML-16-174, drilled approximately 2 km east of the 325-Megane Zone, tested an area where **the E-W Structure of 325-Megane** (a favourable unit) coincides with a volcanogenic horizon, a VTEM anomaly and anomalous grab samples. These holes intersected a series of basaltic flows and gabbro sills. One or two small shear zones were also intersected. No significant results were obtained.

Seven (7) holes (ML-16-165, ML-16-168, ML-16-171, ML-16-175, ML-16-177, ML-16-179 and ML-16-182) tested the economic potential of the northern part of the Main

Shear Zone **between the 325-Megane Zone and the Monster Lake Shear Zone**. The junction of the Main Zone and the Monster Lake Shear Zone was thought to be intersected in holes ML-15-147 (4.51 g/t Au over 3.41 m (TW) and 3.64 g/t Au over 10.72 m (TW)) and ML-12-57 (2.27 g/t Au over 5.9 m (CL)). All holes intersected the Main Shear Zone and three intersected the Monster Lake Shear Zone (ML-16-179, ML-16-165 and ML-16-168). No significant results were received for this zone. Holes ML-16-171, ML-16-175, ML-16-177, ML-16-179 and ML-16-182 also intersected the Lower Shear Zone. Overall, results in the Main and Monster Lake Shear Zone from these holes were encouraging but not as good as expected (IAMGOLD Report, 2016b).

Two (2) holes, ML-16-178 and ML-16-180, targeted the **SW extension of the Monster Lake Shear Zone**. Both intersected their planned targets: the Main and Lower shear zones. However, although the intervals hosted encouraging amounts of mineralization and moderate to strong alteration, they lacked significant amounts of black quartz and yielded low grades (IAMGOLD Report, 2016b).

Hole ML-16-183 tested the **depth extension of the fold nose** that had been tested in 2014 with limited success: several shallow intercepts of the structure and one narrow intercept in ML-14-122 of 8.58 g/t Au over 0.65 m (CL). Hole ML-16-183 intersected a shear zone characterized by well-developed shearing, strong to moderate silica and sericite, and local graphite. Mineralization consists of 1 to 2% disseminated pyrrhotite and pyrite, locally up to 5%, with traces of chalcopyrite. No significant results were obtained (IAMGOLD Report, 2016b).

Results and highlights are presented in Appendix II.

#### **10.4.4 2017 drilling program**

A total of approximately 12,341.5 m was drilled in 29 DDH during two drilling campaigns in 2017 (Figure 10.1).

The first campaign was designed to target areas of high potential along the Main Shear Zone and the Monster Lake Shear Zone and associated shear zones to improve confidence and expand known zones of mineralization, including mineralization in the parallel Lower Shear Zone and in the Annie Shear Zone. Structural patterns suggest the potential for additional mineralized shoots along this major corridor (IAMGOLD news release of May 11, 2017).

The second drilling campaign was designed to test gold-bearing structures in areas that are accessible during the summer season. Drilling specifically targeted the Lower Shear Zone and the completion of one (1) additional infill hole at the 325-Megane Zone (IAMGOLD news release of November 5, 2017).

Eight (8) holes (ML-17-186, ML-17-189, ML-17-190, ML-17-192, ML-17-193, ML-17-196, ML-17-206 and ML-17-207) tested the economic potential of the northern part of

the Main Shear Zone, **between the 325-Megane Zone and the Monster Lake Shear Zone**. The junction of the Main Shear Zone and the Monster Lake Shear Zone was thought to be intersected in hole ML-15-147 (4.51 g/t Au over 3.41 m (TW) and 3.64 g/t Au over 10.72 m (TW)) and ML-12-57 (2.27 g/t Au over 5.9 m (CL)). The results from holes ML-17-190 and ML-17-206 (northernmost drill holes) confirm the previous results indicating this area is intersected by multiple mineralized shears and may be an extension of the zone. Two mineralized shear zones were encountered in the holes. The best results were from hole ML-17-190: 2.92 g/t Au over 3.32m (TW) and 5.21 g/t Au over 4.42m (TW) (both logged as the Monster Lake Shear Zone) and 9.82 g/t Au over 1.93m (TW) (logged as the Main Shear Zone). Only one sheared interval (the Main Shear Zone) was intersected in holes ML-17-192, ML-17-193, ML-17-196 and ML-17-207, yielding good results in each case.

ML-17-204 and ML-17-205 tested the historical results of hole ML-12-60 which yielded 34.29 g/t Au over 5.7m (CL). These holes were positioned to the **northeast of the Annie Shear Zone**. The Annie Shear Zone was intersected and is characterized by moderate to strong shearing and 20% smokey quartz veins associated with a sericite-ankerite-carbonate-fuchsite alteration assemblage and 3% to 5% pyrite and pyrrhotite. Black quartz veins were also noted. Hole ML-17-205 provided no significant results and hole ML-17-204 returned 2.74 g/t Au over 3.83 m (TW).

ML-17-202 tested the historical results of holes 993-94-17, 993-94-22, 993-94-23, 993-94-26A and 993-94-28 in the **southwest extension of the Annie Shear Zone**. Highlights of the historical holes were 14.7 g/t Au over 4.5 m (CL) in hole 993-94-23 and 5.05 g/t Au over 2.9 m (CL) in hole 993-94-23 (gold values were cut at 34.29 g/t Au; Bellavance, 1994). Hole ML-17-202 intersected three mineralized zones characterized by sheared and altered basalts. One of these, the Annie Shear Zone, displays a sericite-carbonate-chlorite alteration assemblage with a weak to moderate shear containing 1% pyrite and pyrrhotite. Black quartz veins were also found. This zone returned 0.96 g/t Au over 0.94m (TW). The two other zones returned 1.08 g/t Au over 1.22m (TW) and 3.91 g/t Au over 1.13m (TW).

Thirteen (13) holes targeted the **Lower Shear Zone**. The results defined two areas of mineralization in the Lower Shear Zone (Figure 10.3). The southernmost area was intercepted by holes ML-17-191, ML-17-208, ML-17-199 and ML-17-209. The zone is characterized by weak to moderate shearing associated with a sericite-ankerite-graphite-silica(±fuschite) alteration assemblage and smokey to dark quartz-carbonate veins containing 1% to 10% pyrite and pyrrhotite with trace amounts of chalcopyrite. Felsic dykes intersect this zone. All four (4) drill holes yielded encouraging results, such as 85.27 g/t Au over 1.80m (TW) and 54.20 g/t Au over 0.67m (TW) in hole ML-17-191. Holes ML-17-184, ML-17-185, ML-17-200, ML-17-192, ML-17-186 and ML-17-193 intersected the northernmost mineralized zone in the Lower Shear Zone, which generally has the same characteristics as the southern zone. Most of these holes returned good results.

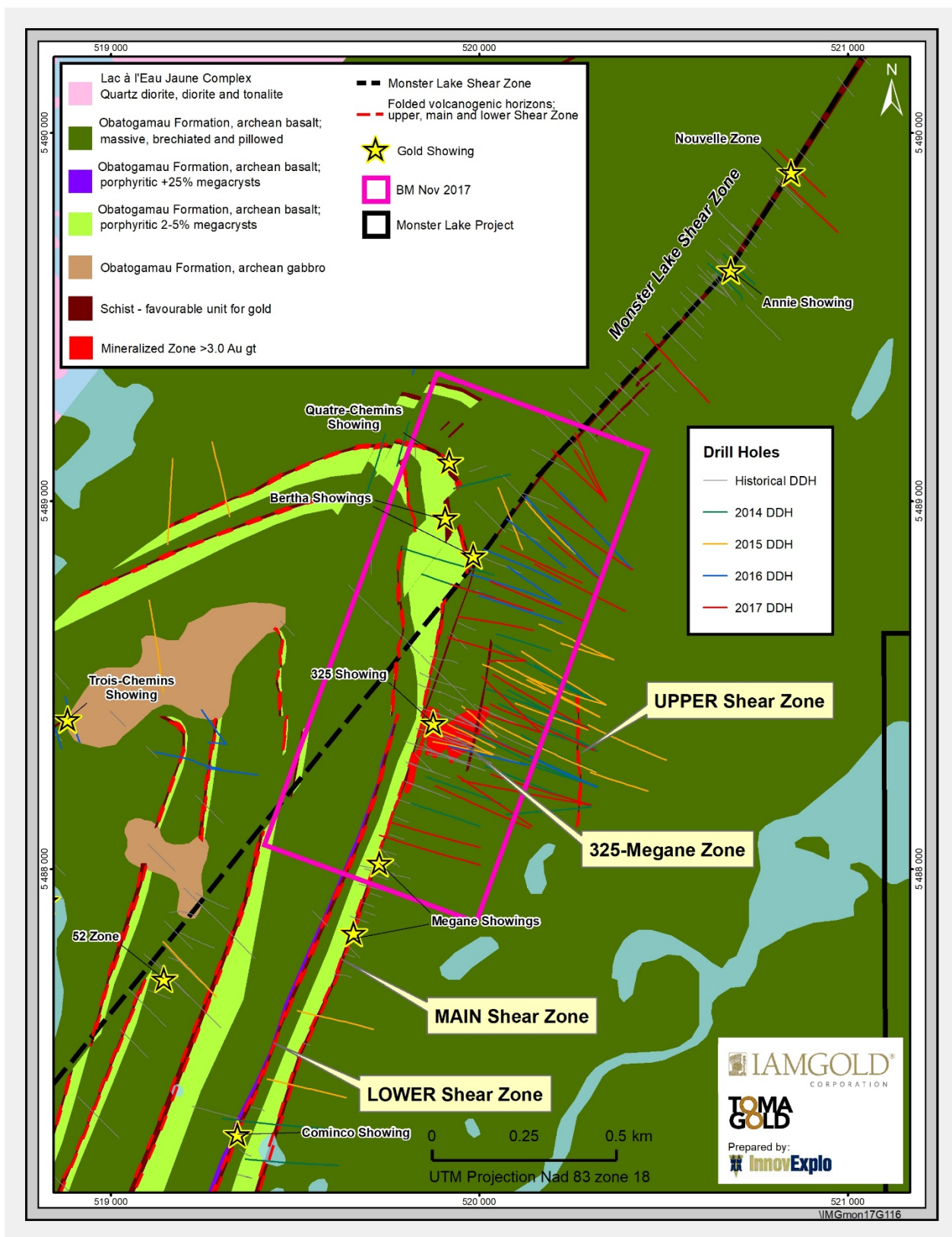
Six (6) holes (ML-17-194, ML-17-195B, ML-17-197, ML-17-198B, ML-17-201B and ML-17-210) were drilled as **infill drill holes on the 325-Megane Zone** (Figure 10.2). These holes demonstrated the continuity of very high-grade mineralization in this lens where tested. They also extended mineralization in the northern part of the shoot with positive results in holes ML-17-197, ML-17-201B and ML-17-210 (IAMGOLD Report, 2017b).

Results and highlights are presented in Appendix II and on Figure 10.3.

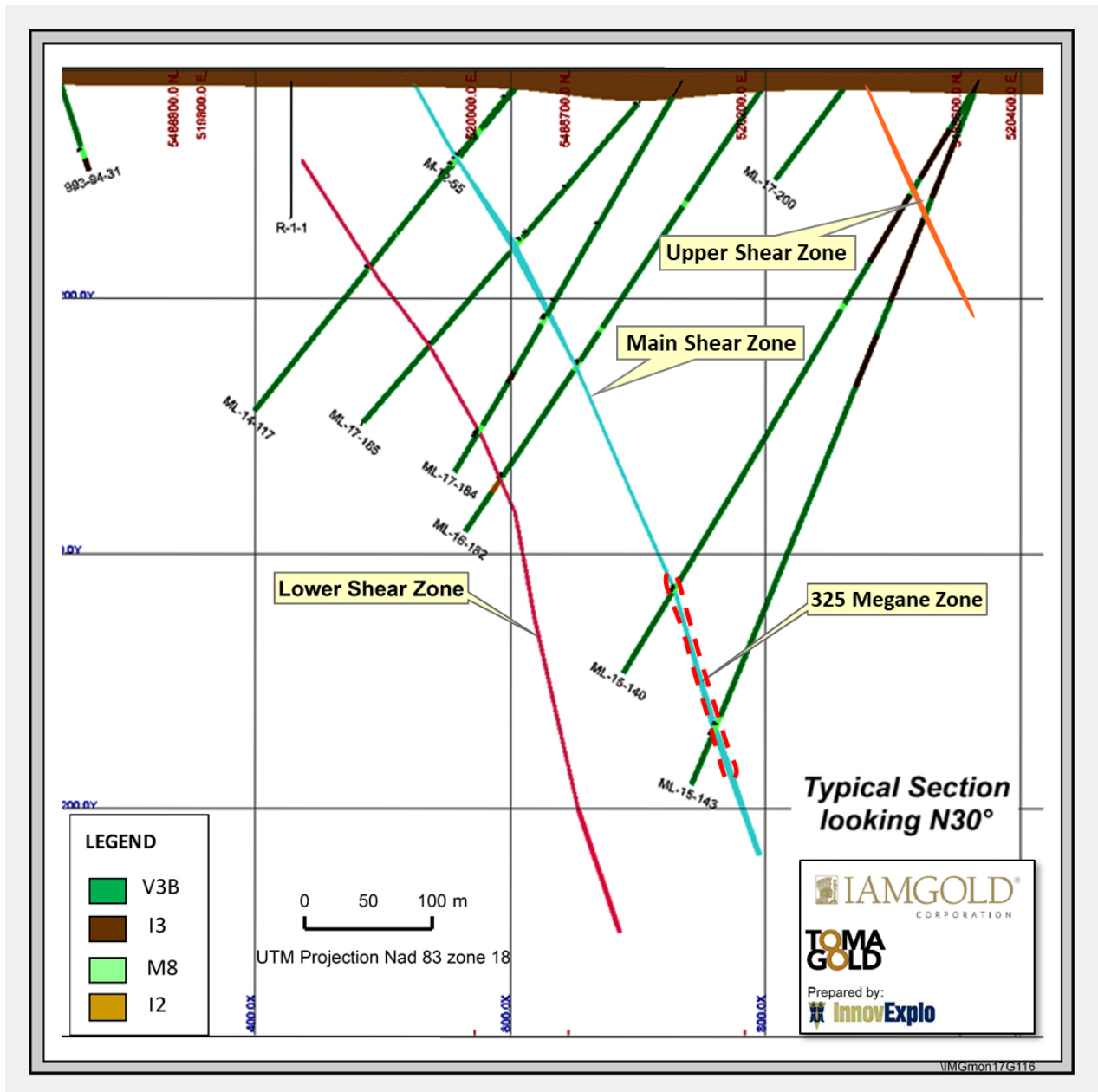
#### **10.4.5 2018 drilling program**

The 2018 winter diamond drilling program started on January 19 with two rigs. The drilling program was still underway at the time of writing and results are pending. The total proposed meterage was approximately 7,500 m to 12,000 m (25 to 38 DDH).

The 2018 program targets areas of high potential to provide a better understanding of the geological controls on gold mineralization, particularly on the Project's most favourable structures. It focuses on five main areas: the southwestern and northeastern extension of the Main Shear Zone and Lower Shear Zone; the Big Mama E-W structure; the Annie Shear Zone; and additional infill holes on the 325-Megane Zone.



**Figure 10.1 – Location of IAMGOLD diamond drill holes (2014-2017) and mineralized zones on the Monster Lake Project**



**Figure 10.2 – Typical cross section showing the Main Shear Zone and the Lower Shear Zone**

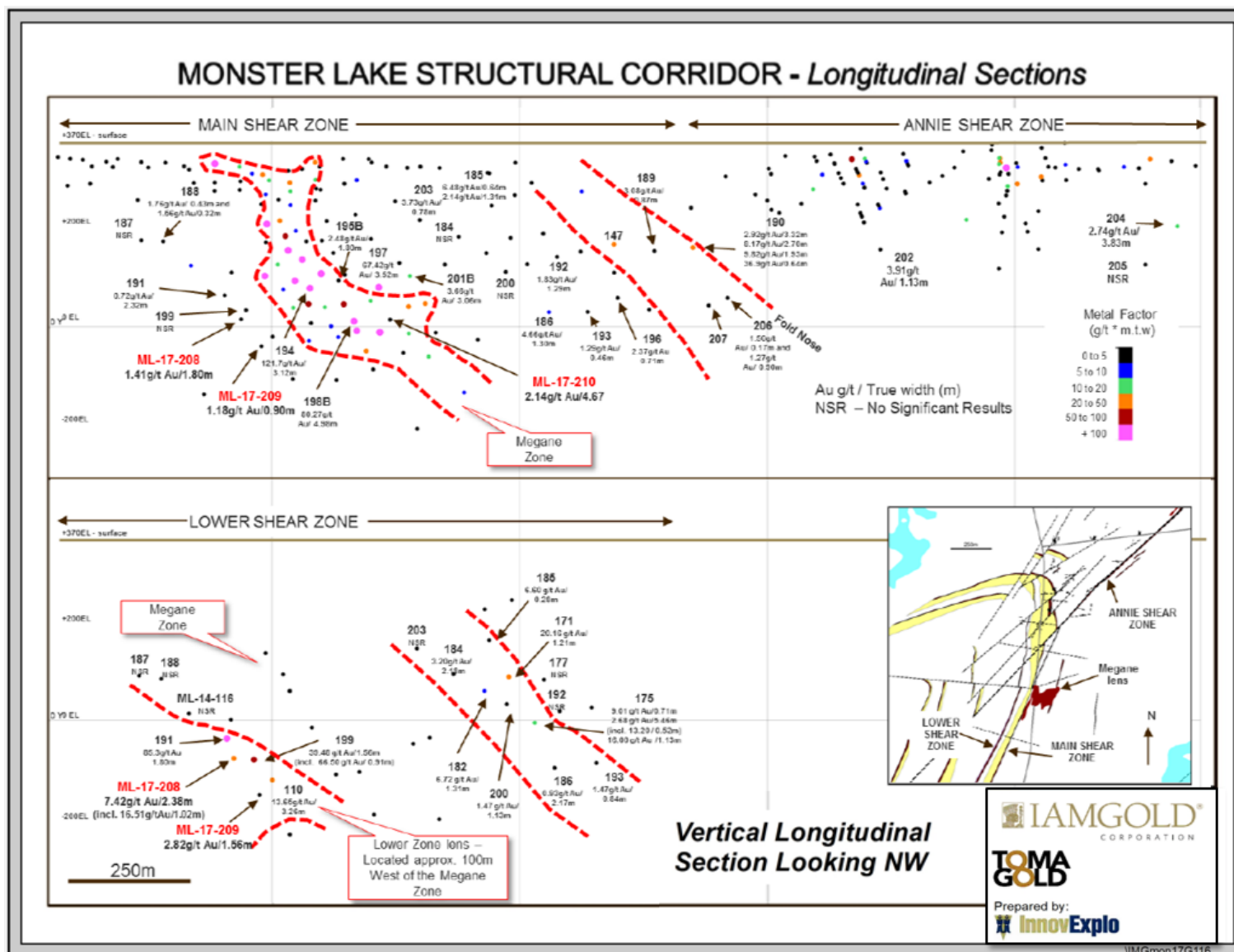


Figure 10.3 – Longitudinal section of the 325-Megane Zone and Lower Shear Zone. Figure from IAMGOLD news release of November 1, 2017

## 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

The following paragraphs describe IAMGOLD's sample preparation, analysis and security procedures for the diamond drilling programs carried out between May 2014 and November 2017 on the Monster Lake Project. The information was provided by the Monster Lake geological team. InnovExplo reviewed the the QA/QC program and results for the 2014 to 2017 drilling programs.

### 11.1 Laboratory Accreditation and Certification

The International Organization for Standardization ("ISO") and the International Electrotechnical Commission ("IEC") form the specialized system for worldwide standardization. *ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories* sets out the criteria for laboratories wishing to demonstrate that they are technically competent, operating an effective quality system, and able to generate technically valid calibration and test results. The standard forms the basis for the accreditation of competence of laboratories by accreditation bodies. ISO 9001 applies to management support, procedures, internal audits and corrective actions. It provides a framework for existing quality functions and procedures.

The main difference between ISO/IEC 17025 and ISO 9001 is one of accreditation versus certification. Accreditation to ISO/IEC 17025 recognizes the technical competence of a laboratory for specified activities. Accreditation is restricted to a laboratory's testing, measurement or calibration activities. ISO 9001 certification means compliance with a standard or specification (e.g., systems or product standards), and the use of management systems auditors who have been qualified by an independent body as meeting internationally agreed criteria. Certification provides a "whole of organization" approval aimed at meeting customer requirements and achieving continual improvement. It does not provide assurance of specific technical competence or the accuracy of products. For that, a product must be approved by ISO/IEC 17025. All conformity assessment bodies should have ISO/IEC 17025 accreditation.

The general requirements for the competence of testing and calibration laboratories are described in the document CAN-P-4E (ISO/IEC 17025:2005). These requirements are designed to apply to all types of calibration and objective testing and therefore need to be interpreted with respect to the type of calibration and testing concerned and the techniques involved. The document CAN-P-1579:2014 sets forth the Standards Council of Canada's ("SCC") requirements for the accreditation of mineral analysis testing laboratories. The program is designed to ensure mineral analysis testing laboratories meet minimum quality and reliability standards and to ensure a demonstrated uniform level of proficiency among these mineral analysis testing laboratories. CAN-P-1579:2014 identifies the minimum requirements for accreditation of laboratories supplying mineral analysis testing services. This includes, but is not limited to, the measurement of all media used in mining exploration and processing

including sediments, rocks, ores, metal products, tailings, other mineral samples, water and vegetation.

The sample preparation facility belonging to AGAT Laboratories Ltd (“AGAT”) in Val-d’Or (Québec) was used for all drilling programs before 2016. Processed and prepared samples were sent to AGAT Laboratories in Mississauga (Ontario) for assaying. The Mississauga facility received ISO/IEC 17025 accreditation through the SCC. AGAT is also certified ISO 9001. AGAT is an independent commercial laboratory.

Samples of the drilling programs of 2016 and 2017 were sent to the ALS Minerals laboratory in Val-d’Or (Québec) (“ALS”) for preparation and assaying. ALS is part of ALS Global and has ISO 9001:2008 certification and ISO/IEC 17025:2005 accreditation through the SCC. ALS is an independent commercial laboratory.

## **11.2 Sampling Method and Approach**

The drill core is boxed, covered and sealed at the drill rigs. The boxes are transported to one of two sites by the drilling company employees: to Chibougamau in the case of Chibougamau Diamond Drilling Ltd (2016) and to Chapais in the case of Forage M. Rouillier Inc. (2014 and 2015) or Spektra Drilling Canada Inc. (2017). If the boxes are sent to Chapais, IAMGOLD employees transfer them to the core logging facility in Chibougamau where other IAMGOLD employees take over the core handling.

At the core logging facility, drill core measurements are validated by field workers under the employ of IAMGOLD who correct important offsets in the measurements between the wooden blocks placed every 3 m along the core (if necessary). Then, metre marks are drawn onto the core before logging commences. The core is logged and sampled by, or under the supervision of, IAMGOLD geologists who are members in good standing of the OGQ (Québec Order of Geologists) or the OIQ (Québec Order of Engineers). Core samples consist of half-split core with lengths ranging from 0.3 to 1.5 m. Within mineralized zones, core samples do not exceed 1 m. Core sample intervals are identified by geologists by marking the core and adding sample tags with a unique number. Photos are taken once the geologist has completed this step.

The core is tagged by inserting two sample tags at the end of each interval. The third part of the tag remains in the book to keep a reference of the interval's footage. The same type of tags are used for QA/QC samples.

Splitting is carried out by an experienced technician using a typical table-feed circular core saw following the geologist's markings. The IAMGOLD employee in the cutshack places the bottom half of the core in plastic bag with the matching sample tag while the other half is replaced in the core box and stored for future reference. One half of each quality control sample ticket is placed in the appropriate type of control sample bag, which were prepared beforehand. A list of quality control sample numbers is posted on the wall in the cutshack and regularly updated by IAMGOLD staff.

Approximately five (5) samples are placed in a rice bag closed hermetically by tie-wrap and the contents are identified on the outside of the bag.

Once all samples from one drill hole are ready, the samples are shipped to the laboratory facility in Val-d'Or by Autobus Maheux Ltd in batches of variable sizes. Each shipment contains the work order prepared by a geologist, indicating the sample preparation and assay procedures to be followed by the laboratory. This work order is also sent by email to the laboratory.

Regardless of the number of samples per shipment, the laboratory prepares batches of 25 consisting of:

- 23 regular samples;
- 1 analytical blank; and
- 1 certified reference material ("CRM") standard.

At the request of IAMGOLD, the laboratory also assays one coarse duplicate (reject) for every 25 samples and one pulp duplicate for every 10 samples. No field duplicates are assayed.

Since 2014, IAMGOLD used two laboratories for preparing and assaying their samples. Samples from the 2014 and 2015 drilling programs were sent to AGAT and samples from the 2016 and 2017 drilling programs were sent to ALS

The following sections describe the sample preparation protocols for each laboratory.

#### **11.2.1 Sample preparation (AGAT)**

Once the samples are received at the AGAT facility in Val-d'Or, they are sorted, bar-coded and logged into AGAT's LIMS program. They are then placed in the sample drying room and dried at 60°C. Any samples received in a damaged state (i.e., punctured sample bag, loose core) are documented and the client is informed with pictures.

Samples are crushed to 90% passing 10 mesh, and split using a Jones riffle splitter. A 1,000 g split is pulverized to 95% passing 140 mesh. A pulp duplicate is collected from every 20<sup>th</sup> sample of each work order during sample preparation. These are reported on the QA/QC portion of the report. Sieve tests are performed on the crusher at the beginning of each day and on the pulp of the 20<sup>th</sup> sample. If there is a failure, the samples are re-milled to ensure that they pass.

Prepared samples are digested with aqua regia for 1 h using temperature-controlled hot blocks. The resulting digests are diluted to 50 mL with de-ionized water. Sample splits of 1 g are routinely used. Samples are then sent for fire assay.

For the metallic sieve, a 1,000 g split of crushed material (90% passing 10 mesh) is pulverized using a ring and puck mill to ensure approximately 95% passing 140 mesh.

The material on top of the screen is referred to as the “plus” (+) fraction, and the material passing through the screen is the “minus” (-) fraction. The weights of both fractions are recorded. The entire “plus” fraction is sent for fire assay determination, whereas two 30 g replicates of the “minus” fraction are taken for determination of gold by fire assay. The finish is gravimetric, AA or ICP-OES. “Plus” and “minus” gold assay fractions, their weights, and the calculated “total gold” of the sample are included in every report. Upon request, individual gold assays may be reported for every fraction.

The calculation for “total gold” is as follows:

$$\text{Total gold (g/t)} = \frac{(\text{Au ("average minus") g/t} \times \text{Wt. "Minus"} \times 10^{-6} \text{ t/g}) + (\text{Au ("plus") g/t} \times \text{Wt. "Plus"} \times 10^{-6} \text{ t/g})}{(\text{Wt. ("minus")g} + \text{Wt. ("plus")g} \times 10^{-6} \text{ t/g})}$$

Blanks, sample replicates, duplicates, and internal reference materials (both aqueous and geochemical standards) are routinely used as part of AGAT's QA program. Either Mettler-Toledo Microbalances or PerkinElmer 7300DV and 8300DV ICP-OES instruments are used in the analysis.

### 11.2.2 Sample preparation (ALS)

Once the samples are received at the ALS facility in Val-d'Or, they are sorted, bar-coded and logged into the ALS program. The samples are then dried and weighed.

Samples are crushed using method CRU-32, consisting of fine crushing to better than 90% of the sample passing 2 mm (Tyler 9 mesh) and split using a riffle splitter (SPL-21). A crushed sample split of up to 1000 g is pulverized in a ring mill using a chrome steel ring set to at least 95% of the ground material passing through a 106 µm screen (Tyler 150 mesh, method PUL-35a). For the metallic sieve, the entire sample is pulverized.

For gold analysis by metallic sieve, 1000 g of the final prepared pulp is passed through a 100 micron (Tyler 150 mesh) stainless steel screen to separate the oversize fractions. Any material remaining on the screen (>100 µm) is retained and analyzed in its entirety by fire assay with gravimetric finish and reported as the Au coarse fraction result (“Au(+)"). Material passing through the screen (<100 µm) is homogenized and two subsamples (50g) are analyzed by fire assay with AAS finish (Au-AA25 and Au-AA25D). The average of the two AAS results is taken and reported as the Au fine fraction result (“Au(-)"). All three values are used in calculating the combined gold content of the plus and minus fractions.

The gold values for the Au(+) 100 µm and Au(-) 100 µm fractions are reported together with the weight of each fraction as well as the calculated total gold content of the sample. The calculation for “total gold” is as follows:

$$\text{AuTotal ( g / t )} = \frac{(\text{Au - avg ( g/t )} \times \text{Wt.Minus( g )} \times 10^{-6} \text{ t / g}) + (\text{Weight Au in Plus(mg)} \times 10^{-3} \text{ g/mg})}{(\text{Wt.Minus( g )} + \text{Wt.Plus( g )}) \times 10^{-6} \text{ t / g}}$$

### 11.3 Analytical Procedures (AGAT)

#### 11.3.1 Fire assay

The following description for the fire assay procedure was supplied by AGAT (Mississauga). Samples (50 g each) are sent to the fire assay area numbered and in order. A rack of 84 crucibles are labelled with an assigned letter code and numbered 1 to 84. The sample is mixed with fire assay fluxes (borax, soda ash, silica, litharge) and Ag (added as a collector), and the mixture placed in a fire clay crucible. The mixture is then preheated at 850°C, with an intermediate phase at 950°C and finished at 1060°C. The entire fusion process lasts 60 minutes. The crucibles are then removed from the assay furnace and the molten slag (lighter material) is carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button is then placed in a preheated cupel which absorbs the lead when cupelled at 950°C to recover the Ag and Au (doré bead).

#### 11.3.2 Atomic absorption finish

The entire Ag doré bead is dissolved in aqua regia and the gold content is determined by atomic absorption (AA). AA is an instrumental method of determining element concentration by introducing an element in its atomic form to a light beam of appropriate wavelength causing the atom to absorb light. The reduction in the intensity of the light beam directly correlates with the concentration of the elemental atomic species.

AGAT generally reruns all AA results over 10,000 ppb by gravimetry to ensure accurate values. However, at the request of IAMGOLD, any sample assaying >5.0 g/t Au was rerun with gravimetric finish.

#### 11.3.3 Gravimetric finish

The lead buttons from the fusion process contain all the gold from the samples as well as the silver that was added. The buttons are placed in a cupelling furnace at 950°C where all the lead is either volatilized or absorbed by the cupels. This generates a prill or doré bead for each sample consisting of the silver plus any gold present.

Once the cupels have cooled sufficiently, the bead from each is placed in an appropriately labelled test tube. The doré bead is then transferred to a porcelain crucible and the silver is dissolved with dilute nitric acid, at around 90°C. The remaining gold is washed, removing the silver solution from the crucible. The residual wash material is then removed using both decanting and evaporation. The resulting gold flakes are annealed into a gold bead and weighed using a microbalance. A simple weight comparison is used to mathematically calculate the amount of gold in the sample.

#### **11.4 Analytical Procedures (ALS)**

The following description for the fire assay procedure was supplied by ALS.

Gold was analyzed by fire assay with AAS finish (ALS code Au-AA24) using a 50 g sample weight. The method offers detection limits from 0.005 to 10 ppm. A prepared sample was fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents as required, inquarted with 6 mg of gold-free silver and then cupelled to yield a precious metal bead. The bead was digested in 0.5 mL dilute nitric acid in the microwave oven. Concentrated hydrochloric acid (0.5 mL) was then added and the bead was further digested in the microwave at a lower power setting. The digested solution was cooled, diluted to a total volume of 4 mL with de-mineralized water, and analyzed by atomic absorption spectroscopy against matrix-matched standards. At the request of IAMGOLD, any sample assaying > 5.0 g/t Au was re-assayed using a gravimetric finish on the digested solution (Au-GRA22) where the detection limits are from 0.05 to 1000 ppm.

For the gravimetric finish, a prepared sample (30 to 50 g) is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents in order to produce a lead button. The lead button containing the precious metals is cupelled to remove the lead. The remaining gold and silver bead is parted in dilute nitric acid, annealed and weighed as gold. Silver, if requested, is then determined by the difference in weights.

At the request of IAMGOLD, any sample assaying > 10 g/t Au or containing visible gold was re-assayed using the screen metallic procedure (Au-SCR22).

Samples were also assayed by an ICP method for a suite of 48 elements (ME-MS61). This method combines a four-acid digestion with ICP-MS instrumentation. A four-acid digestion quantitatively dissolves nearly all minerals in the majority of geological materials. Prepared sample (0.25 g) is digested with perchloric, nitric and hydrofluoric acids. The residue is leached with dilute hydrochloric acid and diluted to volume. The final solution is then analyzed by inductively coupled plasma-atomic emission spectrometry and inductively coupled plasma-mass spectrometry. Results are corrected for spectral inter-element interferences.

#### **11.5 QA/QC Results**

A total of 7,760 samples (including 1,441 QA/QC samples) were submitted to the laboratories during the 2014 to 2017 drilling programs. Quality control procedures included routine insertion of standards (CRMs), field blanks, rejects (coarse duplicates) and pulp.

ALS and AGAT laboratories, as part of their standard internal QA/QC, also run duplicates, standards and field blanks. No re-assays at a secondary laboratory were done during the QA/QC program.

Shana Dickenson, P.Geo. (OGQ No. 1951), IAMGOLD's senior geologist, was responsible for QA/QC management using GEOVIA Lab Logger software. The authors

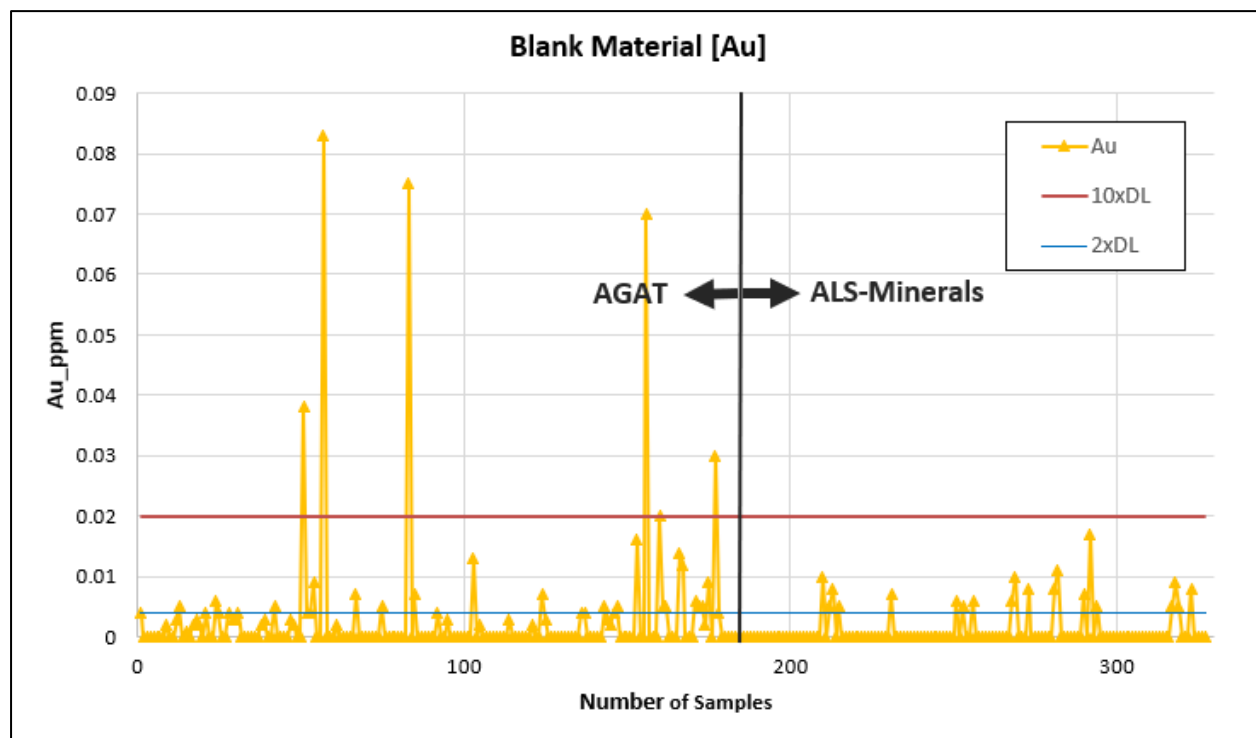
were not involved in the collecting and recording of the data, which was responsibility of IAMGOLD personnel. The authors only synthesized the results to evaluate the validity and reliability of the DDH database.

### **11.5.1 Blanks**

Contamination is monitored by the routine insertion of a sample of barren crushed white marble (“blank”) that goes through the same sample preparation and analytical procedures as the core samples. The blanks are usually selectively placed after potential high-grade samples. According to IAMGOLD’S protocol, one blank is inserted in every batch of 25 samples. The blanks are submitted with samples for crushing and pulverizing to determine if there has been contamination or sample cross-contamination in preparation. Elevated values for blanks may also indicate sources of contamination in the fire assay procedure (contaminated reagents or crucibles) or sample solution carry-over during instrumental finish.

According to IAMGOLD’s QA/QC protocol, if any blank yields a gold value above 0.02 g/t Au, ten (10) samples before and after the anomalous blank should be re-assayed. For the 2014 to 2017 drilling programs, 250 (76%) of the 327 blanks sent to the laboratory returned values at or below the detection limit (AA finish) and 5 samples (1.5%) exceeded this recommended value (Figure 11.1) and were therefore re-assayed. All five samples were analyzed by AGAT. One sample returned with a Au grade below the recommended value, two had insufficient material to be re-assayed, and the results for the other two were still pending at the close-out date of the database (January 20, 2018).

InnovExplo is of the opinion that IAMGOLD’s use of blanks to monitor contamination during the 2014 to 2017 drilling programs is valid and the data reliable.



**Figure 11.1 – Results for blanks used by IAMGOLD during the 2014 to 2017 drilling programs on the Monster Lake Project**

#### 11.5.2 Certified reference materials (standards)

One certified reference material (CRM) sample is included in every batch of 25 samples to monitor accuracy. Standards are used to determine whether there are problems with the assays for specific sample batches or possible long-term biases in the overall dataset.

Eleven (11) standards were used for the drilling programs from 2014 to 2017. The gold grades range from 0.599 to 30.04 g/t Au, as follows:

- SE68 with a theoretical value of  $0.599 \pm 0.004$  g/t Au;
- SF57 with a theoretical value of  $0.848 \pm 0.03$  g/t Au;
- SF85 with a theoretical value of  $0.848 \pm 0.006$  g/t Au;
- SJ53 with a theoretical value of  $2.637 \pm 0.048$  g/t Au;
- SK52 with a theoretical value of  $4.107 \pm 0.088$  g/t Au;
- SK78 with a theoretical value of  $4.134 \pm 0.04$  g/t Au;
- SN60 with a theoretical value of  $8.595 \pm 0.073$  g/t Au;
- SF67 with a theoretical value of  $8.595 \pm 0.223$  g/t Au;
- SN75 with a theoretical value of  $8.671 \pm 0.054$  g/t Au;
- SP73 with a theoretical value of  $18.17 \pm 0.12$  g/t Au;
- SQ36 with a theoretical value of  $30.04 \pm 0.24$  g/t Au.

A total of 258 CRM samples were sent to the laboratories from 2014 to 2017 (Table 11.1). IAMGOLD's quality control protocol stipulates that if any analyzed standard yields a gold value above or below three standard deviations (3SD) of the certified grade for that standard, then the project manager is informed and must decide whether the batch containing that standard should be re-analyzed.

The results of all Monster Lake standards are summarized in Table 11.1.

A total of 95.3% (234 samples) of the results passed the quality control criteria. Twelve (12) of the 24 problematic samples had insufficient material for the gravimetry finish. InnovExplo recommends that the laboratory be provided with a larger amount of each standard to avoid this issue in the future. InnovExplo is of the opinion that the results for all standards are reliable and valid.

**Table 11.1 – Results for standards used by IAMGOLD for the 2014 to 2017 drilling programs on the Monster Lake Project**

Standard (CRM)	Standard supplier	Laboratory	Certified gold value (g/t)	Quantity inserted	IAMGOLD Mean grade (Au g/t)	Lower process limit (-3SD)	Upper process limit (+3SD)	Failed (NSS or Outliers)	(%) passing quality control
SF57	Rocklabs Ltd	AGAT	0.848	29	0.856	0.758	0.938	0	100.0%
SQ36	Rocklabs Ltd	AGAT + ALS	30.04	17	29.326	28.240	31.840	3 (3 NSS)	82.4%
SJ53	Rocklabs Ltd	AGAT	2.637	21	2.661	2.493	2.781	2	90.5%
SK52	Rocklabs Ltd	AGAT	4.107	18	4.135	3.843	4.371	0	100.0%
SN60	Rocklabs Ltd	AGAT + ALS	8.595	26	8.464	7.926	9.264	2	92.3%
SF67	Rocklabs Ltd	AGAT	0.835	33	0.836	0.772	0.898	0	100.0%
SK78	Rocklabs Ltd	ALS + AGAT	4.134	40	4.115	3.720	4.548	4 (2 NSS)	90.0%
SF85	Rocklabs Ltd	ALS + AGAT	0.848	18	0.831	0.794	0.902	1	94.4%
SN75	Rocklabs Ltd	ALS	8.671	22	8.384	8.074	9.268	2 NSS	90.9%
SE68	Rocklabs Ltd	ALS	0.599	21	0.589	0.560	0.640	3	85.7%
SP73	Rocklabs Ltd	ALS	18.17	13	18.250	16.910	19.430	7 (5NSS)	46.2%
<b>TOTAL</b>				<b>258</b>				<b>24 (12 NSS)</b>	<b>90.7%</b>
								Without NSS	95.3%

Note: NSS = Not Sufficient Sample

### 11.5.3 Duplicates

Duplicates are used to check the representativeness of the results for a given population and to monitor precision during the preparation and analysis process. A total of 856 duplicates (rejects and pulps) were sent to the laboratories from 2014 to 2017. No field duplicates were used during this period.

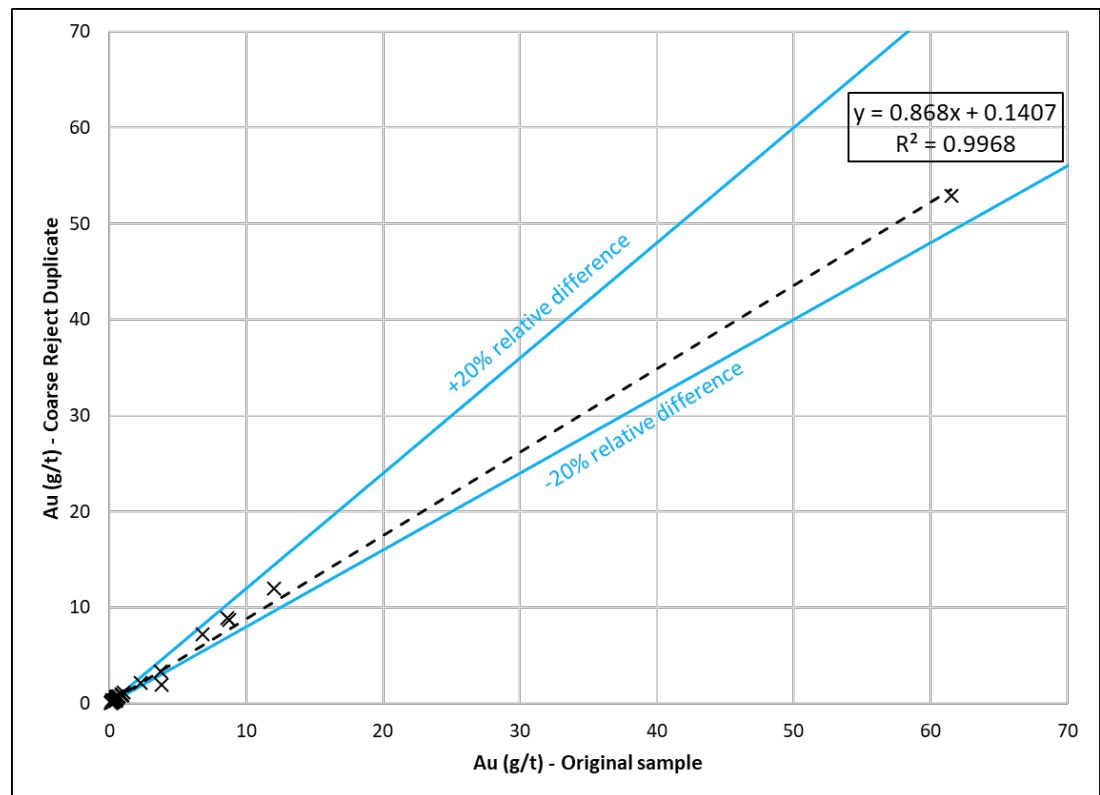
#### **Coarse duplicate (reject)**

A coarse duplicate (or reject) is a duplicate of the original sample taken immediately after the first crushing and splitting step. Both subsamples are then pulverized and assayed according to regular sample procedures. Coarse duplicates are used to monitor the quality of sample preparation. By measuring the precision of coarse duplicates, the incremental loss of precision can be determined for the coarse-crush stage of the process, thus indicating whether two subsamples taken after primary crushing is sufficient to ensure a representative subsplit for that crushed particle size.

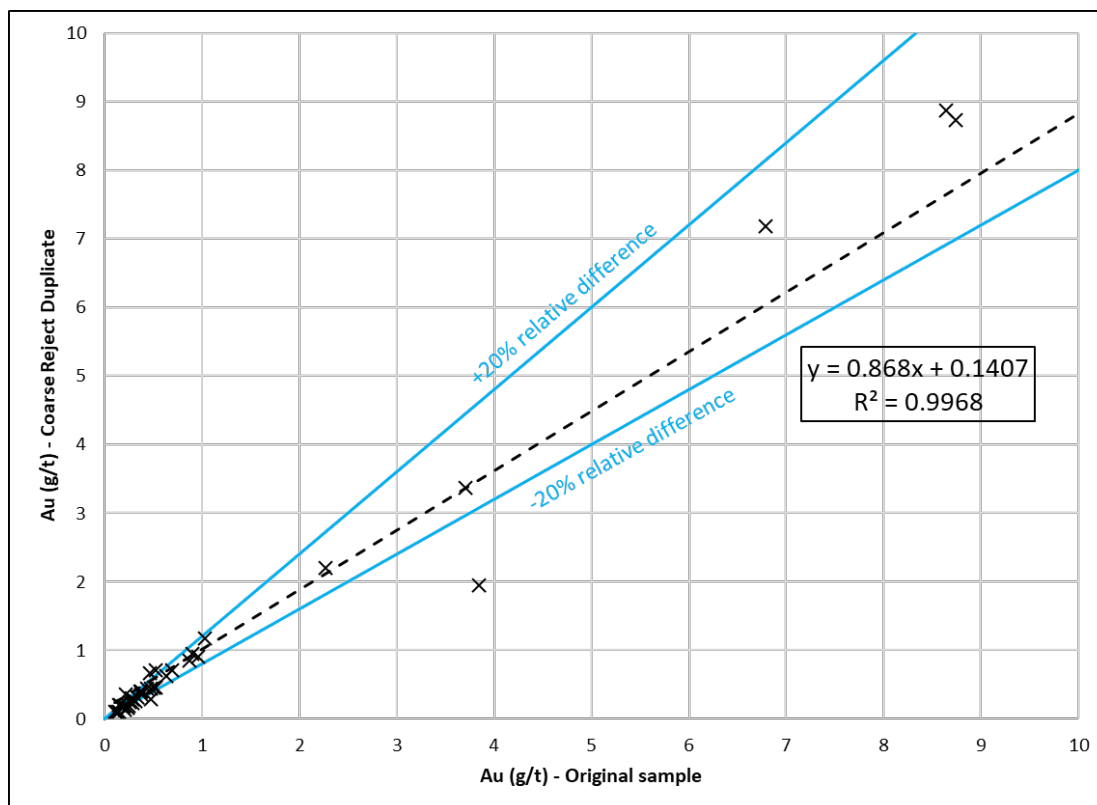
IAMGOLD's quality control protocol requires that the laboratory prepare a coarse duplicate (reject) every 25 samples.

For the 2014 to 2017 drilling programs, a total of 316 coarse crush duplicates were assayed. The results for two (2) were still pending at the close-out date of the database (January 20, 2018). One outlier (IMGVD0009350DUP) has been removed from the plotted data because it was most likely caused by human error. The original sample (IMGVD0009350) yielded a value of 18.45 g/t Au while the duplicate only assayed 0.0025 g/t Au.

Figure 11.2 and Figure 11.3 are plots of the 41 crush duplicates grading  $\geq 0.1$  g/t Au showing a linear regression slope of 0.868 and a correlation coefficient 99.68%. The correlation coefficient is given by the square root of  $R^2$  and represents the degree of scatter around the linear regression slope. The results indicate a good reproducibility of gold values.



**Figure 11.2 – Linear graph comparing original samples to coarse duplicates grading  $\geq 0.1$  g/t Au (n=41) for drilling programs between 2014 and 2017**



**Figure 11.3 – Close-up view of Figure 11.2 comparing original samples to coarse duplicates grading  $\geq 0.1$  g/t Au (n=41) for drilling programs between 2014 and 2017. Only samples grading less than 10 g/t Au are shown**

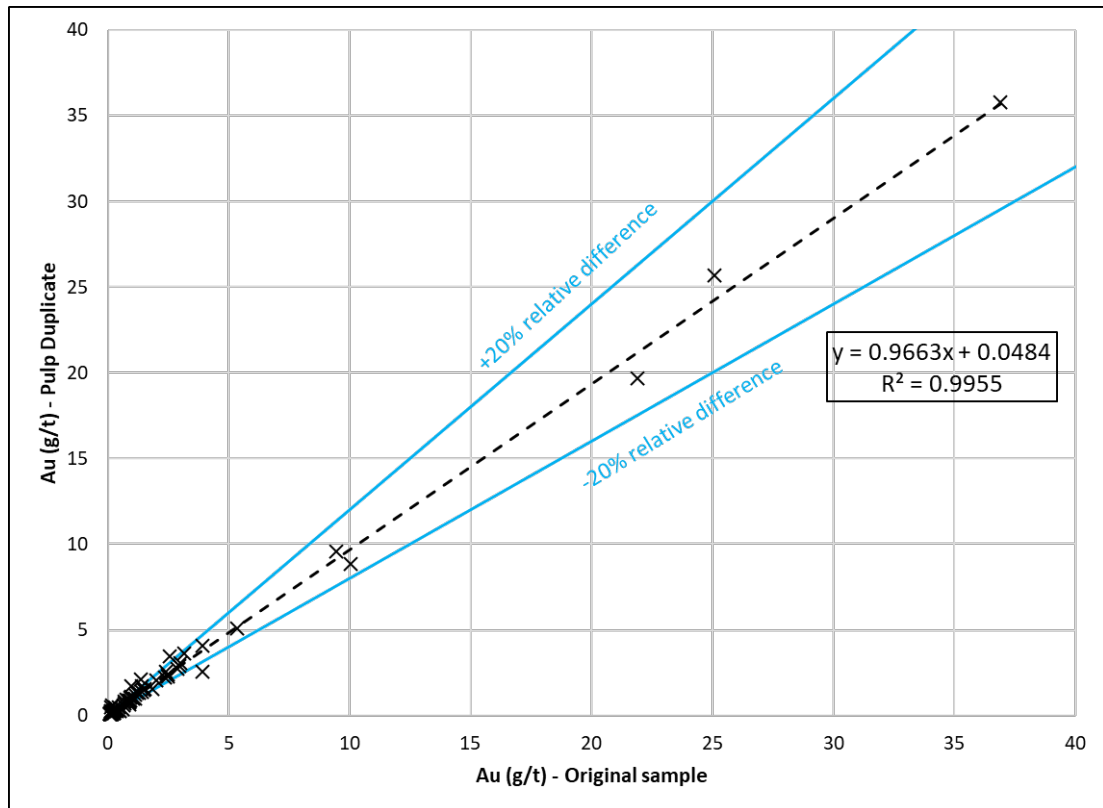
### **Pulp Duplicate**

Pulp duplicates consist of second splits of prepared samples ready to be analyzed and are indicators of analytical precision, which may be also affected by the quality of pulverization and homogenization. Both original and duplicate samples are assayed according to regular sample procedures.

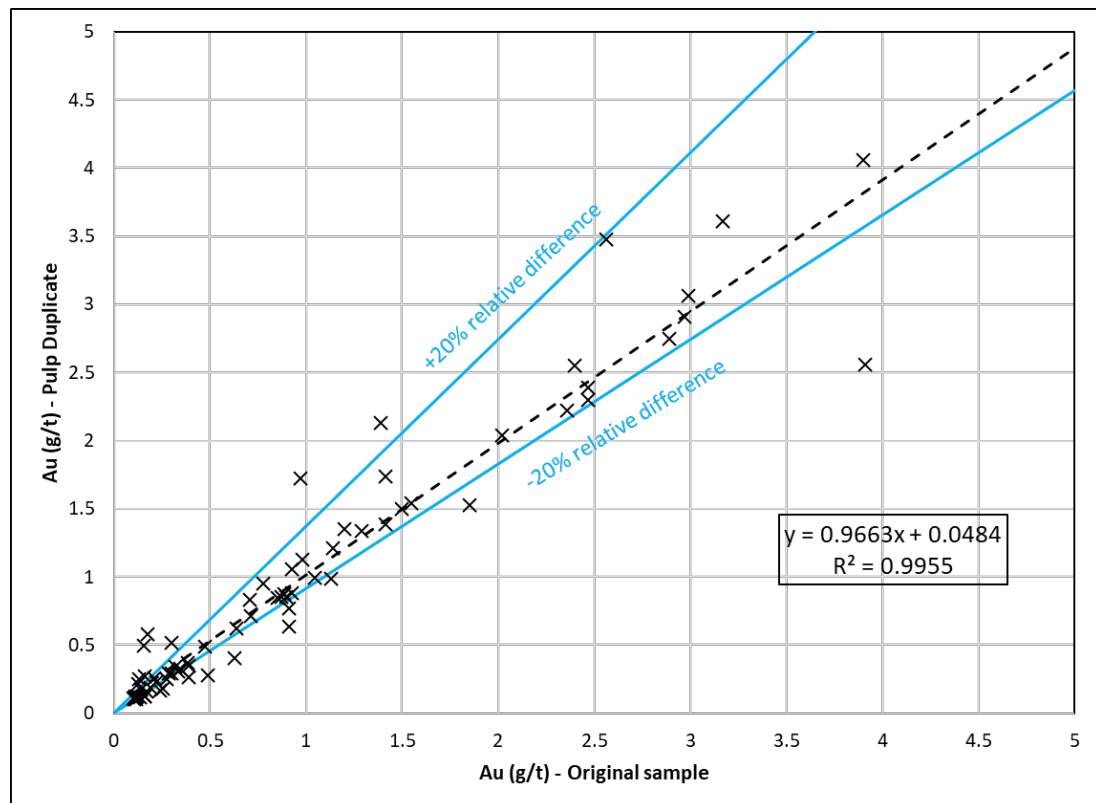
Pulp duplicates are necessary to ensure that proper preparation procedures are used during pulverization. By measuring the precision of pulp duplicates, the incremental loss of precision can be determined for the pulverization stage of the process, thus indicating whether two subsamples taken after pulverizing is sufficiently representative for the given pulverized particle size.

According to IAMGOLD's protocol, one pulp duplicate was run every ten (10) samples.

A total of 534 pulp duplicates were identified in the database for the period between 2014 and 2017. The results for six (6) were still pending at the close-out date of the database (January 20, 2018). Figure 11.4 and Figure 11.5 are plots of the 79 pulp duplicates grading  $\geq 0.1$  g/t Au showing a linear regression slope of 0.9663 and a correlation coefficient of 99.55%. The results indicate excellent reproducibility of gold values.



**Figure 11.4 – Linear graph comparing original samples to pulp duplicates grading  $\geq 0.1$  g/t Au (n=79) for drilling programs between 2014 and 2017**



**Figure 11.5 –Close-up view of Figure 11.4 comparing original samples to pulp duplicates grading  $\geq 0.1$  g/t Au (n=79) for drilling programs between 2014 and 2017. Only samples grading less than 5 g/t Au are shown**

### ***Precision of duplicates***

To determine reproducibility, precision is calculated by the following formula:

$$\text{Precision (\%)} = \frac{(| \text{ Duplicate Sample Gold Grade} - \text{ Original Sample Gold Grade} |)}{\text{Average Between Duplicate Sample Gold Grade and Original Sample Gold Grade}} \times 100$$

Precision ranges from 0 to 200% with the best being 0%, meaning that both the original and duplicate samples returned the same grade.

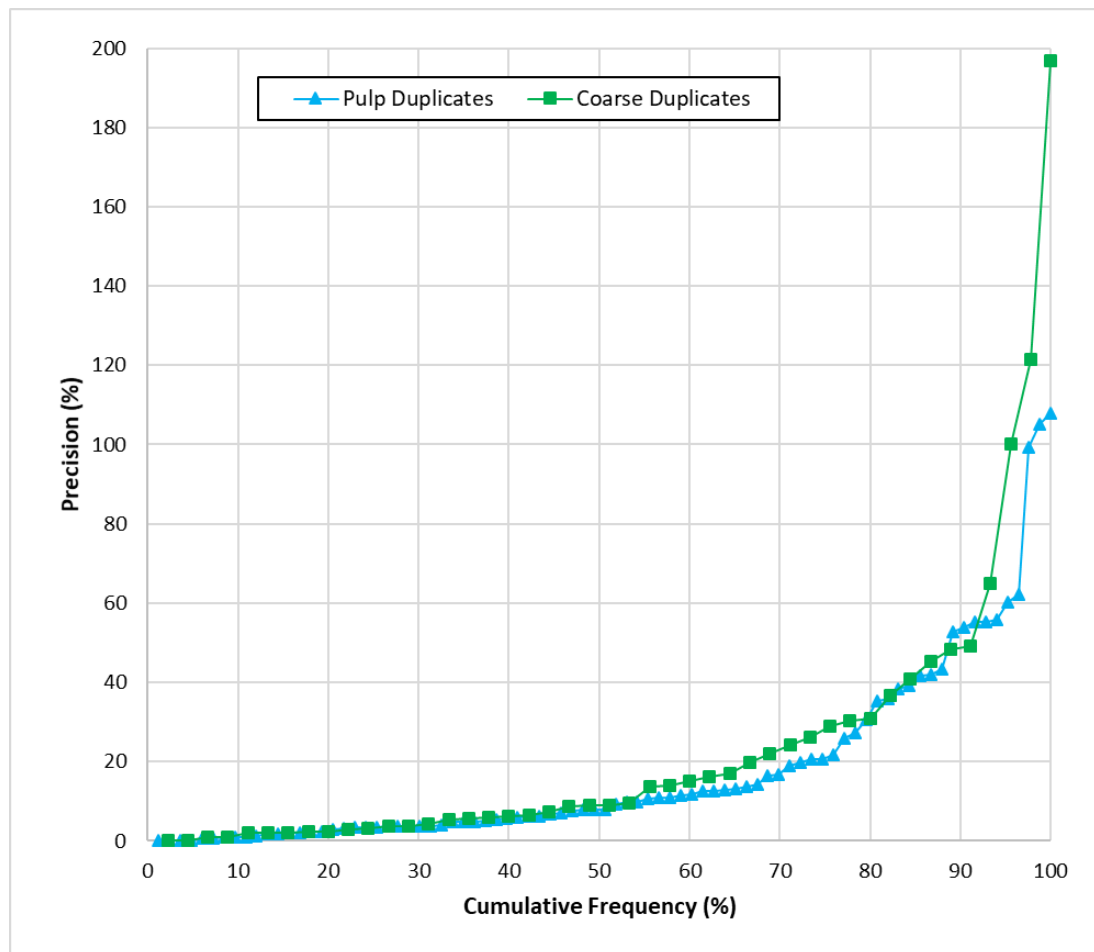
Figure 11.6 illustrates precision (%) versus cumulative frequency (%) and shows the following aspects:

- 67% of coarse duplicates have a precision better than 20%;
- 72% of pulp duplicates have a precision better than 20%.

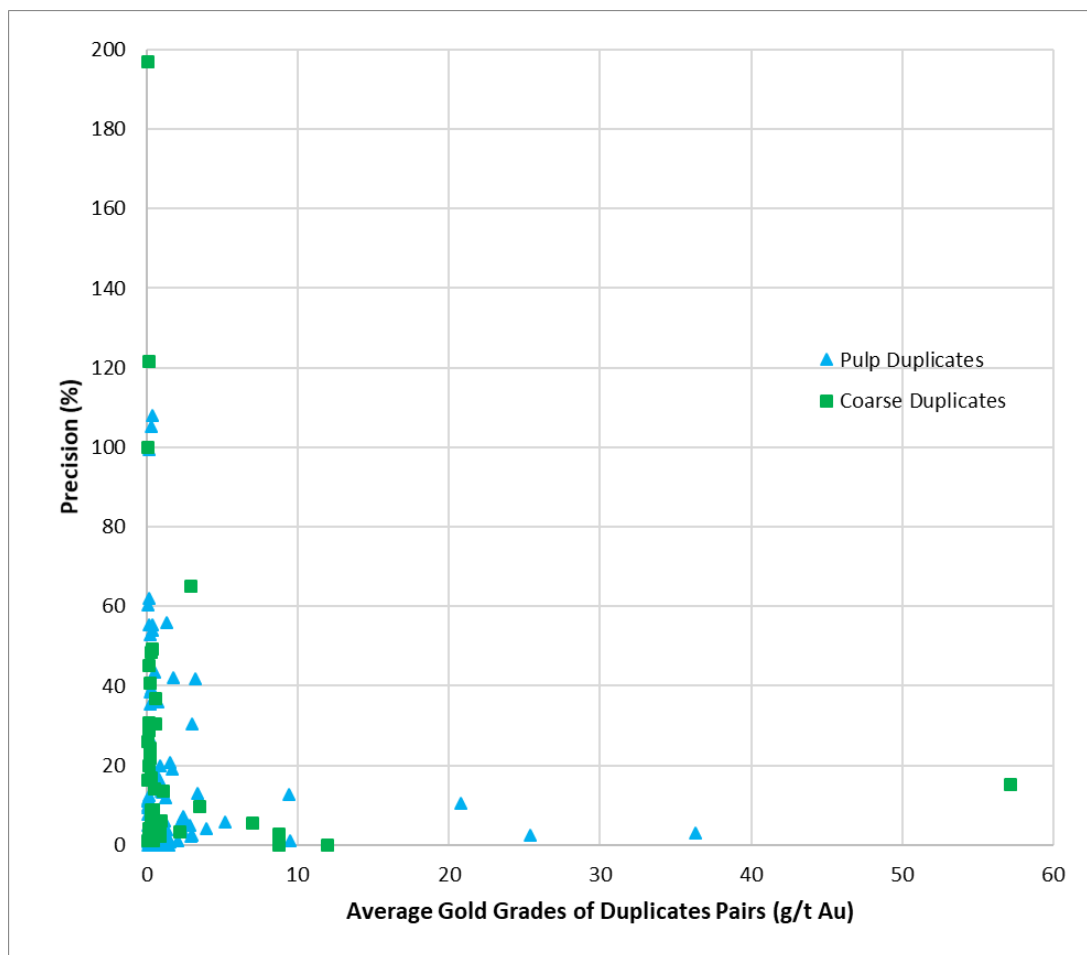
The precision of pulp duplicates is better than the precision of coarse duplicates. The results are in agreement with gold tendencies in the industry.

Figure 11.7 indicates that samples with higher grades tend to show greater precision than samples containing less than 1.0 g/t Au because only slight variations of several tens of ppb for grades closer to the gold detection limit cause very poor precision.

In general, reproducibility is not adversely affected because most instances of poor precision can be attributed to samples with the lowest grades.



**Figure 11.6 – Precision versus cumulative frequency for pulp duplicates (blue) and coarse duplicates (green) grading  $\geq 0.1$  g/t Au**

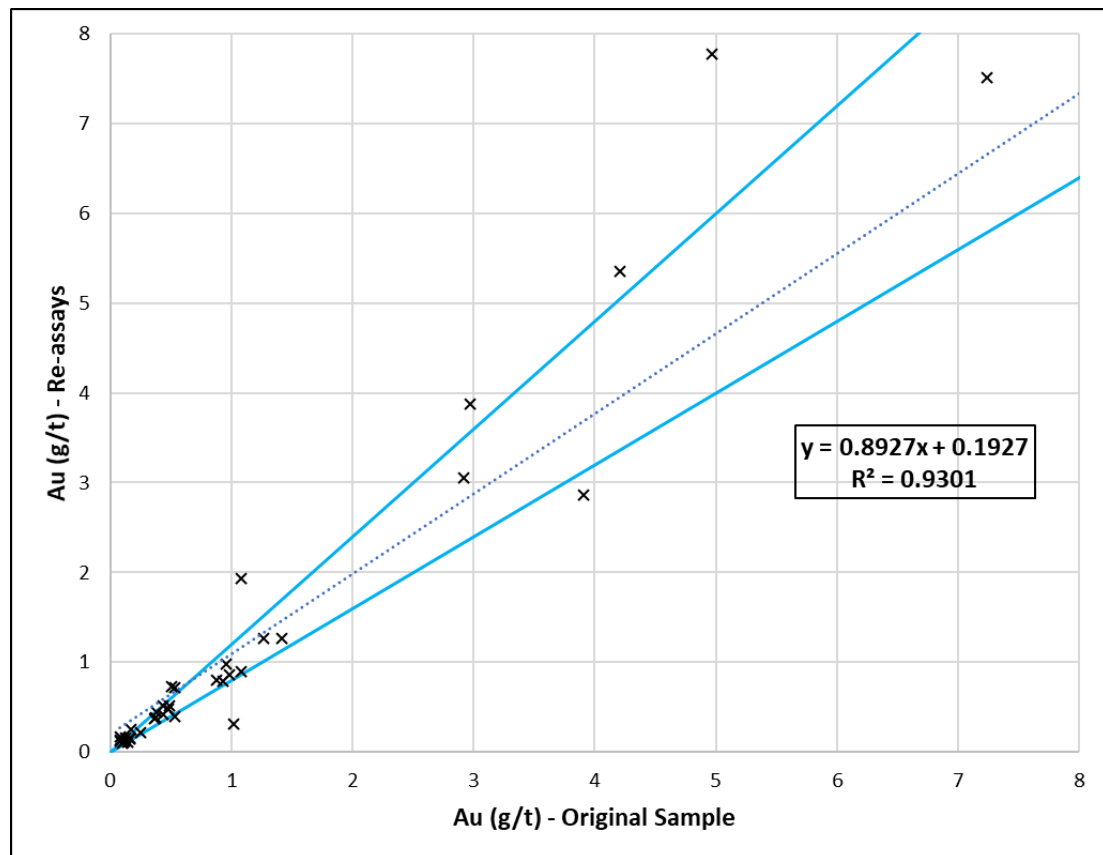


**Figure 11.7 – Precision versus average gold grade for pulp duplicates (blue) and coarse duplicates (green) grading  $\geq 0.1$  g/t Au**

#### 11.5.4 Re-assay vs original assay

According to IAMGOLD's QA/QC protocol, if any QA/QC sample fails, ten (10) samples before and after the anomalous QA/QC sample should be re-assayed. Once the results are received, IAMGOLD staff verify that the values are approximately the same between the original data and the re-assay data. No re-assay data were entered in the "Au final" column in the database.

A total of 278 re-assays were identified in the database corresponding to the period between 2014 and 2017. Reproducibility is problematic for samples grading more than 50 g/t Au due to the nugget effect. For this reason, all such samples were removed from the data for the plot (Figure 11.8) of the 39 re-assay pairs grading 0.1 to 50 g/t Au. The plot shows a linear regression slope of 0.89 and a correlation coefficient of 93.01%. The results indicate a good reproducibility of gold values and confirms that the original data do not need to be replaced by the re-assay data.



**Figure 11.8 – Linear graph comparing original samples and re-assays with grades of 0.1 to 50 g/t Au (n=39) for drilling programs between 2014 and 2017**

### 11.5.5 Conclusions

InnovExplo reviewed the sample preparation, security and analytical procedures, as well as insertion rates and the performance of blanks, standards and duplicates, and concluded that the observed failure rates are within expected ranges and that no significant assay biases are present.

In InnovExplo's opinion, the procedures followed at the Monster Lake Project is conform to industry practices and the quality of the assay data is adequate and acceptable to support a mineral resource estimate.

## **12 DATA VERIFICATION**

The diamond drill hole database used for the mineral resource estimate (the “2018 MRE”) was provided by IAMGOLD. The latest drilling program in the Monster Lake resource area ended on August 2017, and the database close-out date was set at January 20, 2018. All holes from the 2017 diamond drilling program are included, and the last hole added to the database was ML-17-210. The 2018 winter drilling program was in progress at the time of the report, but none of those holes were included in the 2018 MRE.

InnovExplo’s data verification included a visit to the Monster Lake Project. Charlotte Athurion and Karine Brousseau visited the core logging and storage facilities in Chibougamau on January 17 and 18, 2018, and on January 18, the authors examined selected drill collars in the field. The site visit also included a review and independent resampling of selected core intervals as well as a review of assays, the QA/QC program, downhole survey methodologies, and the descriptions of lithologies, alteration and structures.

Most of the database verification took place at the InnovExplo office in Val-d’Or before and after the site visits.

### **12.1 Historical Work**

The historical information used in this report was taken mainly from reports produced before the implementation of NI 43-101. In some cases, little information is available about sample preparation, analytical or security procedures. InnovExplo assumes that exploration activities conducted by previous companies were in accordance with prevailing industry standards at the time. During the site visit, the authors verified the collar location of DDH 993-95-46 using a Garmin GPSMAP 60CSx (accuracy of  $\pm 3$  m) and determined it was at the correct approximate location.

### **12.2 IAMGOLD Database**

#### **12.2.1 Coordinate system**

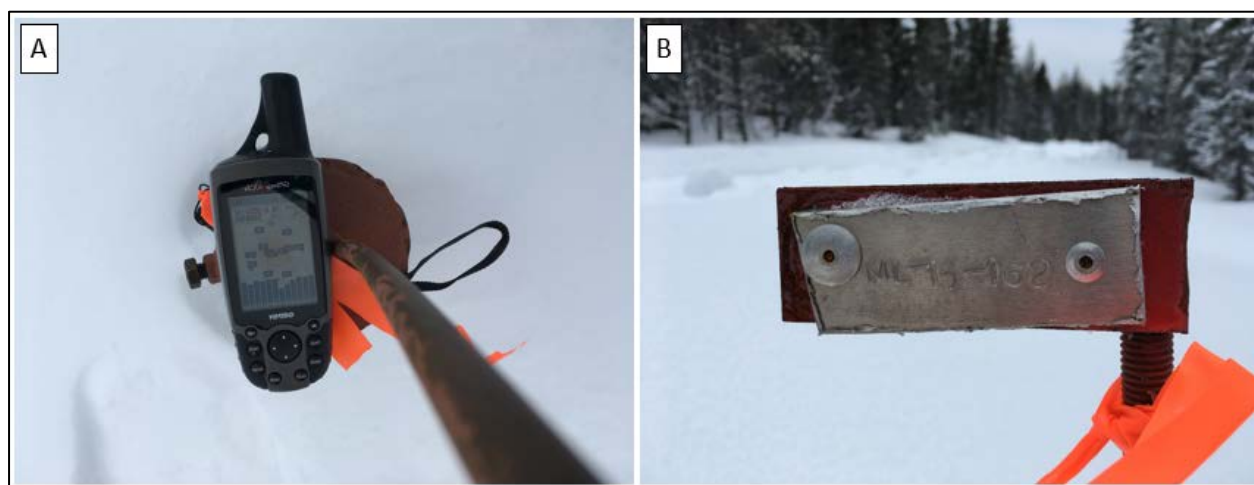
The coordinate system for the GEMS project is NAD83 UTM Zone 18.

#### **12.2.2 Drill hole locations**

All diamond drill holes on the Monster Lake Project between 2014 and 2017 have been professionally surveyed by Paul Roy, Arpenteur-Géomètre of Chibougamau. Some location errors were detected in the database for the 2017 holes, and these were corrected. They were likely the result of mistakes during automated data input. Post-input validation procedures would help avoid this kind of error.

Twelve (12) casings were reviewed by the authors during the site visit using a GPSMAP 60CSx (Figure 12.1). The differences between the InnovExplo measurements and those recorded in the IAMGOLD database are within the order of

precision of the instrument. The authors concluded that the collar locations are adequate and reliable.



**Figure 12.1 – A) Photograph showing the GPSMAP 60CSx used to verify the location of a drill collar during the site visit. B) Photograph showing one of the metal identification labels used for most drill hole collars on the Project**

### 12.2.3 Down-hole Survey

Downhole surveys were performed on the majority of holes.

Single-shot downhole surveys (REFLEX EZ-SHOT) were done in holes drilled between 2014 and 2016. Downhole survey information was verified for all DDH and no errors were observed.

Multi-shot downhole survey data were provided by IAMGOLD for the 2017 program, but some errors were detected by InnovExplo during data validation. IAMGOLD and InnovExplo therefore decided to use single-shot downhole surveys (REFLEX EZ-SHOT) as in the 2014 to 2016 drill holes.

A few issues were identified and corrected. The survey data are considered valid and reliable.

### 12.2.4 Assays

InnovExplo was granted access to the original assay certificates for all holes drilled from 2014 to 2017 and the assays were verified. InnovExplo noted that values below the detection limits were usually incorrectly entered into the database as zeros or as a value 2x the detection limit. InnovExplo made the recommendation to IAMGOLD that these values be set to half the detection limit. This recommended correction was not made to the database used for the 2018 MRE as mineralized zones do not contain values below the detection limits.

At the request of IAMGOLD, any sample assaying more than 5.0 g/t Au is re-assayed using a gravimetric finish on the digested solution and any sample assaying more than 10 g/t Au or containing visible gold was re-assayed using the screen metallic procedure. In the assay table, the gravimetric finish result always replaces a value obtained by AA finish and when a sample was assayed using the screen metallic procedure, the value recorded as “Au final” always corresponds to the Au value obtained by metallic sieve method.

InnovExplo also noticed a shift in the mineralized zone of hole ML-17-210 that had no apparent geological explanation. After discussion with IAMGOLD, both parties concluded that the problem likely arises from a footage error. This hole was therefore handled manually for the purpose of the resource estimation.

Minor errors of the type normally found in a project database were encountered and corrected. The final database is considered to be of good overall quality.

### 12.3 IAMGOLD Logging, Sampling and Assaying Procedures

IAMGOLD procedures are described in section 11.2.

InnovExplo reviewed several sections of mineralized core while visiting the onsite core logging and core storage facilities. All core boxes were labelled and properly stored outside. Sample tags were still present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones (Figure 12.2 and Figure 12.3).

InnovExplo is of the opinion that the protocols in place are adequate.



**Figure 12.2 – A, B) Photographs of the interior of the core logging facility; C) Photograph of the roofed core racks at the core storage facility**



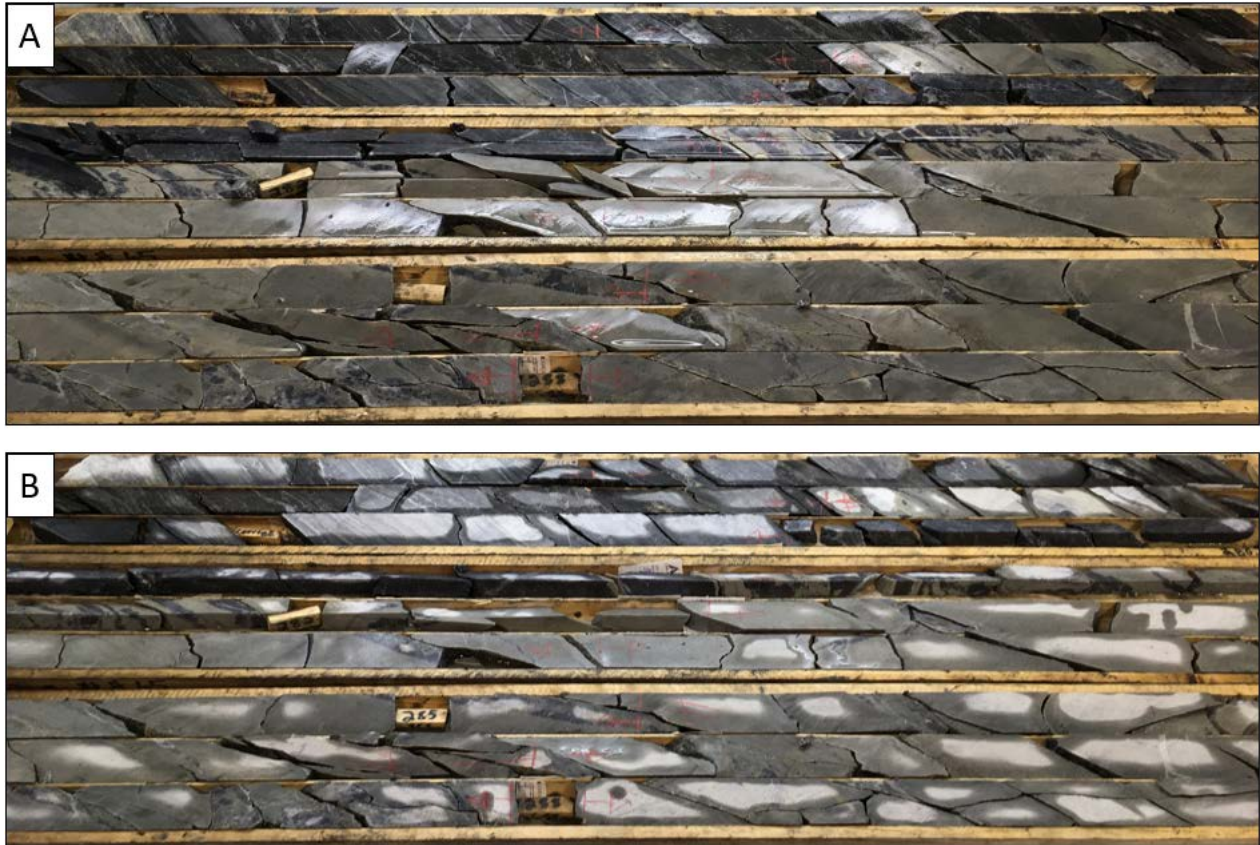
**Figure 12.3 – A) Photographs of boxes containing pulps; B) Standards used during the drilling programs; C) Commercial crushed white marble used as blank material during the drilling programs**

## 12.4 Independent Resampling

InnovExplo resampled a series of intervals from the 2017 drilling program. Before the site visit, quarter-splits of selected core intervals were sawed by IAMGOLD personnel. Authors selected samples representing each mineralized zone and a range of gold grades to be re-analyzed at the ALS laboratory in Val-d'Or (Figure 12.4). The authors put the samples into individual plastic bags, grouped them in batches, and then placed them inside two rice bags closed hermetically with tie wraps. Both rice bags were taken to the laboratory by InnovExplo personnel with a work order indicating the sample preparation and assay procedures to be followed by the laboratory.

Twenty-two (22) samples taken from eight (8) drill hole intervals were assayed for gold using fire assay with AA finish (AA-AA26). Samples assaying more than 5 g/t Au with AA were rerun with gravimetric finish (GRA22). Samples containing visible gold were assayed for gold using the screen metallic procedure (SCR24). One CRM, one field blank and one pulp duplicate (P253674D) were added to the shipment. The reference material is SK62 (RockLabs) with a certified gold content of 4,075 g/t Au with a 95% of confidence interval of  $\pm 0.045$  g/t. The field blank for the resampling program is from a gold-barren sample of calcareous rock tested by different laboratories. The ALS assay certificate is presented in Appendix III.

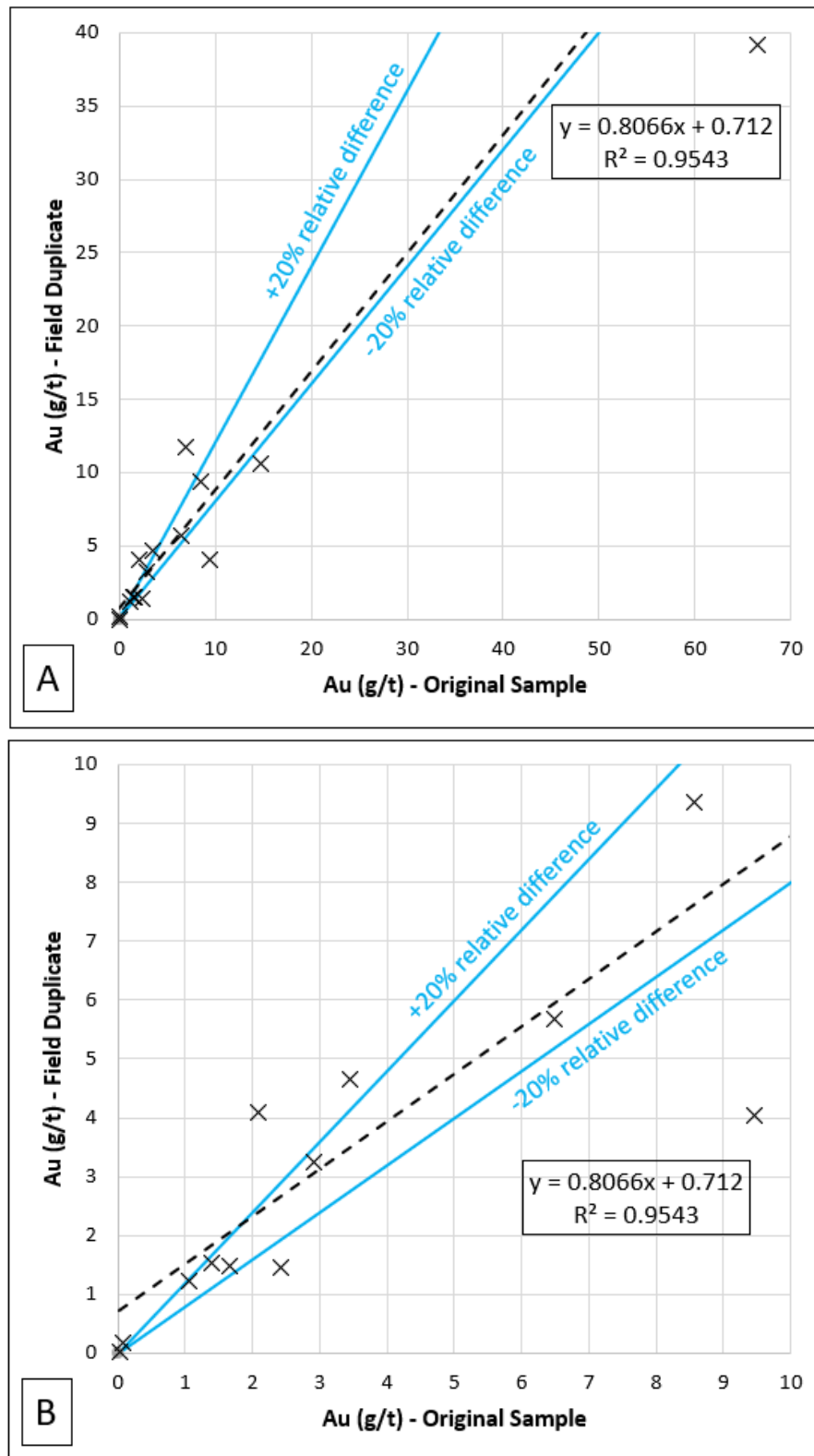
Table 12.1 shows the resampling results for the 22 samples. Figure 12.5 is a plot of the 22 original-duplicate pairs showing a linear regression slope of 0.80 and a correlation coefficient of 95.43%. The results indicate good reproducibility of the original samples and show acceptable results despite some discrepancies for individual re-assays. InnovExplo believes the field duplicate results from the independent resampling program are reliable and valid for a gold project.



**Figure 12.4 – Photograph of core resampled by InnovExplo: (A) original core; (B) remaining quarter-core witness samples (third to fifth rows). Hole ML-17-201B.**

**Table 12.1 – Gold results from the core resampling program, Monster Lake Project**

Original		Field Duplicate				ROCKCODE
Sample Number	Au (ppm)	IE Sample Number	Au_AA26 (ppm)	Au_GRA22 (ppm)	Au-SCR24 (ppm)	
IMGVD0007586	1.385	P253651	1.12	1.53		LSZ_2
IMGVD0007587	6.92	P253652			11.75	LSZ_2
IMGVD0007618	6.48	P253653	5.16	5.67		325_LG
IMGVD0007619	0.02	P253654	0.02			325_LG
IMGVD0009155	2.42	P253655	1.46			LSZ_1
IMGVD0009156	182.5	P253656			201	LSZ_1
IMGVD0009157	54.2	P253658			63.7	LSZ_1
IMGVD0009189	3.45	P253659	4.65			325_LG
IMGVD0009190	0.077	P253660	0.19			325_LG
IMGVD0009197	373	P253661			220	325_HG
IMGVD0009199	267	P253662			221	325_HG
IMGVD0009201	42	P253663			62.4	325_HG
IMGVD0009285	591	P253664			517	325_HG
IMGVD0009287	9.46	P253665	4.03			325_HG
IMGVD0009288	2.09	P253666	4.08			325_LG
IMGVD0008003	2.92	P253668	3.26			325_HG
IMGVD0008004	14.7	P253669			10.6	325_HG
IMGVD0008006	108	P253670			39.8	325_HG
IMGVD0009358	66.5	P253671	38.7	39.2		LSZ_1
IMGVD0009359	1.66	P253672	1.48			LSZ_1
IMGVD0009410	8.56	P253673	9.68	9.37		325_HG
IMGVD0009411	1.055	P253674	1.24			325_HG



**Figure 12.5 – A) Linear graph comparing originals to field duplicates (22 samples) from the resampling program; B) Close-up showing samples under 10 g/t Au.**

## **12.5 Conclusion**

The databases are of good overall quality. Variations have been noted during the validation process but have no material impact on the 2018 MRE. The database is of sufficient quality to be used for a resource estimate.

### **13 MINERAL PROCESSING AND METALLURGICAL TESTING**

The issuers had not carried out NI 43-101 compliant mineral processing or metallurgical test work on samples from the Project.

## **14 MINERAL RESOURCE ESTIMATES**

The mineral resource estimate herein (the “2018 MRE”) was prepared by Karine Brousseau, P.Eng., and Charlotte Athurion, M.Sc., P.Geo., under the supervision of Alain Carrier, M.Sc., P.Geo., using all available information.

The main objective of the mandate assigned by IAMGOLD and TomaGold was to prepare a 43-101 compliant mineral resource estimate for the Monster Lake Project, including the 325-Megane Zone.

The mineral resources herein are not mineral reserves as they do not have demonstrated economic viability. The result of this study is a single resource estimate for four mineralized zones: the 325-Megane High-Grade Zone (“325-HG”), the 325-Megane Low-Grade Zone (“325-LG”), the Lower Shear Zone 1 (“LSZ-1”) and the Lower Shear Zone 2 (“LSZ-2”). The 2018 MRE includes an Inferred Resource and is based on the assumption that the deposit will be potentially developed and mined using underground methods. The effective date of the estimate is February 26, 2018.

### **14.1 Methodology**

The 2018 MRE detailed in this report was prepared using GEOVIA GEMS v.6.8 (“GEMS”). The resource area measures 1,250 m along strike, 350 m wide and 700 m deep. The estimate is based on a compilation of historical and recent diamond drill holes and wireframed mineralized zones constructed by InnovExplo. The estimation used 3D block modelling and the inverse distance square interpolation (ID2) method.

Statistical studies and variography were done in Snowden Supervisor v.8.8.1 (“Supervisor”). Capping and several validations were done in Microsoft Excel and Supervisor.

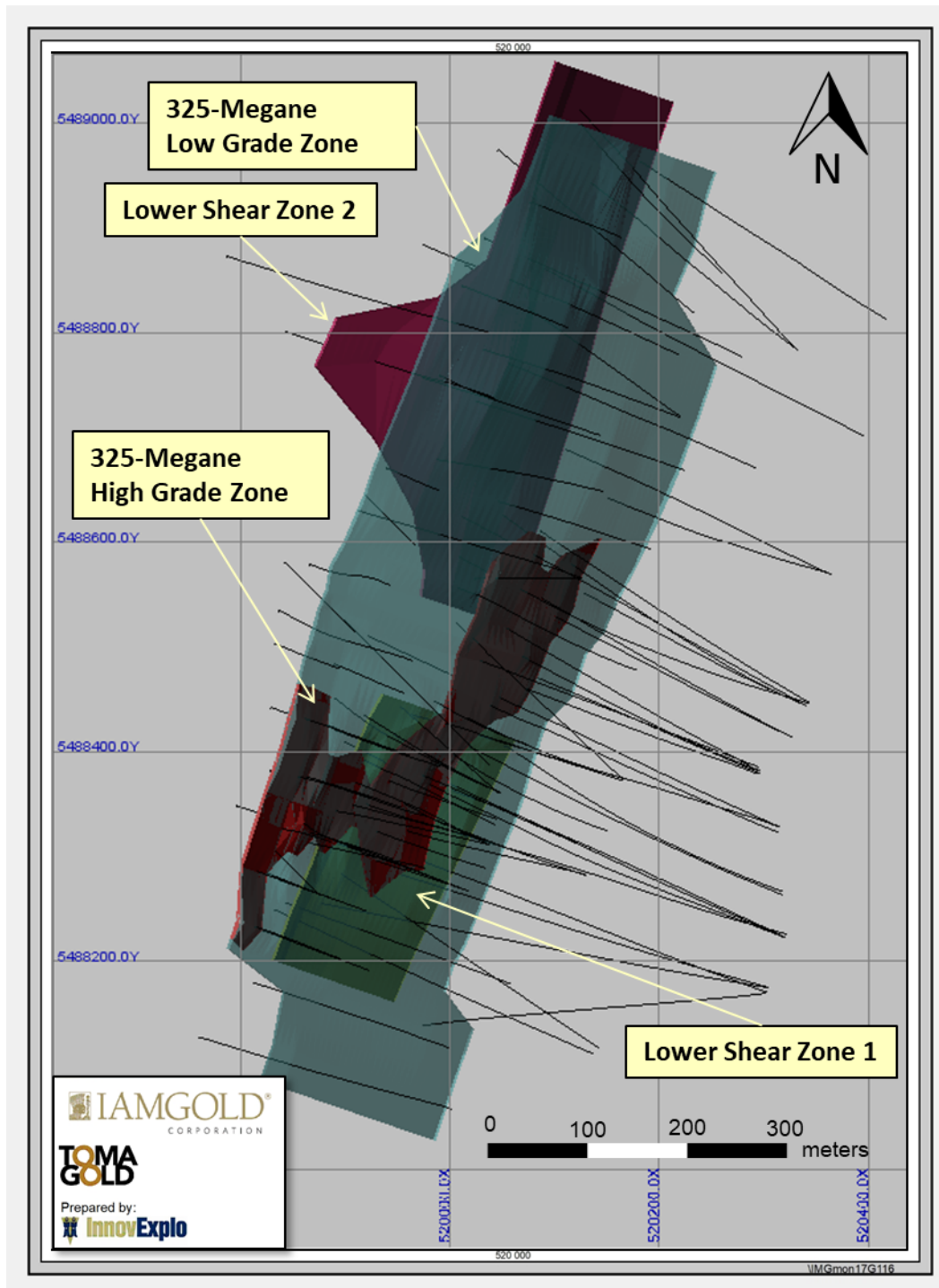
### **14.2 Drill Hole Database**

The GEMS diamond drill hole database contains 363 surface holes provided by IAMGOLD. From these, a subset of 105 holes that cut across the mineralized zones corresponds to all holes completed at the database close-out date of January 20, 2018 (Figure 14.1). As part of the current mandate, all holes were compiled and validated before starting the estimation.

The data for the 105 holes include lithological descriptions taken from drill core logs. They cover the strike-length of the Project at a drill spacing ranging from 50 to 100 m and contain a total of 4,849 sampled intervals (831 samples in mineralized zones) representing 38,993.5 m of drilled core (781.6 m drilled in mineralized zones).

In addition to the basic tables of raw data, the GEMS database includes several tables containing the calculated drill hole composites and wireframe solid intersections required for the statistical analysis and resource block modelling.

InnovExplo's data verification included a site visit to the Monster Lake field site as well as the logging facilities in Chibougamau. It also included a review of selected core intervals, drill hole collar locations, assays, the QA/QC program, downhole surveys, and a brief review of lithology descriptions. InnovExplo sent twenty-two (22) drill core quarter-splits to the laboratory for analysis (resampling program).



**Figure 14.1 – Surface plan view of the diamond drill holes in the Monster Lake database used for the resource estimate (n=105)**

### 14.3 Interpretation of the Mineralized-zone Wireframe Model

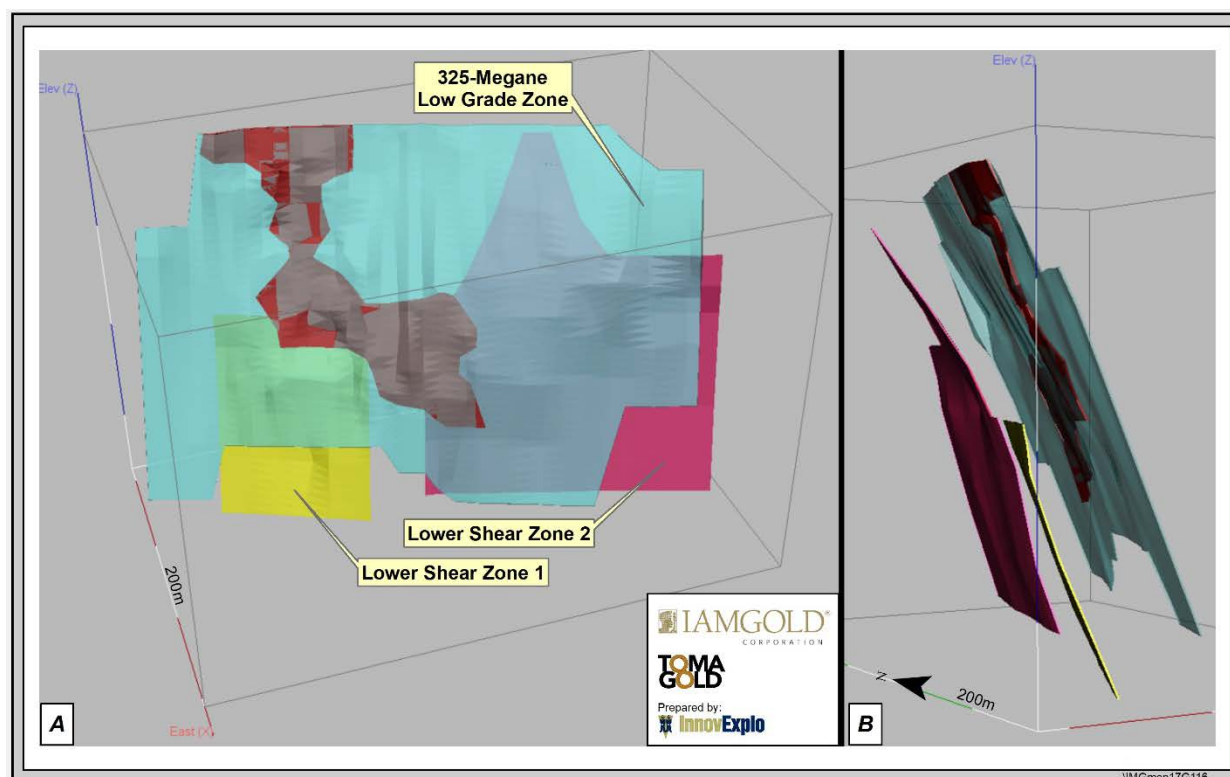
In order to conduct accurate resource modelling of the deposit, InnovExplo based its mineralized-zone wireframe model on the drill hole database and the authors' knowledge of the geological context at Monster Lake and similar deposits. In doing so,

InnovExplo created four (4) mineralized solids (coded 300, 400, 600 and 700) that honour the drill hole database. Construction lines were created on cross sections with 25-m to 50-m spacing and snapped to drill hole intercepts using a minimum true thickness of 2.5 m, to produce valid solids.

After building the solids, the 325-Megane High-Grade Zone (300) was clipped in longitudinal view to delineate a high-grade core based on a metal factor greater than 10. The lateral extensions of the high-grade domain were limited to half the distance of the surrounding drill holes.

The topographic surface was generated from surveyed drill hole collars. A bedrock surface was created to define the overburden. The bedrock surface was generated from drill hole descriptions and survey information provided by IAMGOLD. A waste solid was also created corresponding to the block model limits.

Figure 14.2 presents a 3D view of the mineralized solids.



**Figure 14.2 – 3D views of the mineralized model for the Monster Lake area: a) pseudo-longitudinal view looking WNW; b) pseudo-cross section view looking NE**

#### 14.4 High-grade Capping and Compositing

Any drill hole interval intersecting an interpreted mineralized zone was automatically assigned a code based on the name of the 3D solids, and the coded assays in the

interval were used to analyze sample lengths and generate statistics for high-grade capping and composites.

### ***High-grade capping***

Basic univariate statistics were performed on datasets of individual raw gold assays for both the 325-HG and 325-LG. For the LSZ-1 and the LSZ-2, basic statistics were performed on the combined data because the number of assays is low for each mineralized subzone and they were modelled using a similar approach. Capping was applied on raw assays before compositing.

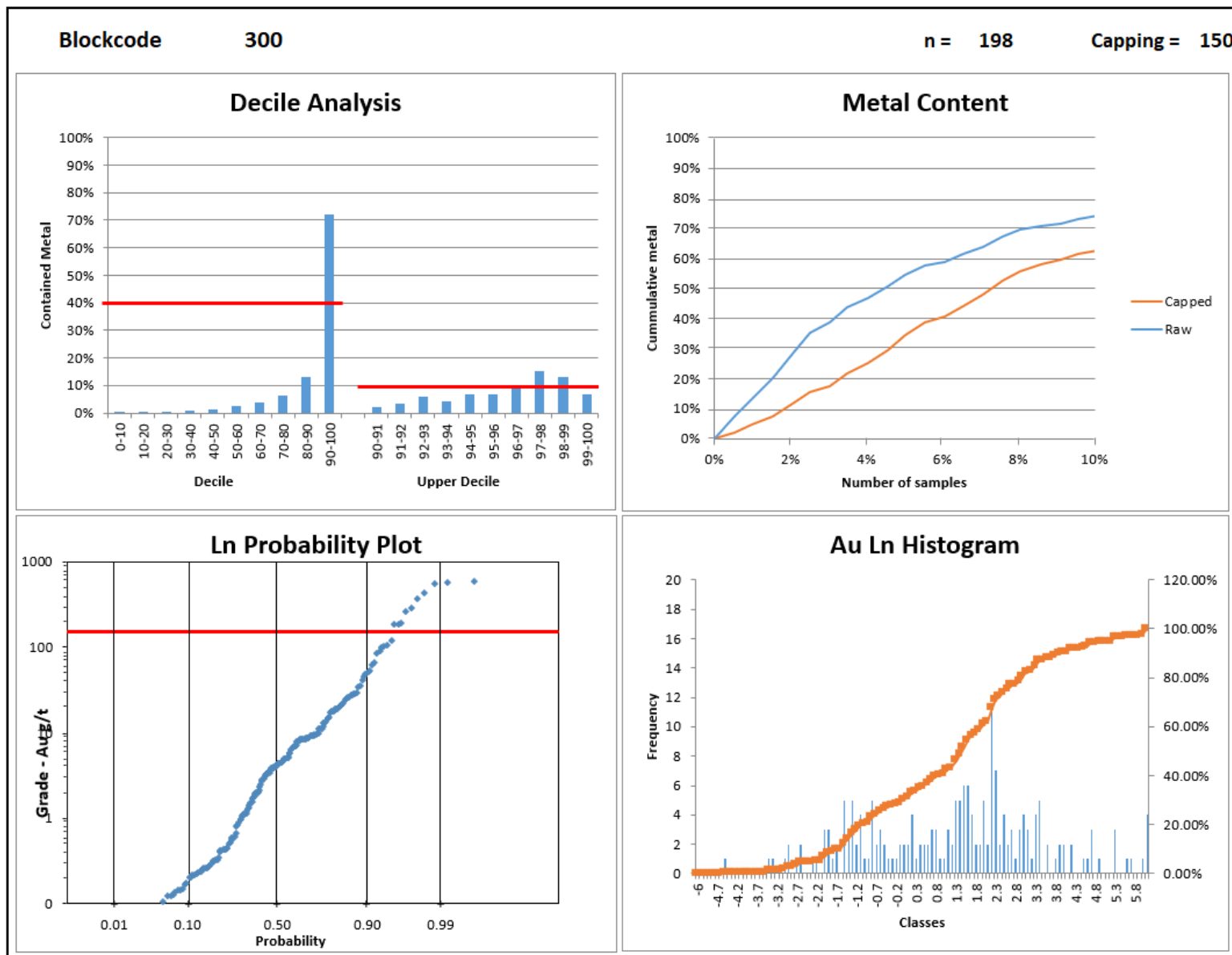
The following criteria were used to decide whether capping was warranted or not, and to determine the threshold when warranted:

- If the quantity of metal contained in the last decile is above 40%, capping is warranted; if below 40%, the uncapped dataset may be used;
- No more than 10% of the overall contained metal must be contained within the first 1% of the highest-grade samples;
- The probability plot of grade distribution must not show abnormal breaks or scattered points outside of the main distribution curve;
- The log normal distribution of grades must not show any erratic grade bins nor distanced values from the main population.

Table 14.1 presents a summary of the statistical analysis for each zone. Figure 14.3 to Figure 14.5 show graphs supporting the capping threshold decisions for the three datasets.

**Table 14.1 – Summary statistics for the DDH raw assays by zone**

Zone	Block Code	Number of Samples	Max (Au g/t)	Uncut Mean (Au g/t)	Coefficient of Variation	High Grade Capping	Cut Mean (Au g/t)	# Samples Cut	Capped Coefficient of Variation	% Loss Metal Factor
325_HG	300	198	615.00	29.17	3.05	150	18.05	10	2.01	30.57%
325_LG	400	528	16.40	1.05	1.76	na	na	na	na	na
LSZ_1	600	105	182.50	5.58	3.75	20	2.49	6	2.1	56.90%
LSZ_2	700									



**Figure 14.3 – Graphs supporting a capping grade of 150 g/t Au for the 325-HG mineralized zone**

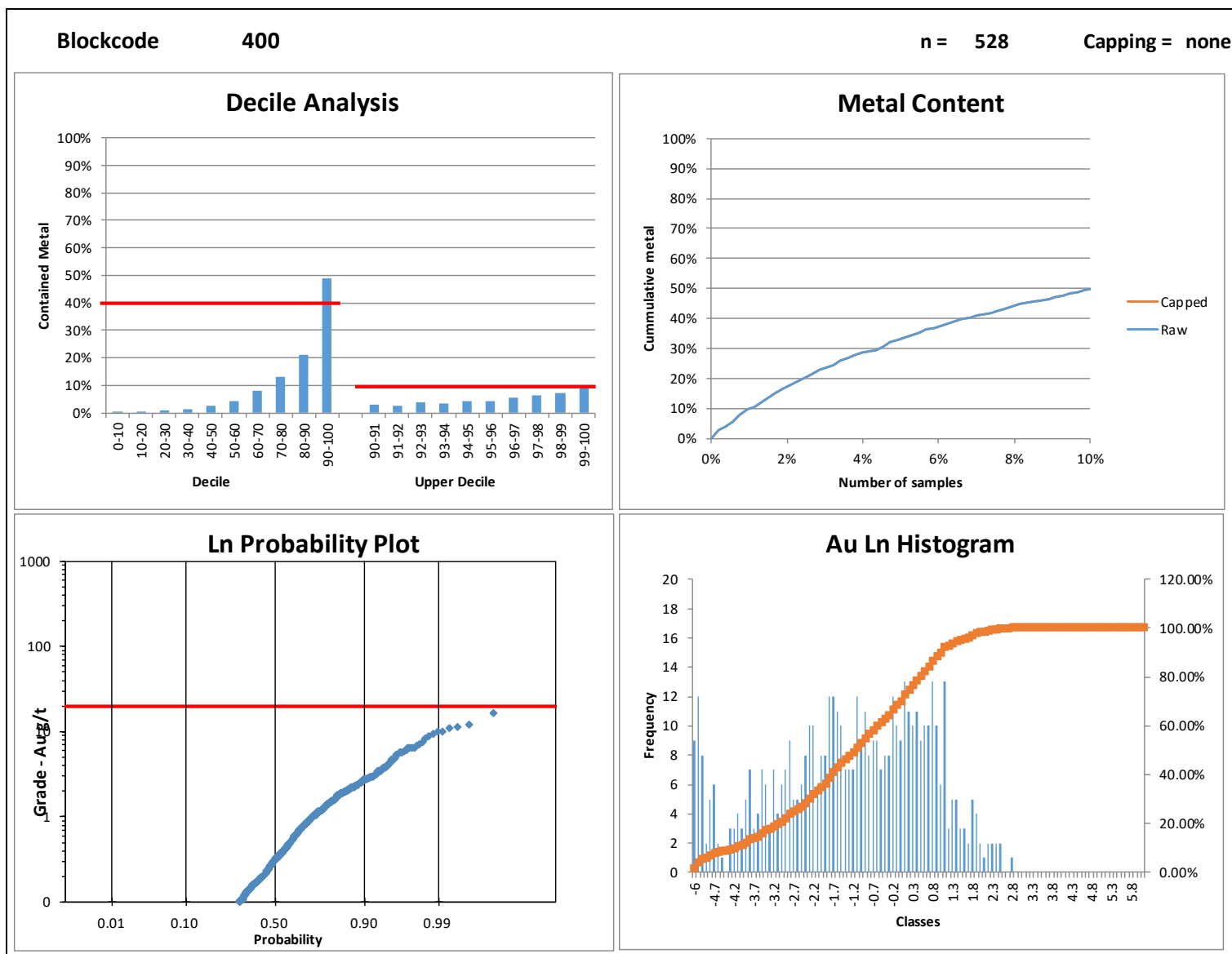
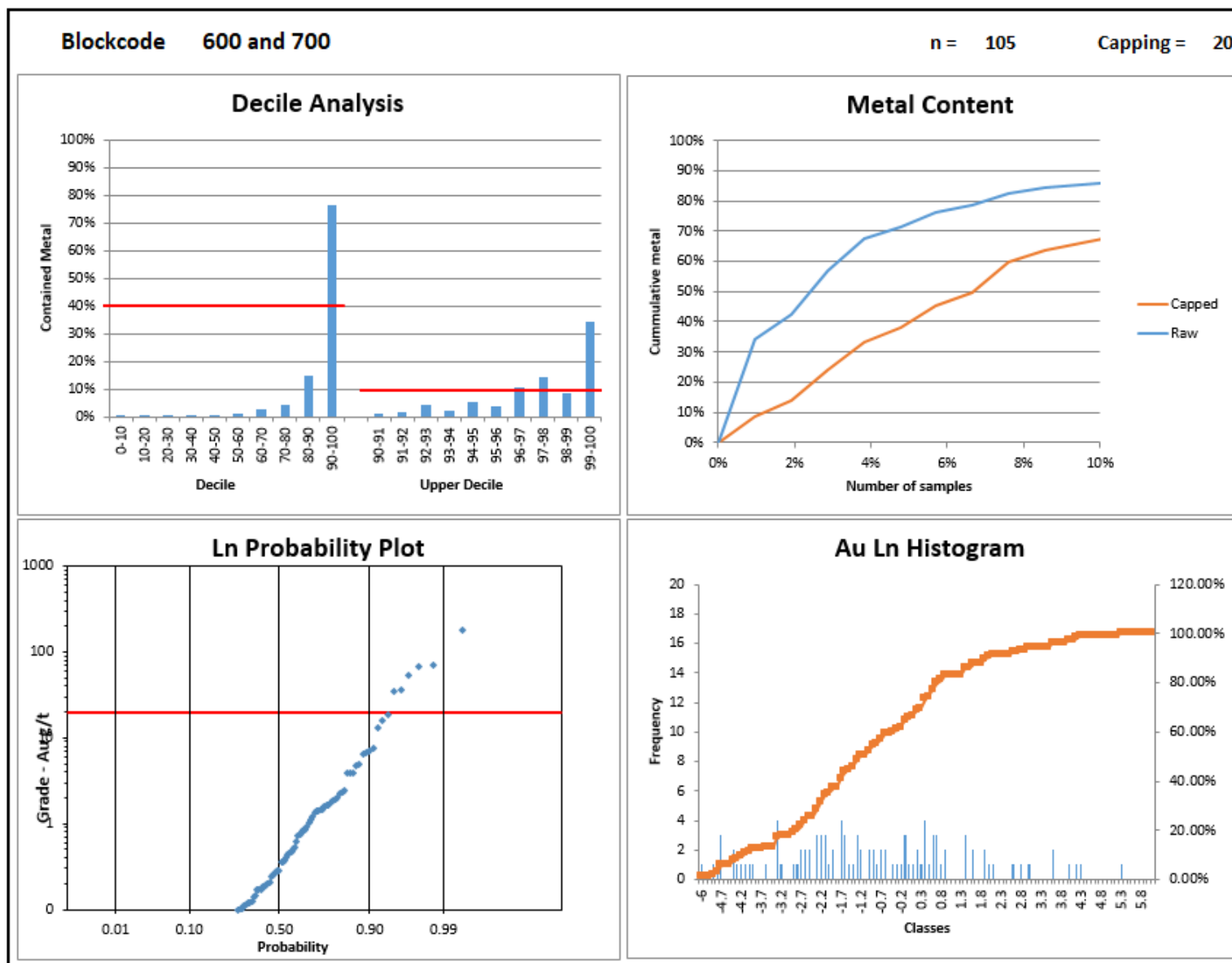


Figure 14.4 – Graphs supporting the absence of capping for the 325-LG mineralized zone



**Figure 14.5 – Graphs supporting a capping grade of 20 g/t Au for the Lower Shear mineralized zones**

### Compositing

In order to minimize any bias introduced by variations in sample lengths, the capped gold assays of the DDH data were composited within each mineralized zone. The thickness of the mineralized domains, the proposed block size, and the original sample length were taken into consideration when selecting the composite length.

Composites of 1.5 m with distributed tails were generated for all four mineralized zones. This length avoids de-compositing, which occurs when a sample length exceeds composite length, and it provides a reasonable reconciliation with the raw data mean grade, while sufficiently reducing the coefficient of variation. A total of 519 composites were generated in the mineralized zones. All unassayed intervals within solids were assigned a value of zero during the compositing. Table 14.2 summarizes the basic statistics for the gold composites.

**Table 14.2 – Summary statistics for the 1.5m composites**

Zone	Block Code	Number of Composites	Max (Au g/t)	Mean (Au g/t)	Standard Deviation	Coefficient of Variation
325_HG	300	124	142.93	16.63	27.38	1.65
325_LG	400	331	9.99	0.99	1.41	1.42
LSZ_1	600	64	19.99	2.24	3.87	1.72
LSZ_2	700					

## 14.5 Density

Densities are used to calculate tonnages for the estimated volumes derived from the resource-grade block model.

For the 2018 MRE, a total of 424 bulk specific gravity (“SG”) measurements were provided by IAMGOLD and integrated into the database. Of these, only 149 are in the mineralized zones, taken from 21 drill holes. SG measurements during the 2017 drilling program were determined by standard water immersion methods on half-core samples. All SG measurements taken before the 2017 drilling program used the pycnometer method on pulps. Summary statistics of the SG data are presented by zone in Table 14.3.

A fixed density value was applied to each mineralized zone. For the 325-HG and 325-LG zones, values of 2.86 and 2.88 were assigned, respectively, based on statistical analysis of the SG data. No data are available for the Lower Shear zones, so a fixed density of 2.88 was assigned.

A density of 2.00 g/cm<sup>3</sup> was assigned to the overburden. A density of 2.95 g/cm<sup>3</sup> was assigned to the waste based on statistical analysis of the available SG data.

**Table 14.3 – Summary statistics for the specific gravity measurements**

Zone	Block Code	Count	Mean	Median	Value Used
Waste	999	275	2.94	2.95	2.95
325_HG	300	38	2.90	2.86	2.86
325_LG	400	111	2.92	2.88	2.88
LSZ_1	600	0	same as 325_LG		2.88
LSZ_2	700				

## 14.6 Block Model

A block model was established for the purpose of the current resource estimate. The model has been pushed to a depth of approximately 720 m below surface. The block model was rotated 20° counter-clockwise (Y-axis oriented along N290°). The block dimensions reflect the sizes of the mineralized zones and plausible mining methods. Table 14.4 presents the properties of the Monster Lake block model.

**Table 14.4 – Block model properties**

Properties	X (Columns)	Y (Rows)	Z (Levels)
Origin coordinates (UTM NAD83, Zone 18)	519 415.08	5 488 065.66	400
Block extent (m)	1,365	612	750
Block size	3	3	3
Rotation	20°		

All blocks with more than 0.001% of their volume falling within a selected solid were assigned the corresponding solid block code in their respective folder. A percent block model was generated, reflecting the proportion of each block inside every solid (i.e., individual mineralized zones, overburden and waste).

Table 14.5 provides details about the naming convention for the corresponding GEMS solids, as well as the rock codes and block codes assigned to each individual solid. The multi-folder percent block model thus generated was used for the resource estimate.

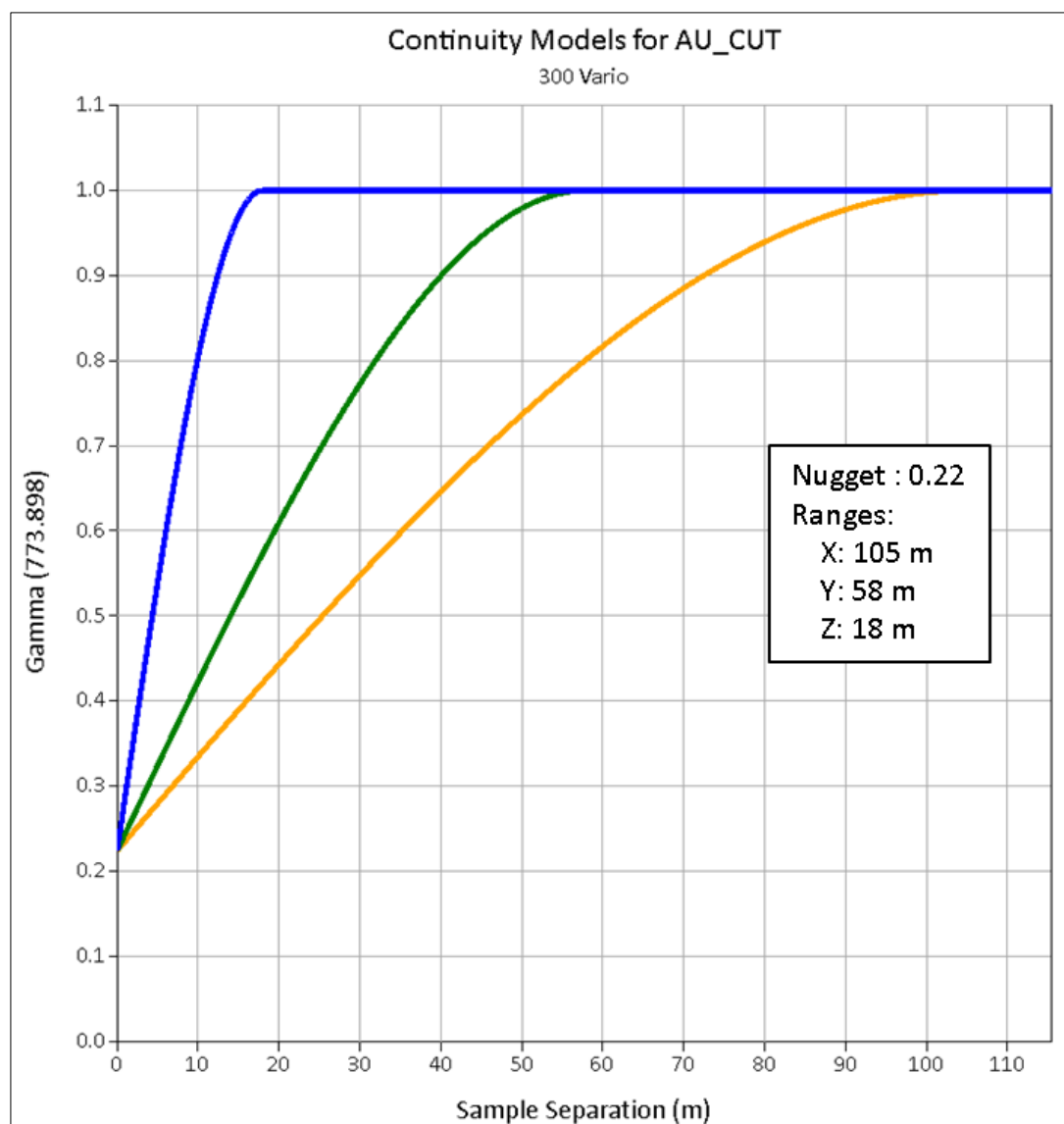
**Table 14.5 – Block model naming convention and codes**

Workspace	Description	Rock Code	Block Code	GEMS Solids Name			Precedence
				Name 1	Name 2	Name 3	
OVB	Overburden	OB	10	OVB	10	20171030	10
Standard	Waste	WASTE	999	BM	999	20171030	999
325_HG	325-Megane HG	325_HG	300	325_HG_C	300	20171106	300
325_LG	325-Megane LG	325_LG	400	325_LG	400	20171106	400
LSZ	Lower Shear Zone 1	LSZ_1	600	LSZ_1	600	20171103	600
	Lower Shear Zone 2	LSZ_2	700	LSZ_2	700	20171103	700

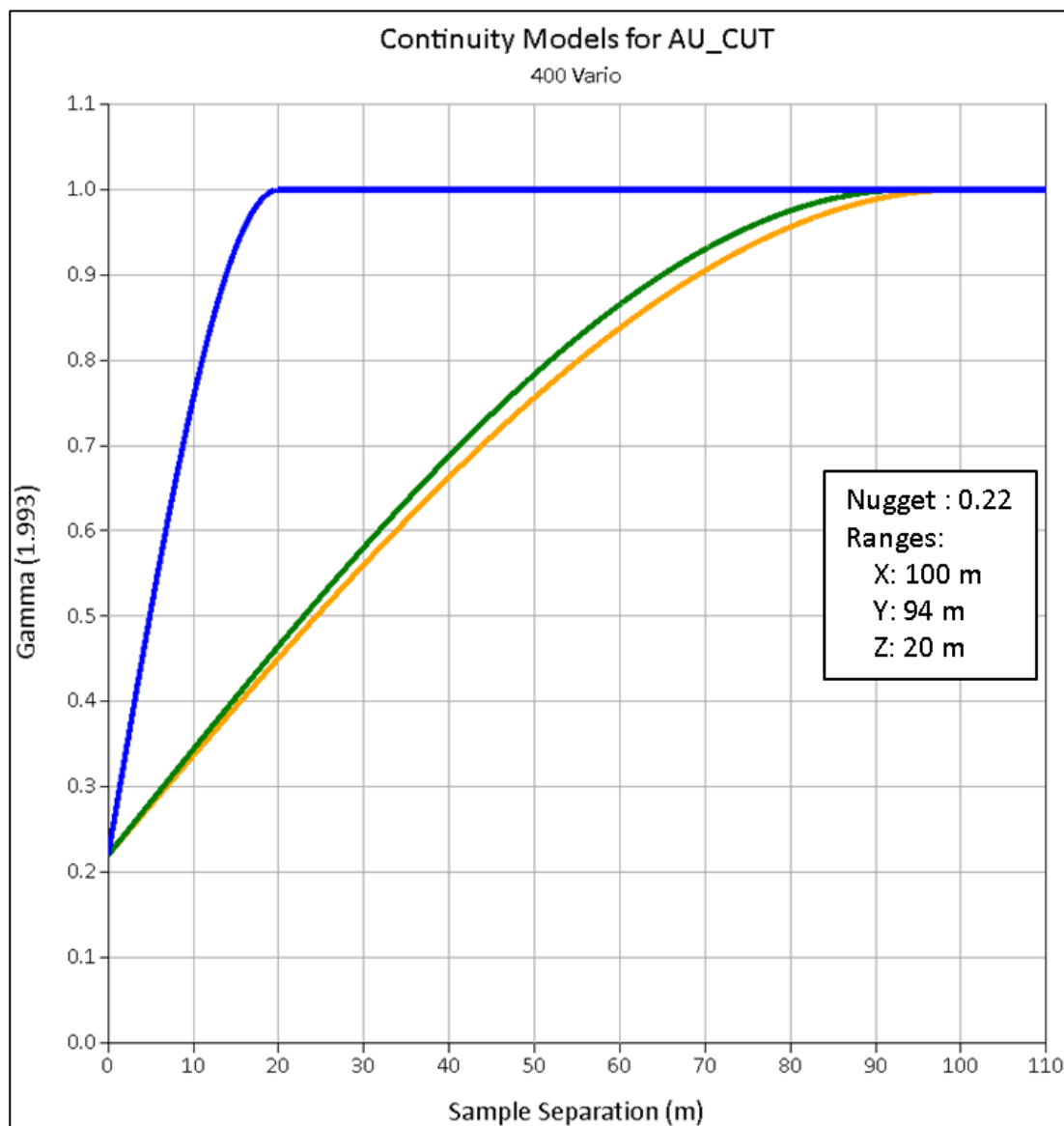
## 14.7 Search Ellipsoids

Three-dimensional directional variography was completed on DDH composites of the capped gold assay data for the 325-HG and 325-LG zones. The study was carried out in Supervisor software. The 3D directional-specific investigations yielded the best-fit model along an orientation that corresponds to the strike and dip of the mineralized zone. This best-fit model was tweaked to fit the orientation of the Lower Shear mineralized zones for which there was insufficient data.

The downhole variograms suggest a nugget effect of 22% for the 325-Megane High-Grade and Low-Grade zones. Figure 14.6 and Figure 14.7 show the continuity models for these zones.



**Figure 14.6 – Continuity models for the 325-HG zone (300)**



**Figure 14.7 – Continuity models for the 325-LG zone (400)**

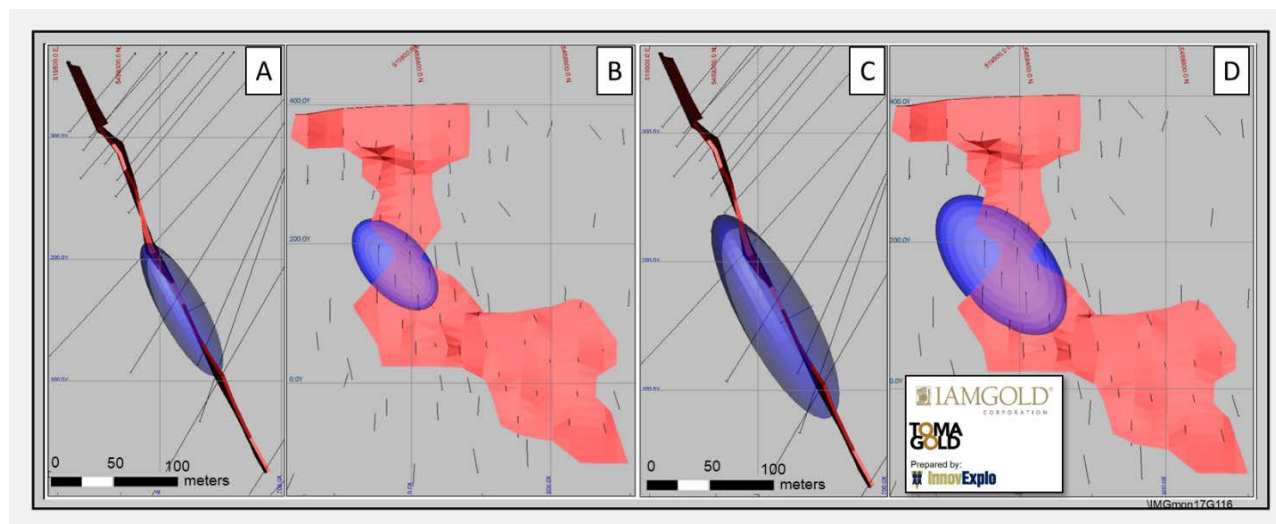
Two sets of search ellipsoids were built from the results of the variographic study. These correspond to approximately 0.75x the variographic results for Pass 1, approximately 1.5x the first pass for Pass 2.

Table 14.6 summarizes the parameters of the final ellipsoids used for interpolation.

**Table 14.6 – Search ellipsoid parameters**

Zone	Block Code	Ellipsoid	Orientation			Ranges			General Parameters		
			Azimuth	Dip	Azimuth	X (m)	Y (m)	Z (m)	Min Composites	Max Composites	Minimum DDH
325_HG	300	Pass 1	50	-40	360	79	45	18	4	12	2
		Pass 2	50	-40	360	115	65	27	3	12	1
325_LG	400	Pass 1	36	-25	340	75	75	20	4	12	2
		Pass 2	36	-25	340	100	100	30	3	12	1
LSZ_1	600	Pass 1	36	-25	350	75	75	20	4	12	2
		Pass 2	36	-25	350	100	100	30	3	12	1
LSZ_2	700	Pass 1	28	-25	350	75	75	20	4	12	2
		Pass 2	28	-25	350	100	100	30	3	12	1

Figure 14.8 illustrates the shapes and ranges of the search ellipsoids for Pass 1 and Pass 2, applied to the 325-HG zone.



**Figure 14.8 – Composites views of the 325-HG zone comparing the ranges used for Pass 1 (A, B) and ranges used for Pass 2 (C, D). A and C are section views looking N020, B and D are longitudinal views looking N290.**

## 14.8 Grade Interpolation

The parameters for interpolating the grade model were derived from the variographic study on the capped composites in order to produce the best possible grade estimate for the defined resources. The interpolation was run on a point area workspace extracted from the DDH dataset.

The composite points were assigned block codes corresponding to the mineralized zone in which they occur. The interpolation profiles specify a single composite block code for each mineralized-zone solid, thus establishing hard boundaries between the mineralized zones and preventing block grades from being estimated using sample points with different block codes than the block being estimated.

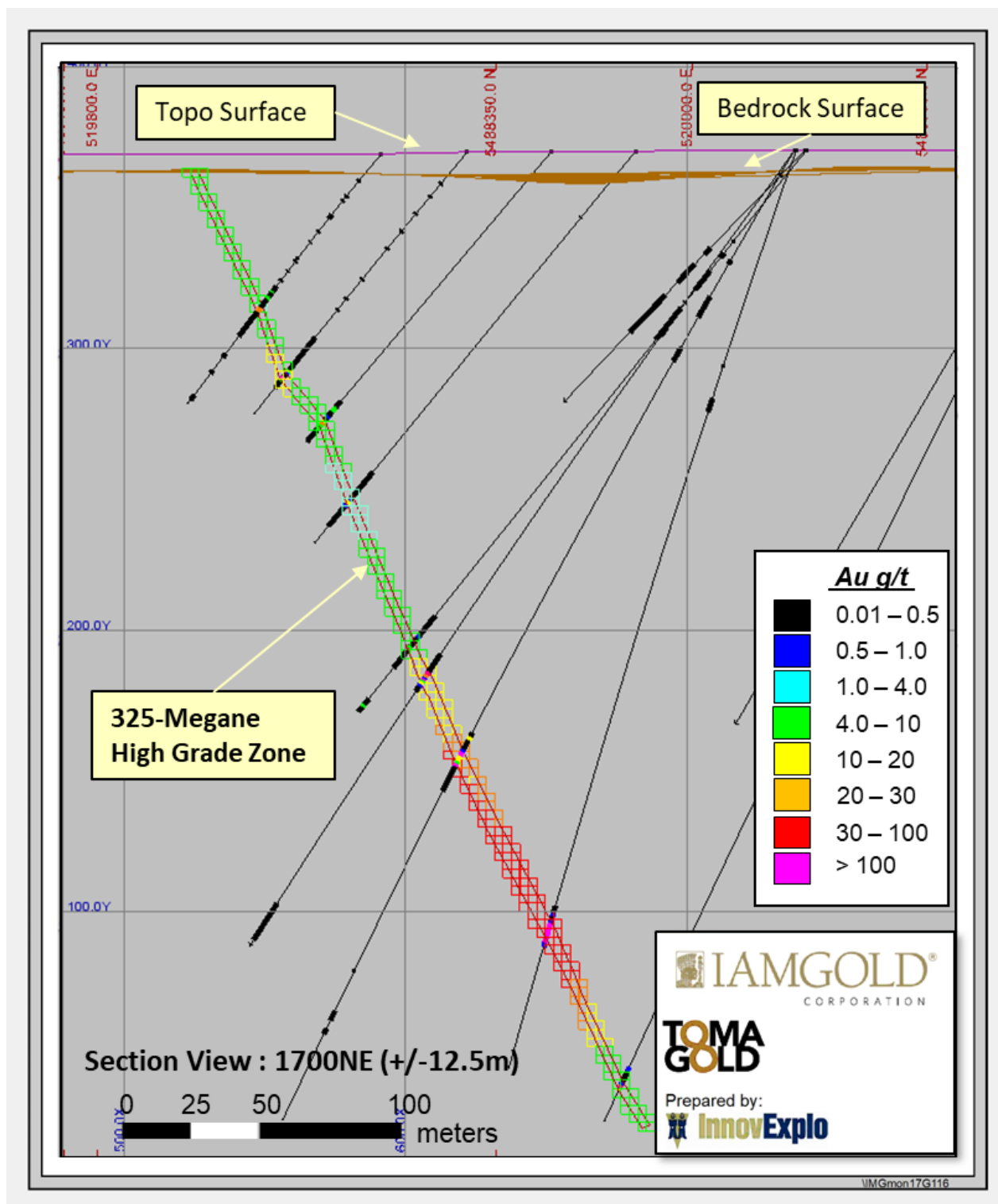
The interpolation profiles were customized to estimate grades separately for each mineralized zone. The ID2 method was selected for the final resource estimate.

Two passes were defined for this stage. The ellipsoid radiuses from Pass 1 were established using approximately 0.75x the variographic results. Ellipsoid radiuses from Pass 2 were approximately 1.5x the Pass 1. Pass 2 only interpolated blocks that were not interpolated during Pass 1.

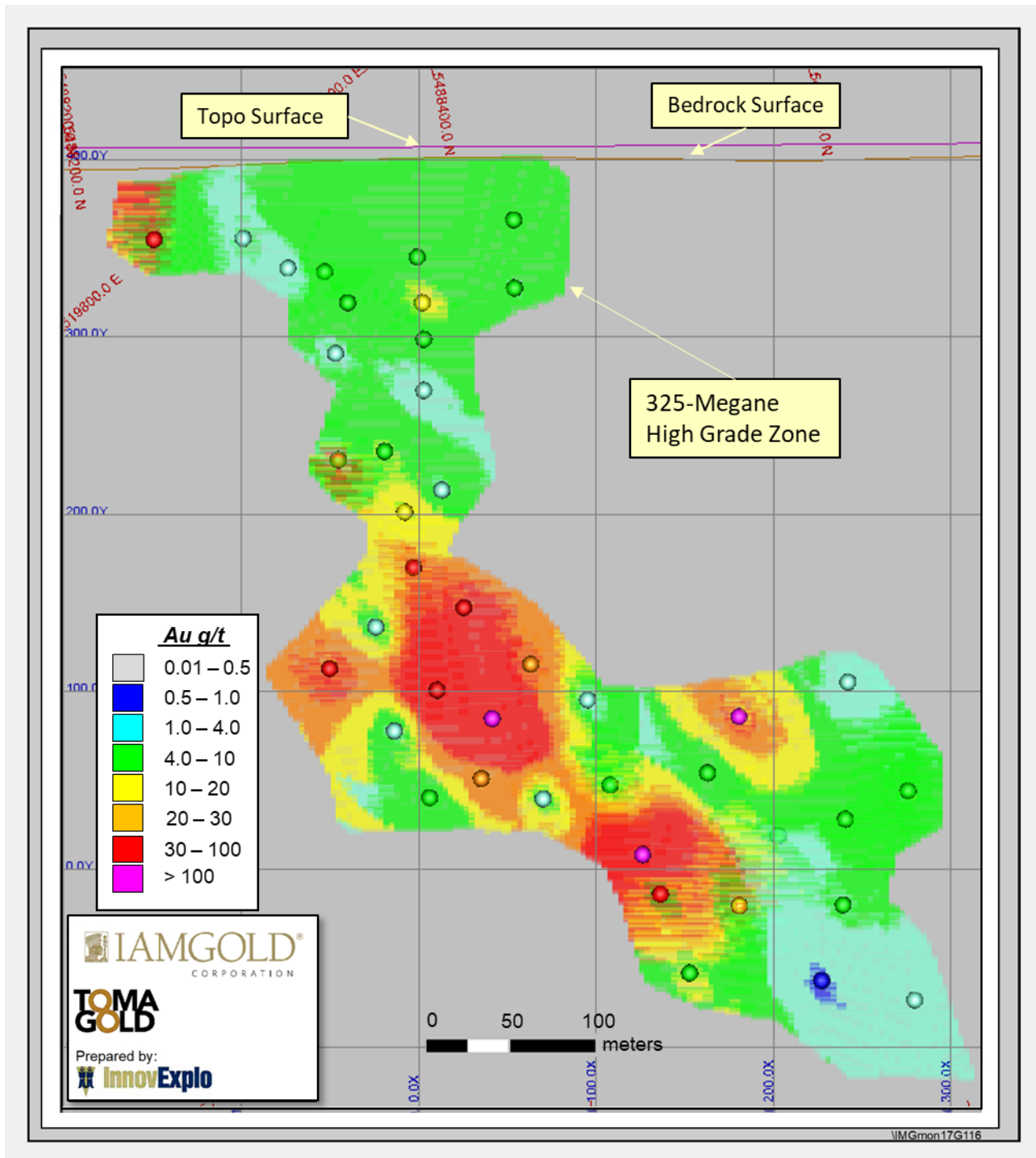
Parameters used to interpolate the gold grade for the 325-HG Zone, the 325-LG Zone and the combined Lower Shear zones:

- Pass 1:
  - Search ellipsoids corresponding to approximately 0.75x the variographic range results;
  - Minimum of 4 composites and maximum of 12 composites in the search ellipse for interpolation;
  - Maximum of 3 composites from the same DDH;
  - Minimum of 2 DDH for interpolation.
- Pass 2:
  - Search ellipsoids corresponding to approximately 1.5x the search ellipsoids of the Pass 1;
  - Minimum of 3 composites and maximum of 12 composites in the search ellipse for interpolation;
  - Maximum of 3 composites from the same DDH;
  - Minimum of 1 DDH for interpolation.

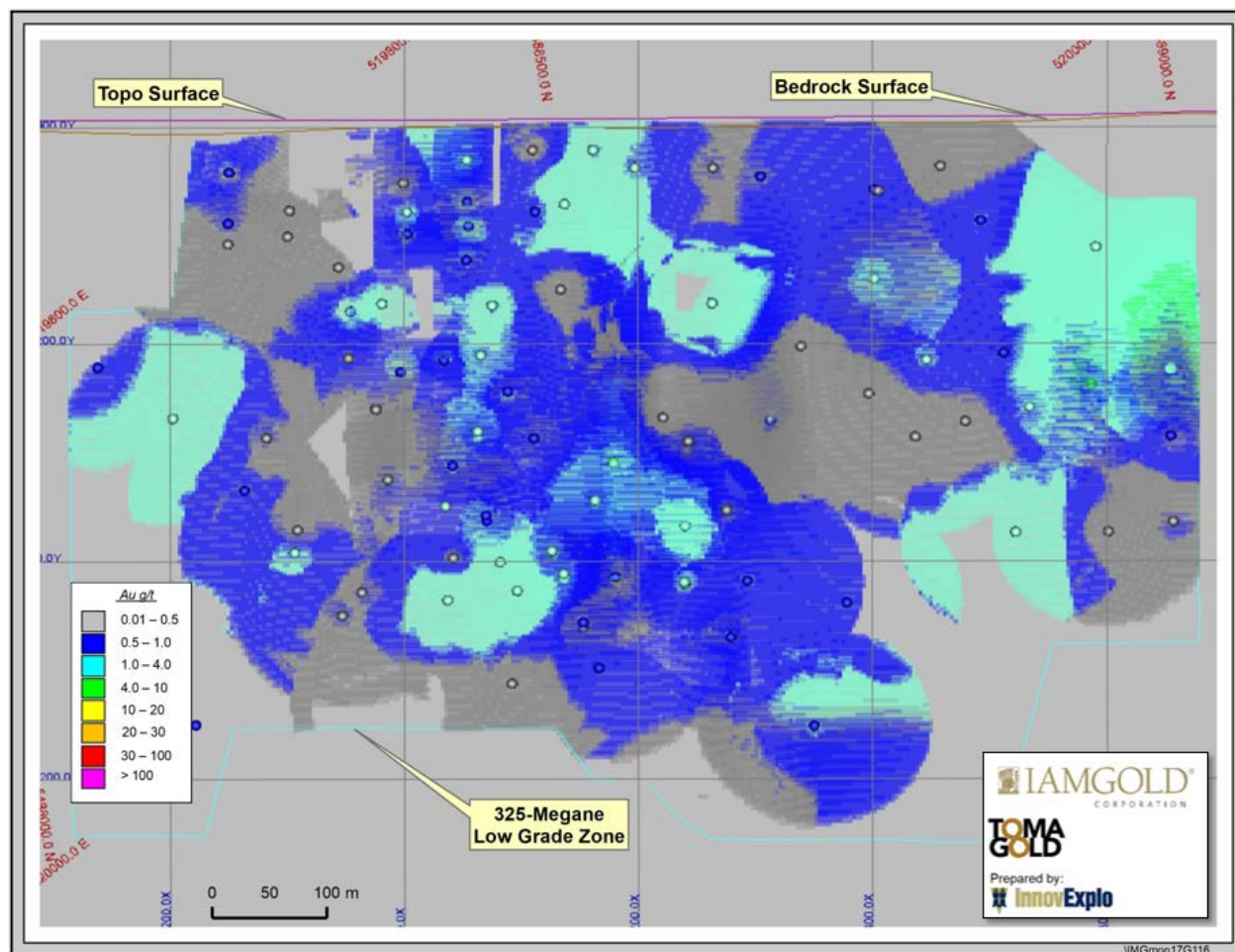
Figure 14.9 illustrates the block model grade on typical cross sections for the 325-HG zone, and Figure 14.10 to Figure 14.12 illustrate block model grades on a longitudinal view for each zone.



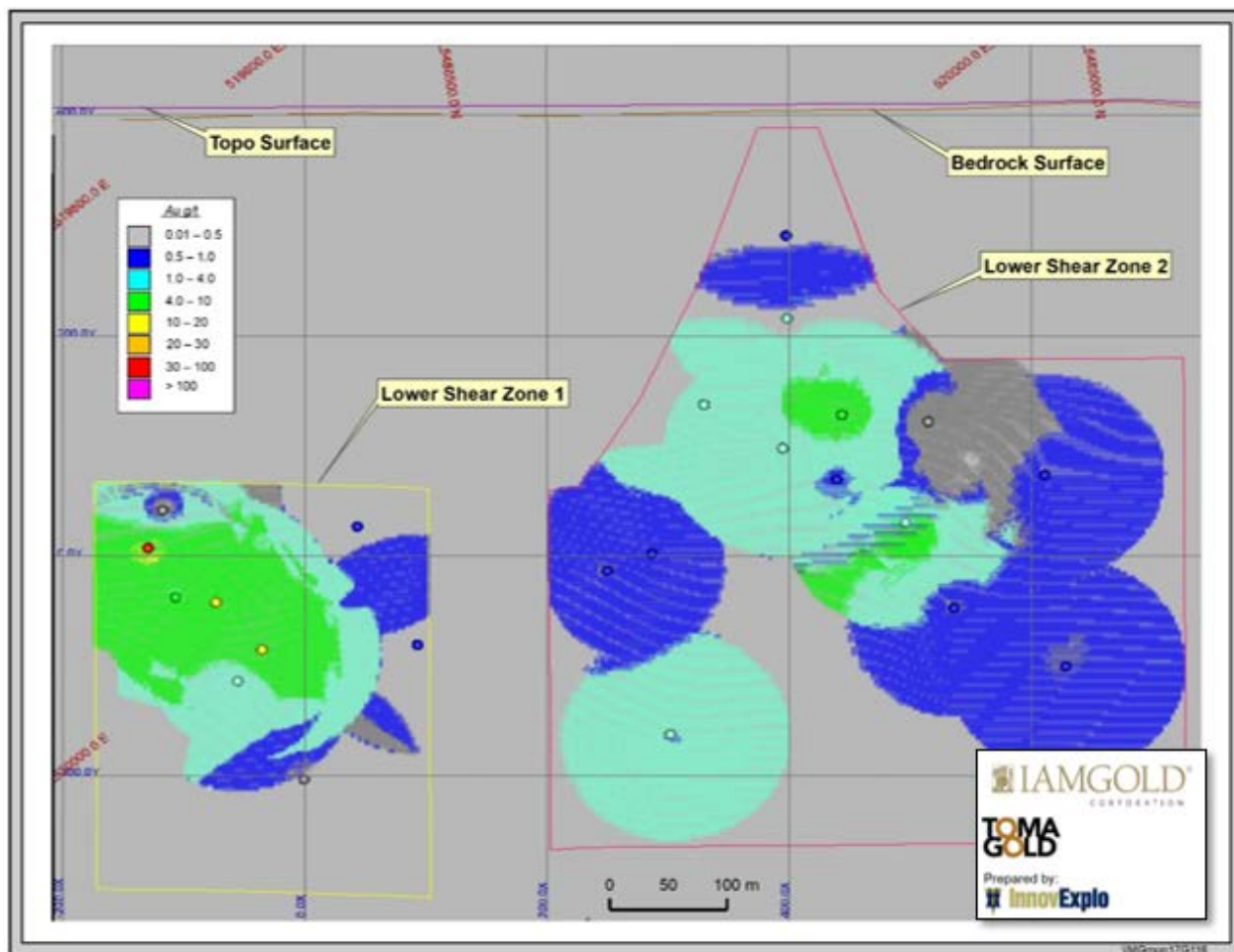
**Figure 14.9 – Block model grade for the 325-HG zone, Section 1700NE (±12.5m) looking N20**



**Figure 14.10 – Block model grade and intersect grade points for the 325-HG Zone. Longitudinal view, looking N290**



**Figure 14.11 – Block model grade for the 325-LG Zone. Longitudinal view, looking N290**



**Figure 14.12 – Block model grade for the Lower Shear zones. Longitudinal view, looking N290**

## 14.9 Block Model Validation

### 14.9.1 Visual validation

A visual comparison between block model grades, composite grades and gold assays was conducted on sections, plans and longitudinal views for both densely and sparsely drilled areas. No significant differences were observed during the comparison and it generally provided a good match without excessive smoothing in the block model.

Visual comparisons were also conducted between ID2, ID3, Ordinary Kriging (OK) and Nearest Neighbor (NN) interpolation scenarios. The ID2 procedure used for the resource estimate produced a more natural block grade distribution.

### 14.9.2 Statistical validation

Table 14.7 compares the global mean block for the four interpolation scenarios (all blocks with > 50% of their volume inside a mineralized zone) and the composite grades for each mineralized zone at a zero cut-off.

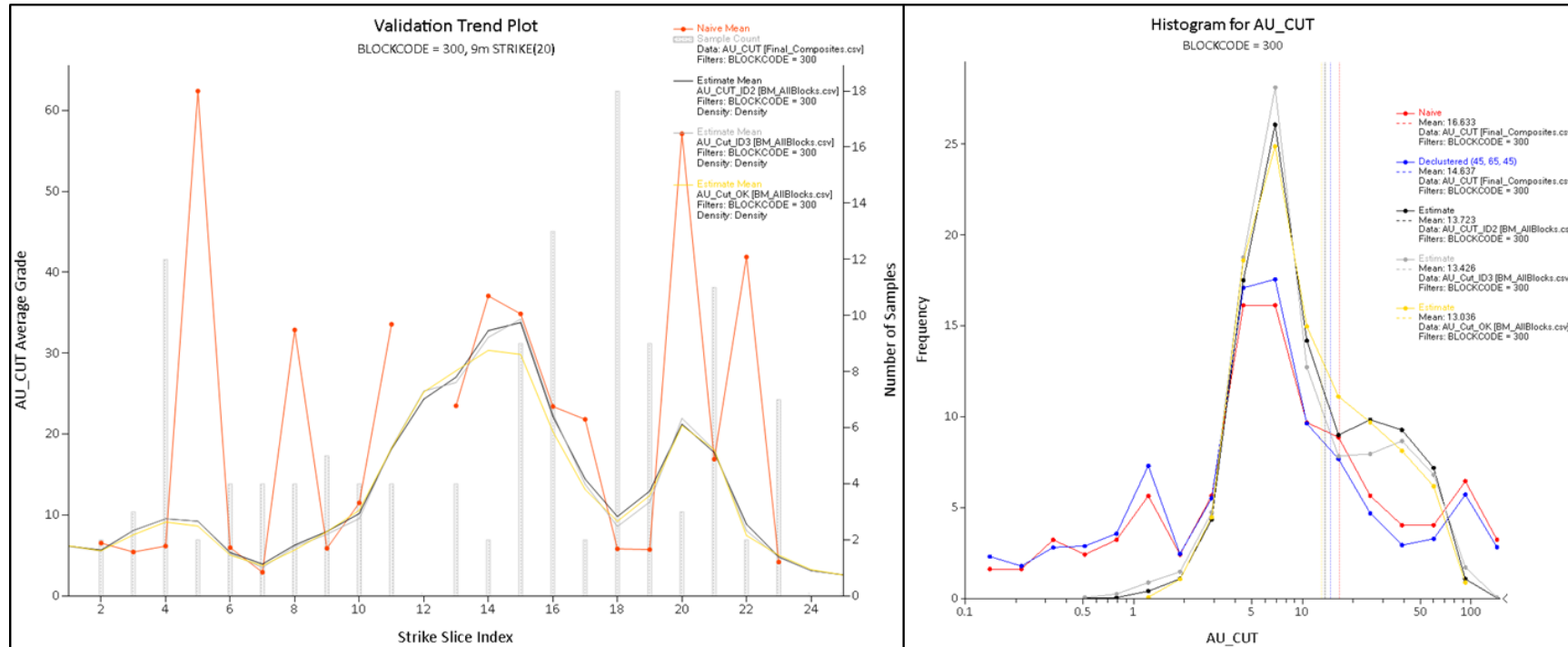
Cases in which the composite mean is higher than the block mean are often a consequence of clustered drilling patterns in high-grade areas. The comparison is good between the model and the declustered composites.

**Table 14.7 – Comparison of the block and composite mean grades at a zero cut-off for all interpolated blocks**

Zone	Blockcode	Number of composites	Composite Grade (g/t)	Declustered Composite Grade (g/t)	Number of Blocks	ID2 Model (g/t)	ID3 Model (g/t)	OK Model (g/t)	NN Model (g/t)
325_HG	300	124	16.63	14.64	11 150	13.72	13.43	13.04	12.34
325_LG	400	331	0.99	0.86	72 681	1.02	1.03	1.05	1.16
LSZ	600 + 700	64	2.24	n/a	24 345	1.86	1.84	1.88	1.78

The comparison between composite and block grade distributions did not identify significant issues. As expected, the block grades are generally lower than the composite grades.

Figure 14.13 illustrates the X-direction swath plot and histogram to compare the block model grades with the composite grades for the 325-HG Zone. In general, the model correctly reflects the trends shown by the composites with the expected smoothing effect.



## 14.10 Resource Categories

### 14.10.1 Mineral resource classification definition

The resource classification definitions used for this report are those published by the Canadian Institute of Mining, Metallurgy and Petroleum in their document “CIM Definition Standards for Mineral Resources and Reserves.”

**Measured Mineral Resource:** that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit.

The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

**Indicated Mineral Resource:** that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit.

The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

**Inferred Mineral Resource:** that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

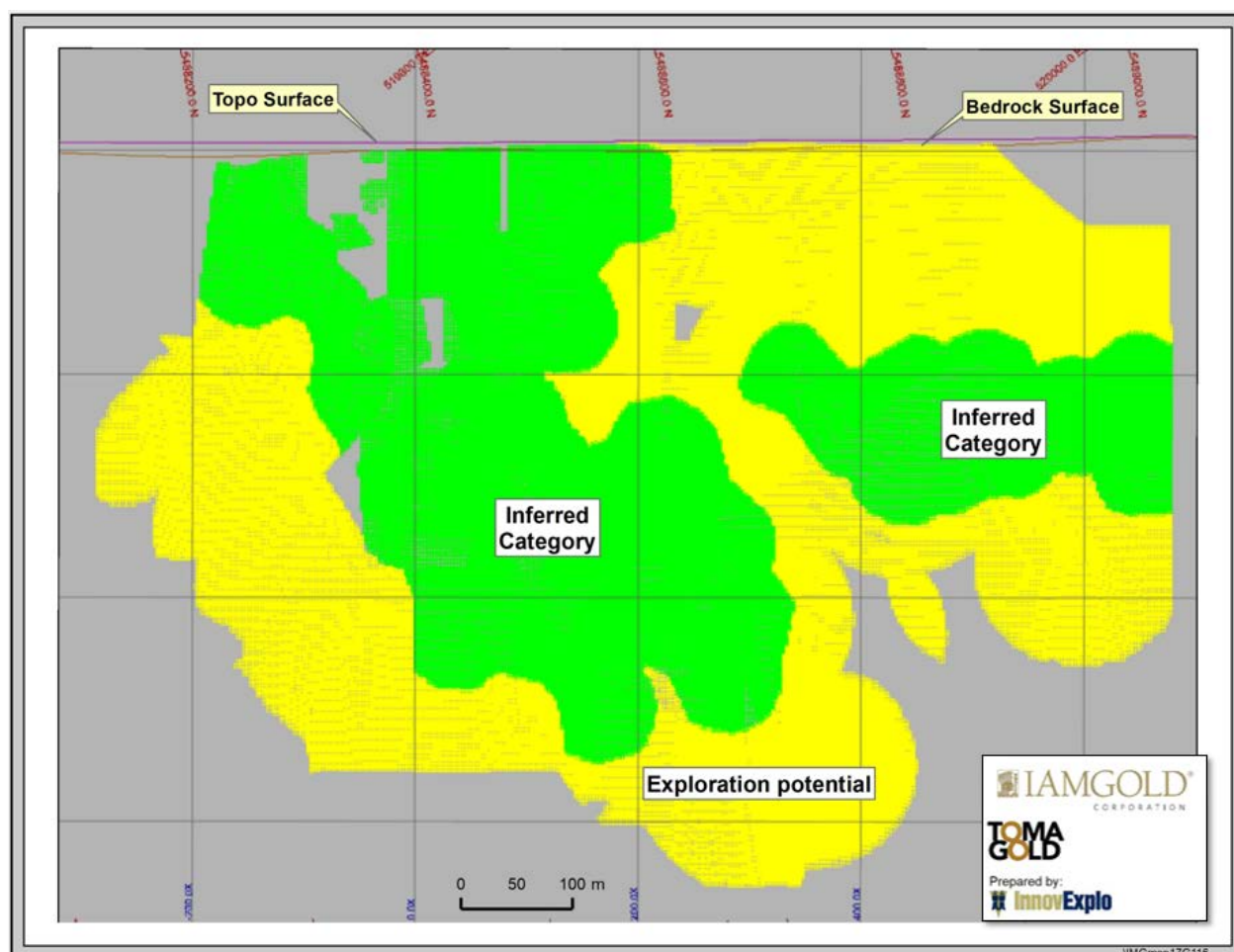
#### 14.10.2 Mineral resource classification

All interpolated blocks in the 325-HG Zone were assigned to the Inferred category based on the drill spacing, even if the blocks show geological and grade continuity.

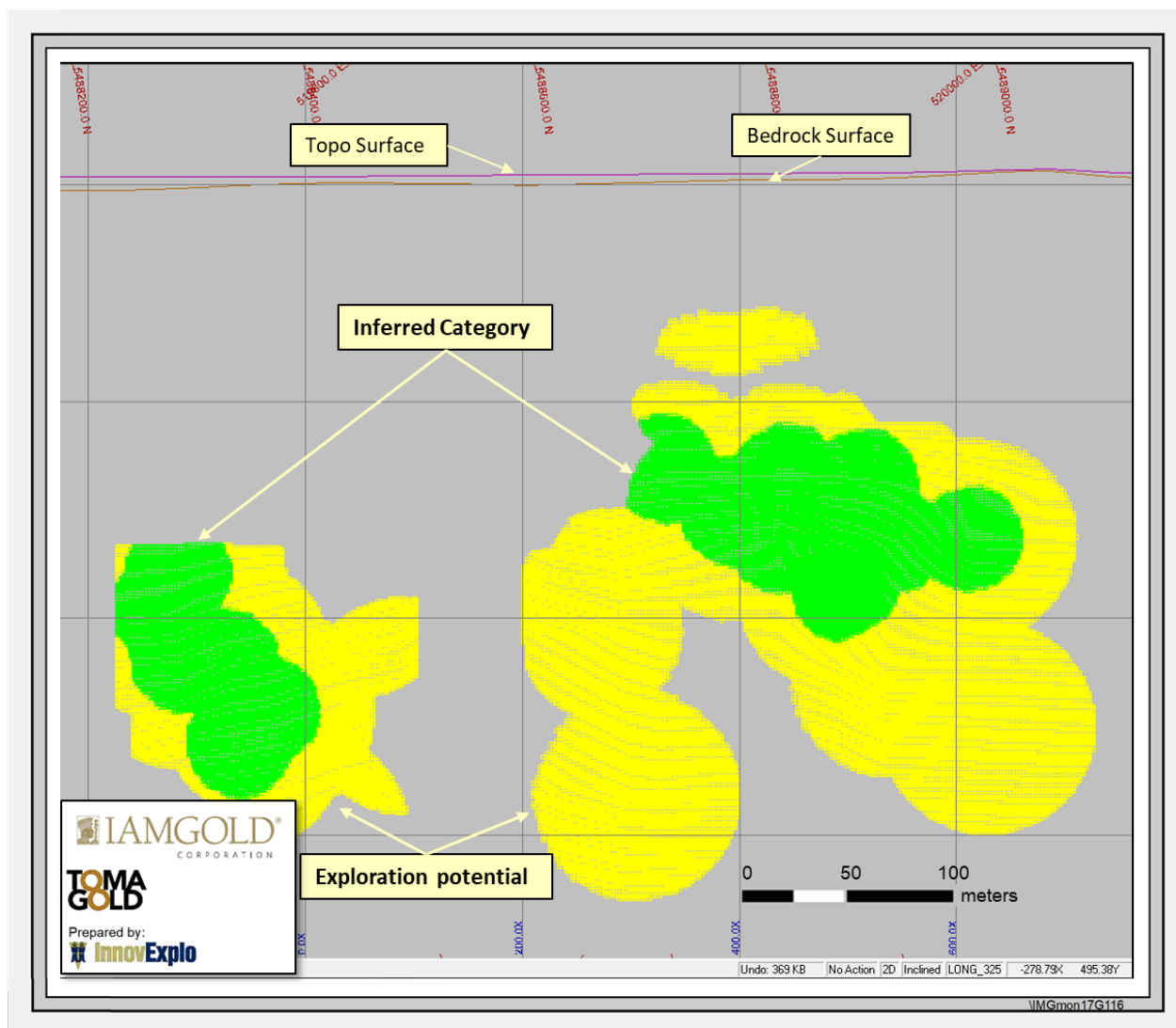
Given the current drill spacing of the 325-LG Zone and the Lower Shear zones, a selection of clustered blocks with a closest composite distance of less than 50 m was assigned to the Inferred category.

A series of outline rings (clipping boundaries) were created in longitudinal views using the criteria described above while keeping in mind that a significant cluster of blocks is necessary to obtain a resource. A series of isolated blocks were downgraded from the Inferred category to “exploration potential” based on a visual assessment and are therefore excluded from the 2018 MRE.

Figure 14.14 and Figure 14.15 show the mineral resource classification for the 325-LG Zone and the Lower Shear zones, respectively.



**Figure 14.14 – Longitudinal view showing the categorized mineral resources of the 325-LG Zone**



**Figure 14.15 – Longitudinal view showing the categorized mineral resources of the Lower Shear zones**

#### 14.11 Cut-off Grade

The selected cut-off of 3.5 g/t was used to determine the mineral potential of the deposit. The cut-off grade (CoG) determination was based on the parameters presented in Table 14.8.

The selected cut-off is also in line with IAMGOLD's longer-term valuation assumptions of (gold price of US\$1,500/ounce and USD:CAD exchange rate of 1.1).

**Table 14.8 – Input parameters used to calculate the underground cut-off grade (UCoG) – Monster Lake Project**

Exchange Rate (USD/CAD)		1.28
<i>Gp</i>	Gold price (USD)	US\$/oz \$ 1,300
	Gold price (CAD)	CA\$/oz \$ 1,664
	Royalty	% 2.00%
	Royalty	CA\$/oz \$ 33.28
<i>Cs</i>	Refining cost	CA\$/oz \$ 5.00
	Selling cost	CA\$/oz \$ 38.28
	Processing cost	CA\$/t \$ 34.69
<i>Pc</i> <i>r</i>	Metallurgical Recovery	% 94.0%
	Transport	CA\$/t \$ -
	G&A cost	CA\$/t \$ 24.00
	Global mining cost	CA\$/t \$ 99.09
<i>Gmc</i>	Total cost by metric tonne	CA\$/t \$ 157.78
	Resource Cut-off grade	g/t Au 3.21
<i>COG</i>		

#### 14.12 Mineral Resource Estimation

Given the density of the processed data, the search ellipse criteria, the drilling density and the specific interpolation parameters, InnovExplo is of the opinion that the current mineral resource estimate can be classified as Inferred resources. The 2018 MRE follows CIM standards and guidelines for reporting mineral resources and reserves.

Table 14.9 displays the results of the official In Situ Mineral Resource Estimate for the Monster Lake deposit at the official 3.5 g/t cut-off grade. Table 14.10 displays the official in situ resource and sensitivity at other cut-off scenarios by mineralized zone. The reader should be cautioned that the figures provided in Table 14.10 should not be interpreted as a mineral resource statement. The reported quantities and grade estimates at different cut-off grades are presented with the sole purpose of demonstrating the sensitivity of the resource model to the selection of a reporting cut-off grade.

Figure 14.16 to Figure 14.18 show the grade distribution of the four (4) zones above the official cut-off grade (>3.50 g/t Au) for blocks classified as Inferred resources.

**Table 14.9 – Monster Lake In Situ Mineral Resource Estimate at 3.5 g/t cut-off**

> 3.5 g/t Au		Tonnes (t)	Au (g/t)	Contained Au (oz)
Inferred	In-situ	1 109 700	12.14	433 300

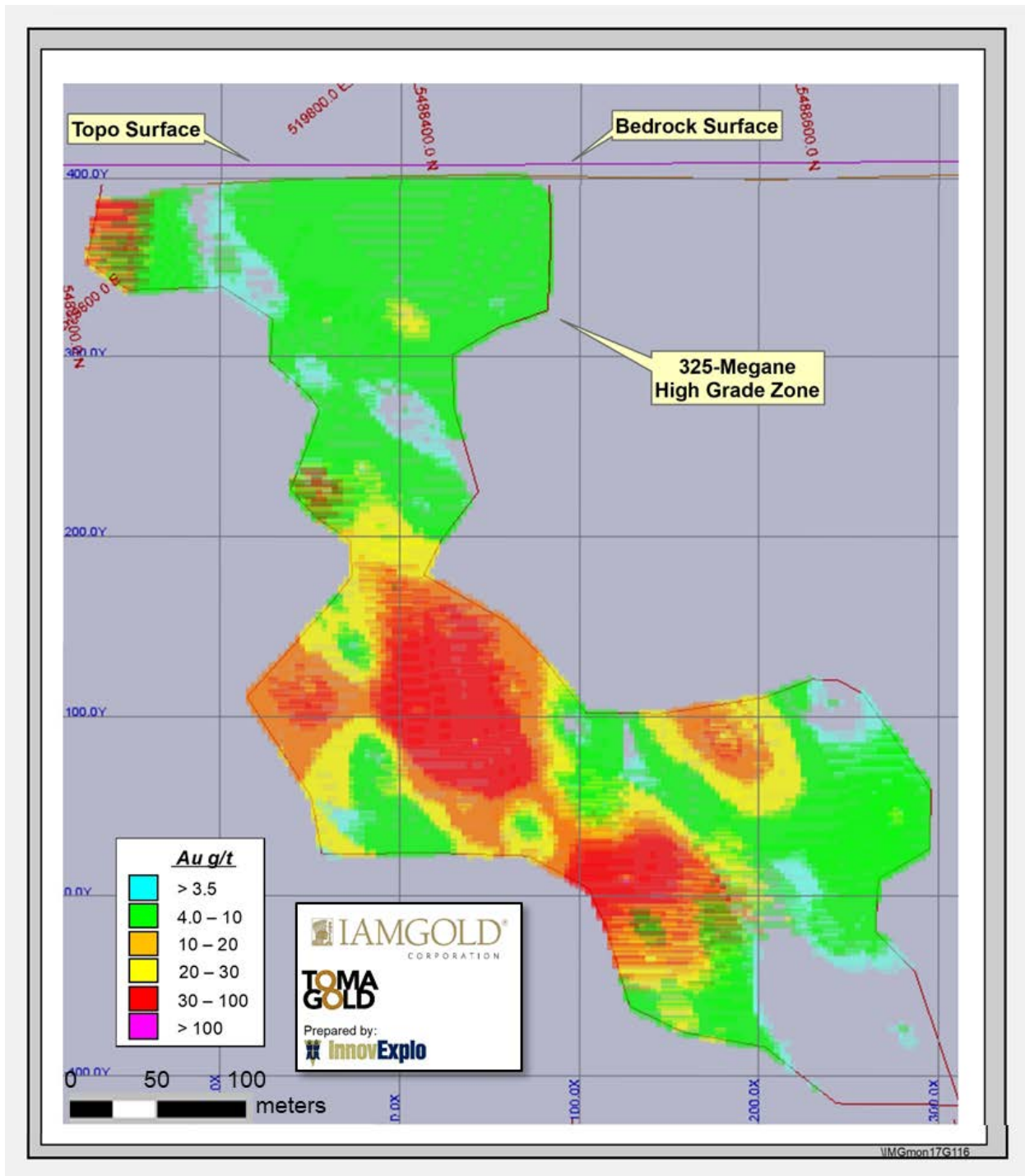
**Mineral Resource Estimate notes:**

1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources are not Mineral Reserves and have not demonstrated economic viability.
3. Results are presented in situ and undiluted.
4. Mineral resources are reported at a cut-off grade of 3.5 g/t Au, using a gold price of US\$1,300/ounce and a Canadian\$/U.S.\$ exchange rate of 1.28.
5. Density data (g/cm<sup>3</sup>) was established on a per zone basis and ranges from 2.86 to 2.88 g/cm<sup>3</sup>.
6. A minimum true thickness of 2.5 m was applied, using the grade of the adjacent material when assayed or a value of zero when not assayed.
7. High-grade capping (g/t Au) was done on raw assay data and ranges from 20 to 150 g/t Au, based on the statistical analysis of each mineralized zone.
8. Resources were estimated from 1.5m drill hole composites, using a 2-pass ID2 interpolation method in a block model (block size = 3 m x 3 m x 3 m).
9. The number of metric tons and ounces was rounded to the nearest hundred.

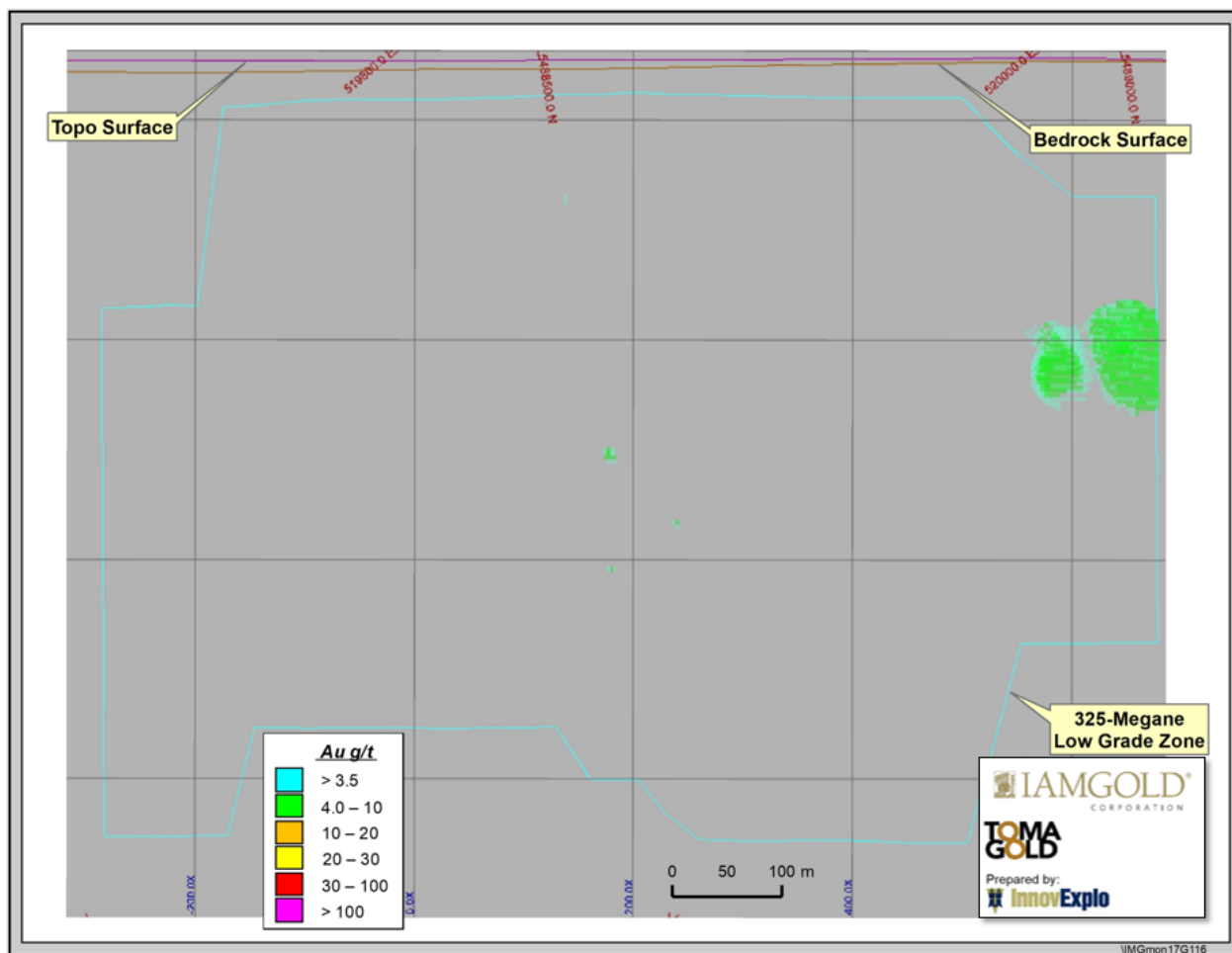
**Table 14.10 – Monster Lake Mineral Resource Estimate at 3.5 g/t cut-off and sensitivity at other cut-off scenarios, by zone  
(Inferred category)**

325_HG (2.5m)	Cut-off grade	Tonnage (t)	Grade (g/t)	Ounces
	> 10.0 g/t Au	333 000	27.34	292 600
	> 8.0 g/t Au	391 500	24.58	309 400
	> 7.0 g/t Au	434 000	22.90	319 600
	> 6.0 g/t Au	540 600	19.66	341 700
	> 5.0g/t Au	625 700	17.74	356 800
	> 4.0 g/t Au	723 300	15.94	370 800
	<b>&gt; 3.5 g/t Au</b>	<b>770 100</b>	<b>15.20</b>	<b>376 400</b>
	> 3.0 g/t Au	812 200	14.58	380 800
	> 2.0 g/t Au	852 900	14.01	384 200
325_LG	Cut-off grade	Tonnage (t)	Grade (g/t)	Ounces
	> 10.0 g/t Au	-	0.00	-
	> 8.0 g/t Au	100	8.40	-
	> 7.0 g/t Au	1 500	7.35	400
	> 6.0 g/t Au	12 200	6.52	2 600
	> 5.0g/t Au	29 500	5.91	5 600
	> 4.0 g/t Au	66 800	5.08	10 900
	<b>&gt; 3.5 g/t Au</b>	<b>103 800</b>	<b>4.61</b>	<b>15 400</b>
	> 3.0 g/t Au	153 400	4.15	20 500
	> 2.0 g/t Au	364 900	3.19	37 400
LSZ1 & 2	Cut-off grade	Tonnage (t)	Grade (g/t)	Ounces
	> 10.0 g/t Au	2 200	11.39	800
	> 8.0 g/t Au	14 600	9.10	4 300
	> 7.0 g/t Au	27 400	8.34	7 300
	> 6.0 g/t Au	70 900	7.12	16 200
	> 5.0g/t Au	141 300	6.33	28 800
	> 4.0 g/t Au	198 300	5.80	37 000
	<b>&gt; 3.5 g/t Au</b>	<b>235 700</b>	<b>5.47</b>	<b>41 500</b>
	> 3.0 g/t Au	270 400	5.19	45 100
	> 2.0 g/t Au	369 900	4.45	53 000

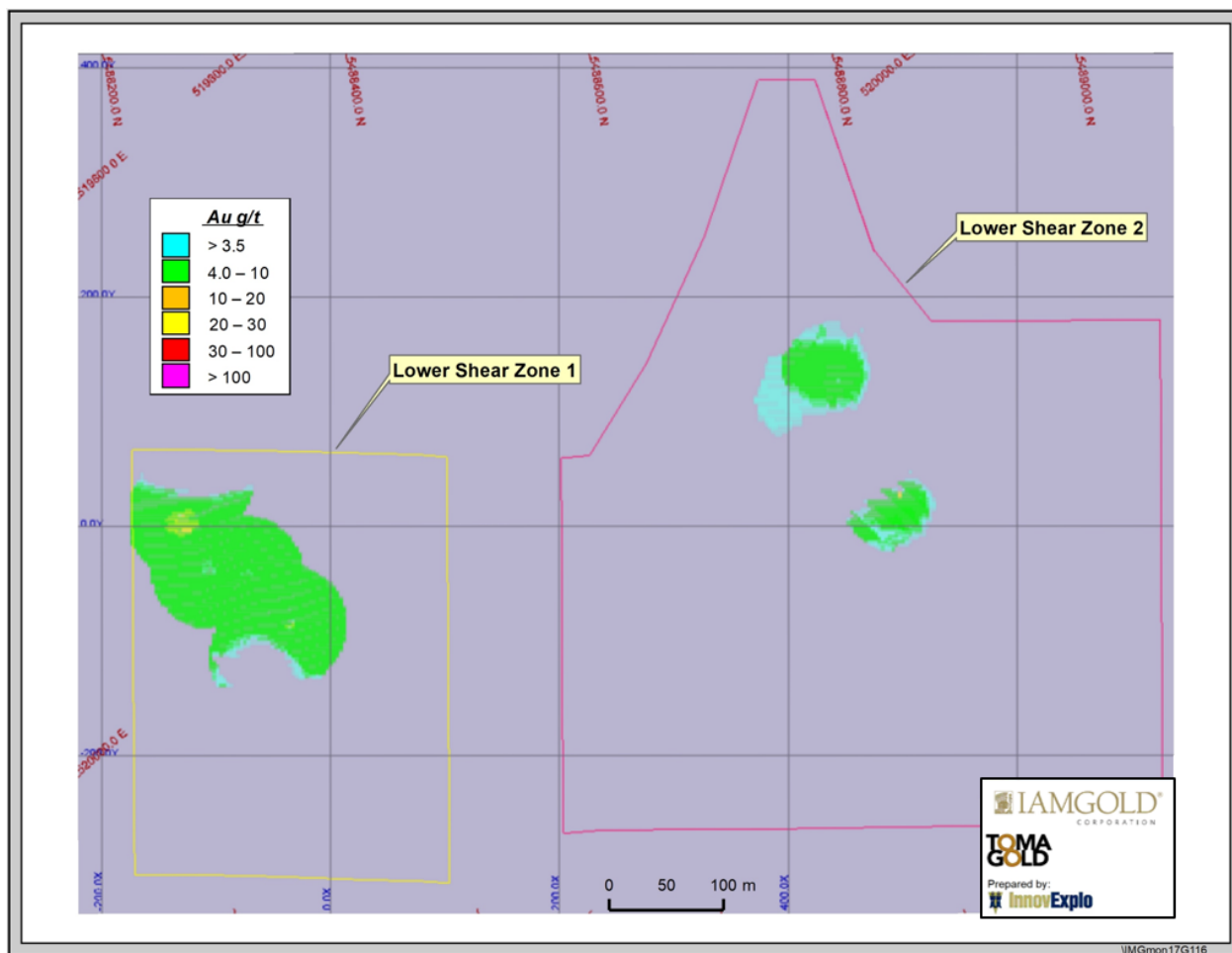
TOTAL (Inferred)	Cut-off grade	Tonnage (T)	Grade (g/t)	Ounces
	> 10.0 g/t Au	335 200	27.23	293 400
	> 8.0 g/t Au	406 200	24.02	313 700
	> 7.0 g/t Au	462 900	21.99	327 300
	> 6.0 g/t Au	623 700	17.98	360 500
	> 5.0g/t Au	796 500	15.28	391 200
	> 4.0 g/t Au	988 400	13.17	418 700
	<b>&gt; 3.5 g/t Au</b>	<b>1 109 600</b>	<b>12.14</b>	<b>433 300</b>
	> 3.0 g/t Au	1 236 000	11.23	446 400
	> 2.0 g/t Au	1 587 700	9.30	474 600
TOTAL (Inferred)	> 1.0 g/t Au	2 381 900	6.66	509 700
	> 0.5 g/t Au	3 726 600	4.52	541 500



**Figure 14.16 – Composite longitudinal view looking N290 showing the Inferred resources in the 325-HG Zone at the official cut-off grade (>3.50 g/t Au)**



**Figure 14.17 – Composite longitudinal view looking N290 showing the Inferred resources in the 325-LG Zone at the official cut-off grade (>3.50 g/t Au)**



**Figure 14.18 – Composite longitudinal view looking N290 showing the Inferred resources in the Lower Shear Zones at the official cut-off grade (>3.50 g/t Au)**

**15 MINERAL RESERVE ESTIMATES**

The issuers had not published any NI 43-101 compliant mineral reserves for the Project.

**16 MINING METHODS**

The issuers had not evaluated mining methods for the Project.

**17 RECOVERY METHODS**

The issuers had not carried out any NI 43-101 compliant recovery method tests on samples from the Project.

**18 PROJECT INFRASTRUCTURE**

The issuers had not evaluated infrastructure needs or layouts for the Project beyond those required for ongoing exploration work.

**19 MINERAL RESERVE ESTIMATES**

The issuers had not published any NI 43-101 compliant mineral reserves for the Project.

**20 MARKET STUDIES AND CONTRACTS**

Market studies have not been carried out for the Project, and no contracts have been issued.

**21 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

Environmental studies have not been carried out on the Project. Social and community impacts have not yet been evaluated.

**22 CAPITAL AND OPERATING COSTS**

Not applicable at this current stage.

**23 ECONOMIC ANALYSIS**

Not applicable at this current stage.

## **24 ADJACENT PROPERTIES**

At the effective date of this report, the GESTIM database records numerous mineral exploration properties in the region around the Monster Lake Project. Most of the adjacent claims are owned by junior exploration companies or local prospectors. Recent exploration work on these properties has focused on gold and base metals.

A map of adjacent properties is shown on Figure 23.1, including those held by prospectors (listed as “Other” in the legend).

The authors have been unable to verify the information from the adjacent properties and the information is not necessarily indicative of the mineralization on the Project.

### **24.1 Fancamp Property**

The Fancamp property (Figure 23.1) consists of 37 claims covering an area of 1,895 ha, located east of the Monster Lake Project. Alexandria Minerals Corporation (“Alexandria”) owns a 100% interest in the property.

On March 10, 2015, Alexandria acquired Murgor Resources Inc. (“Murgor”) as well as their property assets.

On October 23, 2013, Murgor optioned the Fancamp property to TomaGold Corporation (“TomaGold”). Under the terms of the agreement, TomaGold would have the option to earn an interest of up to 70% in the Fancamp project by paying \$210,000 in cash and issuing 1,250,000 common shares to Murgor, and incurring exploration expenditures aggregating \$750,000 over three years.

The property is underlain by NE-striking mafic to intermediate/felsic volcanic rocks that are flanked to the east by the syntectonic Verneuil Pluton (granodiorite/tonalite) and to the west by the smaller Chico Stock. The property covers a strike length of 6 km along the Fancamp Deformation Zone (“FDZ”) and subsidiary shear zones. The NE-trending FDZ, 20 km long, hosts at least 15 gold deposits and occurrences, including the Joe Mann Mine, 12 km to the southeast (Alexandria Website).

Gold mineralization is typically hosted by sheared and strongly Fe-carbonatized mafic volcanics, gabbro sills and feldspar porphyry dykes and consists of laminated and brecciated quartz veins. Gold occurs in both quartz veins and sheared host rocks, often accompanied by up to 5% disseminated pyrite.

In the mid-1980s, Murgor identified zones “A” and “B” through drilling. The most notable results were the following:

- A Zone: 8.22 g/t Au over 6.1 m, 5.14 g/t Au over 3.4 m, and 4.60 g/t Au over 3.1 m;
- B Zone: 9.3 g/t Au over 8.2 m (Ellemers and Kerr, 2003).

The main Fancamp target consists of a large NE-trending shear zone (Fancamp Deformation Zone) with a number of high-grade extensional quartz veins up to 1.5 m wide. The East and West structures consist of two parallel, NE-trending gold-bearing structures, located 15 m apart and traceable for over 35 m along strike. The West Structure is a new discovery. The East Structure represents the southern extension of the B Zone. The South Trench exposed a similar structure located 325 m to the southwest, along strike of the Northeast Trench.

In 2013, TomaGold conducted a drilling program consisting of three (3) diamond drill holes for a total of 693 m. No significant values were obtained. Nevertheless, the massive magnetite horizons in two holes (F-13-02 and F-13-03) explained the origin of the positive magnetic anomalies.

In 2016, Alexandria retained Geophysique TMC of Val-d'Or to conduct IP and resistivity surveys. This work was intended to detect any mineralized structures or horizons carrying precious and/or base metals. A total of 31.3 line-km was tested. The survey detected 18 weak, moderate or locally strong IP anomalies that suggest the presence of disseminated and semi-massive to massive mineralization in the bedrock (Boileau, 2016).

## **24.2 Eau Jaune property**

The Eau Jaune property (Figure 23.1), wholly owned by Globex Mining Enterprises Inc. ("Globex"), consists of 16 claims totalling 892 ha. The property hosts a northern extension of Monster Lake Shear Zone and has several untested IP anomalies (Globex website).

Three kinds of mineralization are found on the property: massive to semi-massive sulphide mineralization (Po-Py-Cpy-Sp) in tuff units; nickel-copper mineralization in gabbro-diorite; and gold associated with smokey quartz veins in shear zones (Garant and Riopel, 2014).

In February 2013, Globex conducted Mag, EM and IP surveys. Over the course of the summer, geological mapping was carried out along what was thought to be the strike extension of the Monster Lake Shear Zone. The surveys indicated several well-located anomalies.

In 2014, a compilation of the historical work made on the property was conducted.

In February 2014, Globex drilled two holes, LEJ-14-01 and LEJ-14-02, to test two moderate IP anomalies under the south end of the lake. The drill holes are approximately 320 m apart in a north-south direction, with lengths of 480 m and 324 m, respectively. Hole LEJ-14-01 returned 0.685 g/t Au over 1.5 m (CL) in a feldspar porphyry dyke, and 0.104 g/t Au and 0.49% Cu over 2.4 m (CL) at the contact between a mineralized laminated chert and a mafic silicified and mineralized flow (Garant and Riopel, 2014).

At the same time, Remy Bélanger Géophysique carried out an IP survey for Globex to the north of the 2013 survey. The IP survey generated nine anomalous zones (targets).

The objective of mapping and sampling in July and September 2014 was to field-check the anomalous zones. A horizon close to one IP anomaly returned grab samples of a silicified mafic flow and felsic tuff grading 650 ppm Cu and 1,325 ppm Zn in (Globex website).

### **24.3 Monster Lake West Block**

At the effective date of this report, the Monster Lake West Block is owned by Michel Dubuc (33 claims) and Multi-Ressources Boréal (3 claims).

The geology of the Monster Lake West Block is dominated by mafic volcanics and gabbro of the volcano-sedimentary Obatogamau Formation, and a dioritic intrusive that underlies almost half the northern half of the block. The units have been affected by NE and E-W faulting.

From 1977 to 1995, the Monster Lake West Block was the subject of exploration work by Cominco Ltd, Noranda Explorations Ltd, Cambiex and SOQUEM.

From January 16 to 18, 2014, a heliborne magnetic and electromagnetic (TDEM) survey was flown over the property, with 258 line-km over the Monster Lake West Block. Several magnetic lineaments were identified, caused by magnetite/pyrrhotite-bearing structures such as dykes, volcanic mafic horizons, mafic/ultramafic intrusive rocks or mineralized structures. In many areas, it is possible to detect structural features offsetting observed magnetic lineaments and causing abrupt interruptions or changes in the magnetic response. These features are typically caused by faults, fractures and shear zones. Shorter wavelength anomalies are greatly enhanced on the first vertical derivative. A total of 169 EM anomalies were identified, classified and listed on the Monster Lake West Block. Of these, 49 were reported as “marginal”, 16 as “weak”, 4 as “intermediate”, 1 as “strong” and none as “very strong”. In many cases, EM anomalies can be followed on multiple lines, outlining conductive lineaments. Many of them are associated with Mag anomalies or occur very close to them. In these instances, the good correlation between EM and Mag anomalies suggest that sulphides, including pyrrhotite, are likely to account for part of the anomaly, and these combined anomalies should therefore be investigated for base metal occurrences or graphite occurrences that may or may not also contain sulphides (Dube, 2014).

According to Théberge (2014), the Monster Lake West Block displays a favourable geological setting for the discovery of gold deposits, and further exploration work is strongly recommended.

There are currently no well-defined mineralized zones with estimated resources on this property. However, weakly anomalous Cu values have been reported, along with the following gold values of more than 1 g/t (Théberge, 2014):

- Hole 981-88-88, drilled by SOQUEM in 1988, returned 1.2 g/t Au over 1.0 m in a cherty tuff; and
- Hole PH-94-218, drilled by Cambiex in 1994, returned 1.26 g/t Au over 1.5 m and 1.31 g/t Au over 1.4 m in an altered gabbro.

#### **24.4 Irene Lake Property**

On June 7, 2016, Brunswick Resources Inc. ("Brunswick") has entered into two option agreements. Under the terms of the first, in regard to 29 claims, Brunswick will pay a total of \$25,000 and issue 1,500,000 common shares over a three-year period for an option to acquire a 100% interest in the Irène Lake Property. The Optionor retains a 2.0% NSR in the property. The second, in regard to 14 claims, Brunswick must pay a total of \$6,000 and issue 600,000 common shares over a three-year period for an option to acquire a 100% interest in the additional claims of the Irène Lake Property. The Optionors retains a 2.0% NSR in the property (Brunswick news release of June 7, 2016).

At the effective date of this report, Brunswick owned a 100% interest in the 14 mining claims covered by the second agreement. At this time, no work has been declared.

#### **24.5 Hazeur Property**

The Hazeur property consists of 84 claims along the southern boundary of the Monster Lake Project (Figure 23.1).

On October 26, 2015, TomaGold finalized an option agreement with Visible Gold Mines Inc. ("Visible Gold") whereby TomaGold can acquire a 70% interest in the Hazeur property for \$230,000, including \$5,000 payable in cash on signature of the agreement and \$225,000 in exploration work, as well as the issuance of 1,550,000 common shares of the Company, over a three-year period. TomaGold will act as the project operator with support from Visible Gold Mine staff during the earn-in period.

In November 2015, TomaGold conducted a high-definition magnetic VTEM-type airborne survey over the Hazeur properties. The survey revealed strong EM anomalies.

On September 2016, TomaGold acquired six (6) additional claims covering 112.45 ha from Torino Power Solutions in exchange for 1.2 million shares of TomaGold. These claims are located in the middle of the block of claims held by Visible Gold (TomaGold news release of September 26, 2016).

At the effective date of this report, Visible Gold owns 100% of the Hazeur property except for the six (6) claims acquired by TomaGold.

In 2016, TomaGold drilled seven (7) holes (HA-16-02 to HA-16-08) on the Hazeur property to test a mineralized zone called "Hazeur South Junction" and a mineralized unit of felsic to intermediate tuffs of the Philibert horizon. A total of 1,728 m of NQ-size

core was drilled. Jean (2016) concluded that the Philibert horizon is present on the Hazeur property and that the encountered mineralization is similar to the 106 Horizon of the Philibert deposit.

## **24.6 Monster Lake East**

The Monster Lake East property is wholly owned by TomaGold and consists of 69 mineral claims covering an area of 4,269 ha (Figure 23.1). The property is divided into three sectors: Cookie Monster, Little Monster and Monster Island. Cookie Monster and Little Monster are located along the eastern edge of the Monster Lake Project.

In November 2015, TomaGold initiated a high-definition magnetic VTEM-type airborne survey over the Monster Lake East property. The survey revealed strong EM anomalies.

In December 2015, TomaGold carried out an initial diamond drilling program consisting of eleven (11) holes totalling 1,783 m. The objective was to test some of the anomalies identified on the Monster Lake East property. The results demonstrated that these anomalies are related to the presence of disseminated pyrite at the edge of pillow basalts, and in some such places the core showed a strongly magnetic rock of gabbroic composition. No significant results were obtained during this program (TomaGold News release of February 22, 2016).

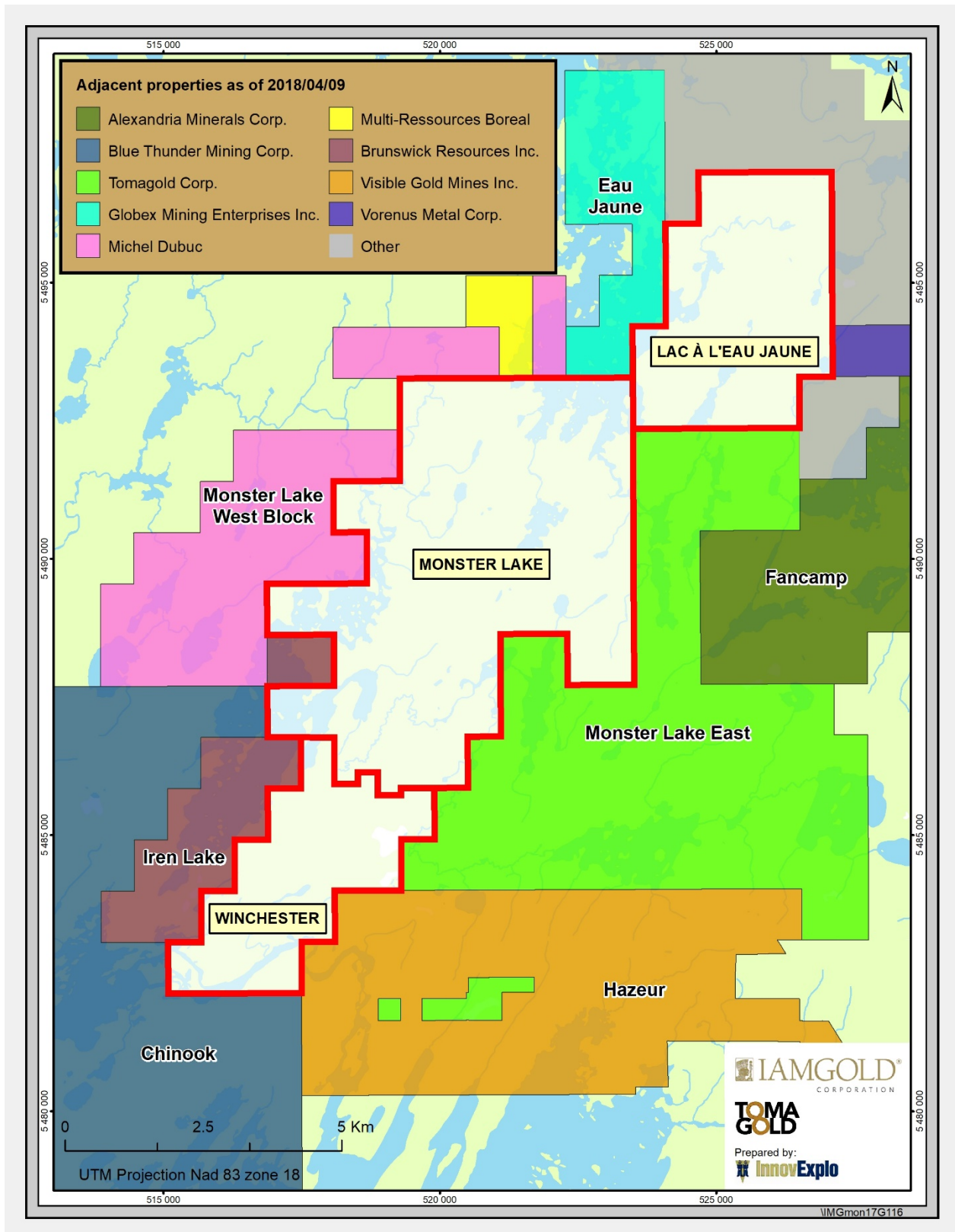
Previous exploration work included eleven (11) diamond drill holes, prospecting, four (4) stripping zones, and sampling by trenching. The last compilation study on the property identified specific targets. A 300-metre drilling program was conducted in 2014.

In 2018, TomaGold noticed a large copper geochemical anomaly on the Monster Lake East property on SIGEOM that had been defined by a government till survey using ModelBuilder processing. According to TomaGold, the anomaly strikes about 330° for several kilometres to the northwest of Trois-Iles Lake. TomaGold recently carried out a partial airborne survey in the area of the anomaly and will soon begin cutting a grid of 20 km of lines, including a 4-km baseline. Abitibi Geophysics has been retained to conduct a detailed IP survey to explore the anomaly to a depth of 300 m.

Finally, a detailed compilation has begun on the Monster Lake East and Hazeur properties to correlate all the detailed airborne and ground geophysical data with recent stratigraphic and structural interpretations. Detailed information from recent drilling by TomaGold will also be incorporated into the interpretation, which will generate drilling recommendations (TomaGold news release of February 26, 2018).

## **24.7 Chinook Property**

The Chinook Property (Figure 23.1) covers approximately 12,625 ha (226 claims) to the southwest of the Monster Lake Project and is wholly owned by Blue Thunder Mining Corporation. At this time, no work has been declared.



**Figure 23.1 – Map of Monster Lake Project and adjacent properties**

**25****OTHER RELEVANT DATA AND INFORMATION**

All relevant data and information regarding the Project have been disclosed under the relevant sections of this report.

## 26 INTERPRETATION AND CONCLUSIONS

InnovExplo was mandated to complete a maiden mineral resource estimate on the Monster Lake Project (the “2018 MRE”) and to prepare a supporting Technical Report in compliance with NI 43-101 and Form 43-101F1. This report and the mineral resource estimate herein meet this objective.

InnovExplo considers the report and resource estimate to be reliable and thorough, based on quality data, reasonable hypotheses and parameters compliant with NI 43 101 criteria and CIM Definition Standards.

The Project consists of one contiguous block comprising 132 mining claims, covering an aggregate area of 5,806.6 ha. The Project lies in the eastern part of the Caopatina-Desmaraisville segment, south of the Chibougamau and Chapais mining camps. The Project is a joint venture between IAMGOLD Corporation and TomaGold Corporation. IAMGOLD and TomaGold hold a 50% interest each in the Project, except for the Monster Lake property for which the interests are IAMGOLD 50%, TomaGold 45% and Quinto Resources 5%. Mineralization best correspond to an orogenic gold occurrence model and is spatially related to thin graphitic volcanogenic horizons and the Monster Lake Shear Zone which crosses the Monster Lake property in an ENE direction and dips steeply to the East. This shear zone is probably a second-order shear related to the major Guercheville Fault.

After conducting a detailed review of all pertinent information for the Monster Lake Project and completing the 2018 MRE, InnovExplo concludes the following:

- The mineral resource estimate presented herein is constrained within 3D wireframes of four (4) mineralized zones, constructed by InnovExplo, for which continuity have been demonstrated: the 325-Megane High-Grade Zone, the 325-Megane Low-Grade Zone, the Lower Shear Zone 1 and the Lower Shear Zone<sup>2</sup>.
- For an underground mining scenario, it is estimate that the Project contains 433,300 ounces of gold in the Inferred category.
- The highest potential for adding additional resources to the Project is by drilling the depth extension of the 325-Megane High-Grade Zone by following a plunge of approximately 30°.
- It is likely that additional diamond drilling would upgrade some of the inferred resources to indicated resources for the 325-Megane High-Grade Zone.
- The potential is good for adding new resources along the northern extension of the 325-Megane Low-Grade Zone through additional drilling.
- There is potential for adding resources along the extensions of the Lower Shear zones through additional drilling.

Table 25.1 identifies the significant internal risks, potential impacts and possible risk mitigation measures that could affect the future economic outcome of the Project. The list does not include the external risks that apply to all mining projects (e.g., changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc.). Significant opportunities that could improve the economics, timing and permitting are also identified in this table. Further information and evaluation is required before these opportunities can be included in the project economics.

**Table 25.1 – Risks and opportunities for the Monster Lake Project**

<b>RISK</b>	<b>Potential Impact</b>	<b>Possible Risk Mitigation</b>
Ability to attract experienced professionals	The ability to attract and retain competent, experienced professionals is a key factor to success.	An early search for professionals will help identify and attract critical people. It may be necessary to provide accommodation for key people.
<b>OPPORTUNITIES</b>	<b>Explanation</b>	<b>Potential benefit</b>
Exploration potential	Potential for additional discoveries at depth and around the Monster Lake project by drilling	Potential to increase resources.
Surface definition diamond drilling on 325-Megane High Grade Zone	Potential to upgrade inferred resources to the indicated category	Adding indicated resources increases the economic value of the mining project.

## RECOMMENDATIONS

Based on the results of the 2018 MRE, InnovExplo recommends additional exploration/delineation drilling and further geological interpretation to gain a better understanding of the deposit before updating the current mineral resource estimate.

### ***Phase 1***

In Phase 1, InnovExplo recommends addressing the following technical aspects of the project:

#### ***1.a Improvements to the database***

Additional investigation is recommended to explain the shift in the mineralized zone of drill hole ML-17-210. This issue probably comes from a footage error.

Multi-shot downhole surveys were provided by IAMGOLD for the 2017 drill holes, but some errors were detected by InnovExplo during data validation. IAMGOLD and InnovExplo therefore decided to use single-shot downhole surveys (REFLEX EZ-SHOT). InnovExplo recommends that all multi-shot downhole surveys be compiled and the data integrated into the drill hole database before the next mineral resource estimate.

In order to improve the tonnage estimate for the deposit, additional density measurements are recommended inside the mineralized intersections along the four mineralized zones.

#### ***1.b Additional drilling in the 325-Megane High-Grade Zone***

Additional drilling is recommended in the 325-HG Zone in order to upgrade Inferred resources to the Indicated category. A drill spacing of 25 m is recommended in the central part of the zone. Additional drilling is also recommended at depth, to test the extension of the zone along a 30° plunge. InnovExplo is also of the opinion that resources could be increased through additional near-surface drilling, at lower cost.

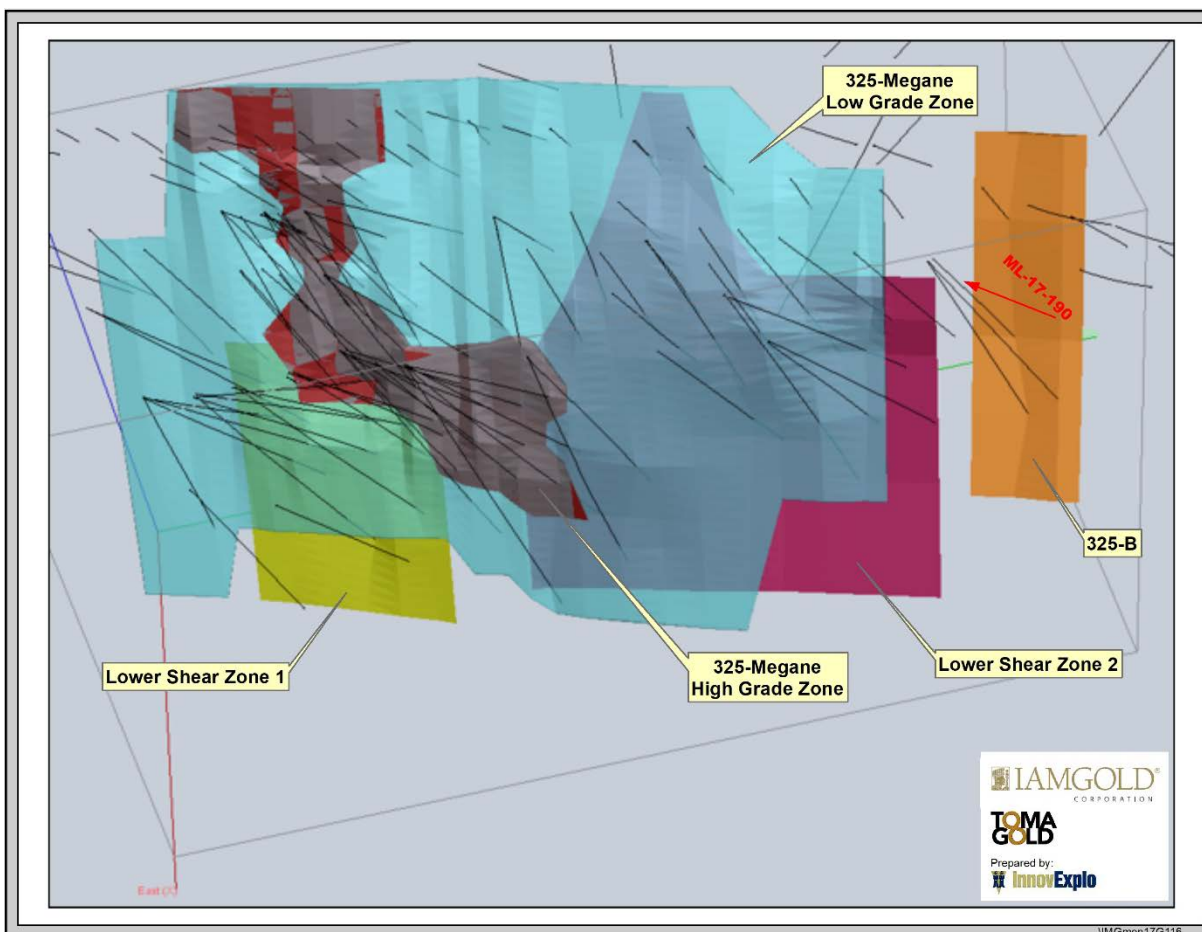
#### ***1.c Additional drilling in the Lower Shear Zone***

For the purpose of defining more resources in the Monster Lake area, additional drilling is recommended along the southern extension of Lower Shear Zone 1, and at depth along the extension of Lower Shear Zone 2.

#### ***1.d Structural analysis and additional drilling near DDH ML-17-190***

A structural study should be done in the area of DDH ML-17-190 in order to better understand the link between the Monster Lake Shear Zone and the Main Shear Zone in this area. This work could extend the zone. A small zone, temporarily named 325-B, was interpreted around ML-17-190 but not included in the current mineral resource estimate due to a lack of continuity.

It is also recommended that more holes be drilled at the northern end of the shear zone, along the extension of the 325-LG Zone. Figure 26.1 shows the location of Zone 325-B built around ML-17-190.



**Figure 26.1 – Location of Zone 325-B and DDH ML-17-190, on strike with the 325-Megane Low-Grade Zone**

### ***1.e Additional drilling near the Annie Shear Zone***

According to the drilling results obtained in the 2017 program, the Annie Shear Zone should continue to be investigated and a structural study is recommended in order to define the continuity of the mineralized zones and better understand the complexity in this area. This work could allow these zones to be modelled for the purpose of defining more resources.

### ***Phase 2***

In Phase 2, InnovExplo recommends addressing the following technical aspects of the Project (contingent upon the success of Phase 1).

***2.a Additional exploration drilling***

Assuming a positive outcome for the Phase 1 Exploration drilling program, a provision of approximately 8,000 metres of delineation drilling should be considered. The objective would be to continue investigating any potential lateral and depth extensions of identified ore zones.

***2.b Interpretation of additional mineralized zones***

Resource modelling for the Upper Shear Zone and the Annie Shear Zone is recommended in order to define more resources on the Monster Lake Project.

***2.c Mineral resource update***

InnovExplo recommends updating the MRE after completing the drilling programs and the update to the mineralization models. This update should be used in the potential preparation of a PEA.

***Cost estimate for recommended programs***

InnovExplo has prepared a cost estimate for the recommended two-phase work program. Expenditures for Phase 1 are estimated at C\$1,926,250 (incl. 15% for contingencies). The estimated cost for Phase 2 is approximately \$1,259,250 (including 15% for contingencies). The grand total is \$3,185,500 (including 15% for contingencies). Phase 2 is contingent upon the success of Phase 1.

InnovExplo is of the opinion that the recommended work program and proposed expenditures are appropriate and well thought out. InnovExplo believes that the proposed budget reasonably reflects the type and amount of the contemplated activities. Table 26.1 presents the estimated costs for the various phases of the recommended exploration program.

**Table 26.1 – Estimated costs for the recommended work program**

Phase 1 - Work Program		Budget	
		Units	Cost (\$)
<b>1b</b>	<b>Definition drilling</b> on the 325-HG Zone to upgrade Inferred to Indicated and test extensions at depth	3,000 m	375,000
<b>1c, d, e</b>	<b>Exploration drilling</b> on Monster Lake Shear Zone, Lower Shear Zone, Annie Shear Zone and ML-17-190	10,000 m	1,250,000
<b>1d</b>	<b>Structural analysis</b> using all structural data from regional geological surveys, detailed geological mapping on strippings and trenches, and structural elements observed and measured during core logging.		\$50,000
<b>Contingency (15%)</b>			<b>251,250</b>
<b>Total</b>			<b>1,926,250</b>
Phase 2 - Work Program		Budget	
		Units	Cost (\$)
<b>2a</b>	Additional exploration drilling	8,000 m	1,000,000
<b>2b</b>	Interpretation of additional mineralized zones		20,000
<b>2c</b>	Mineral resource estimate update on the Monster Lake Project		75,000
<b>Contingency (15%)</b>			<b>164,250</b>
<b>Total</b>			<b>1,259,250</b>
<b>Total Phase 1 and Phase 2</b>			<b>3,185,500</b>

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## **APPENDIX I – LIST OF MONSTER LAKE PROJECT MINING TITLES**

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2001121	32G10	CDC	55.78	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001122	32G10	CDC	55.78	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001123	32G10	CDC	55.78	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001124	32G10	CDC	55.78	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001125	32G10	CDC	55.78	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001126	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001127	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001128	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001129	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001130	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001131	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001132	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001133	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001134	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001135	32G10	CDC	55.79	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001136	32G10	CDC	55.80	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001137	32G10	CDC	55.80	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2001138	32G10	CDC	55.80	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2001139	32G10	CDC	55.80	2006-02-20	2020-02-19	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2026347	32G10	CDC	55.80	2006-09-27	2018-09-26	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2026348	32G10	CDC	55.79	2006-09-27	2018-09-26	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2174117	32G10	CDC	55.77	2008-11-04	2018-11-03	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2174118	32G10	CDC	55.77	2008-11-04	2018-11-03	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2174119	32G10	CDC	55.77	2008-11-04	2018-11-03	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2174120	32G10	CDC	55.77	2008-11-04	2018-11-03	Lac à l'Eau Jaune	50% IAMGold Corporation, 50% Tomagold Corporation	2% NSR Diagnos Inc.
2176547	32G10	CDC	42.22	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176548	32G10	CDC	22.21	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176549	32G10	CDC	55.85	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176550	32G10	CDC	55.85	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176551	32G10	CDC	40.92	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176552	32G10	CDC	44.46	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2176553	32G10	CDC	55.84	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176554	32G10	CDC	55.84	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176555	32G10	CDC	47.50	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176556	32G10	CDC	24.47	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176557	32G10	CDC	3.12	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176558	32G10	CDC	44.96	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176559	32G10	CDC	55.83	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176560	32G10	CDC	55.83	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176561	32G10	CDC	55.82	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176562	32G10	CDC	55.82	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176563	32G10	CDC	55.82	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176564	32G10	CDC	55.82	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2176565	32G10	CDC	44.58	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176566	32G10	CDC	33.05	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176567	32G10	CDC	55.82	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176568	32G10	CDC	55.82	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176569	32G10	CDC	55.81	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176570	32G10	CDC	55.81	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176571	32G10	CDC	52.07	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176572	32G10	CDC	37.21	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176573	32G10	CDC	53.82	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176574	32G10	CDC	55.81	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176575	32G10	CDC	55.81	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176576	32G10	CDC	55.80	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2176577	32G10	CDC	55.80	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176578	32G10	CDC	55.80	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176579	32G10	CDC	55.80	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176580	32G10	CDC	55.80	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176581	32G10	CDC	55.80	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2176582	32G10	CDC	55.80	2009-01-15	2019-01-14	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale
2182172	32G10	CDC	22.93	2009-04-07	2019-04-06	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	2% NSR G. L. Géoservices Inc. (50%) and Marc Bouchard (50%)
2284073	32G10	CDC	54.54	2011-04-12	2019-04-11	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2284074	32G10	CDC	55.84	2011-04-12	2019-04-11	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2284075	32G10	CDC	43.59	2011-04-12	2019-04-11	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2284076	32G10	CDC	15.83	2011-04-12	2019-04-11	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2285785	32G10	CDC	19.86	2011-04-13	2019-04-12	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2285786	32G10	CDC	55.86	2011-04-13	2019-04-12	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2290062	32G10	CDC	49.65	2011-05-04	2019-05-03	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2292551	32G10	CDC	35.66	2011-06-02	2019-06-01	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2293590	32G10	CDC	20.59	2011-06-06	2019-06-05	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2293591	32G10	CDC	55.84	2011-06-06	2019-06-05	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2293592	32G10	CDC	11.61	2011-06-06	2019-06-05	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2293593	32G10	CDC	55.86	2011-06-07	2019-06-06	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2293594	32G10	CDC	55.83	2011-06-07	2019-06-06	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2294781	32G10	CDC	8.05	2011-06-09	2019-06-08	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2294782	32G10	CDC	7.89	2011-06-09	2019-06-08	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	No Royalty
2373855	32G10	CDC	55.86	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373856	32G10	CDC	55.86	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2373857	32G10	CDC	55.84	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373858	32G10	CDC	55.85	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373859	32G10	CDC	50.69	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373860	32G10	CDC	55.83	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373861	32G10	CDC	55.82	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373862	32G10	CDC	13.64	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373863	32G10	CDC	0.27	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373864	32G10	CDC	33.65	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373865	32G10	CDC	35.26	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373866	32G10	CDC	12.26	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	2% NSR G. L. Géoservices Inc. (50%) and Marc Bouchard (50%)
2373867	32G10	CDC	47.52	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373868	32G10	CDC	40.01	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2373869	32G10	CDC	5.30	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	2% NSR G. L. Géoservices Inc. (50%) and Marc Bouchard (50%)
2373870	32G10	CDC	32.94	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	2% NSR G. L. Géoservices Inc. (50%) and Marc Bouchard (50%)
2373871	32G10	CDC	47.80	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373872	32G10	CDC	44.23	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373873	32G10	CDC	8.33	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373874	32G10	CDC	6.21	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	2% NSR G. L. Géoservices Inc. (50%) and Marc Bouchard (50%)
2373875	32G10	CDC	36.00	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	2% NSR G. L. Géoservices Inc. (50%) and Marc Bouchard (50%)
2373876	32G10	CDC	31.36	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373877	32G10	CDC	47.96	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373878	32G10	CDC	1.31	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	2% NSR G. L. Géoservices Inc. (50%) and Marc Bouchard (50%)
2373879	32G10	CDC	20.18	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	A part is subject to 1% NSR Multi-Ressources Boréale and an other part is subject to 1.5% NSR SOQUEM
2373880	32G10	CDC	52.71	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2373881	32G10	CDC	11.24	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373882	32G10	CDC	3.74	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373883	32G10	CDC	14.93	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373884	32G10	CDC	18.60	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373885	32G10	CDC	11.39	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373886	32G10	CDC	10.87	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373887	32G10	CDC	22.77	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2373888	32G10	CDC	1.99	2013-09-04	2019-08-19	Monster Lake	50% Iamgold Corporation, 45% Tomagold Corporation, 5% Quito Resources Inc.	1% NSR Multi-Ressources Boréale, 1.5% NSR SOQUEM
2217575	32G10	CDC	55.90	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217576	32G10	CDC	55.90	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217577	32G10	CDC	55.90	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217578	32G10	CDC	55.90	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217579	32G10	CDC	55.89	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217580	32G10	CDC	55.89	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty

Title	NTS	Type	Area (ha)	Staking Date	Expiration Date	Property	Owner	Royalties
2217581	32G10	CDC	55.89	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217582	32G10	CDC	55.89	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217583	32G10	CDC	55.89	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217584	32G10	CDC	55.88	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217585	32G10	CDC	55.88	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217586	32G10	CDC	55.88	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217587	32G10	CDC	50.58	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217588	32G10	CDC	55.88	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217589	32G10	CDC	55.60	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217590	32G10	CDC	8.35	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2217591	32G10	CDC	5.18	2010-04-20	2020-04-19	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2218397	32G07	CDC	55.91	2010-04-21	2020-04-20	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2218398	32G07	CDC	55.91	2010-04-21	2020-04-20	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2218399	32G07	CDC	55.91	2010-04-21	2020-04-20	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
2218400	32G07	CDC	55.91	2010-04-21	2020-04-20	Winchester	50% IAMGold Corporation, 50% Tomagold Corporation	No Royalty
<b>Claim list on April 9, 2018. 132 claims for 5806.63 ha</b>								

## **APPENDIX II – SIGNIFICANT DDH RESULTS OF THE 2014 TO 2017 DRILLING PROGRAMS ON THE MONSTER LAKE PROJECT**

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone <sup>(3)</sup>
<b>ML-14-108</b>	56.10	58.00	1.90	1.65	1.81	Upper Shear Zone
	445.25	446.50	1.25	1.08	6.44	
	457.00	467.47	10.47	9.07	11.55	325-Megane Zone
including	458.00	460.00	2.00	1.73	48.90	
including	466.00	467.47	1.47	1.27	11.10	
<b>ML-14-109</b>	66.00	71.16	5.16	4.47	1.30	Upper Shear Zone
including	69.00	71.16	2.16	1.87	1.64	Upper Shear Zone
	559.77	560.41	0.64	0.55	0.95	325-Megane Zone
<b>ML-14-110</b>	210.10	211.26	1.16	1.00	1.04	
	508.00	509.45	1.45	1.26	0.71	325-Megane Zone
	636.86	640.63	3.77	3.26	13.65	Lower Shear Zone
including	638.80	639.88	1.08	0.94	46.17	
<b>ML-14-111</b>	59.59	60.13	0.54	0.47	3.48	Upper Shear Zone
	300.92	301.92	1.00	0.87	1.40	325-Megane Zone
	420.18	421.16	0.98	0.85	1.85	Lower Shear Zone
<b>ML-14-112</b>	480.90	489.27	8.37	7.25	1.32	325-Megane Zone
including	485.18	487.27	2.09	1.81	2.97	
	596.51	597.65	1.14	1.00	1.48	Lower Shear Zone
<b>ML-14-113</b>	514.00	518.47	4.47	3.87	1.50	325-Megane Zone
<b>ML-14-114</b>	273.80	274.99	1.19	1.03	1.89	325-Megane Zone
<b>ML-14-115</b>	53.62	54.86	1.24	1.07	1.58	Upper Shear Zone
	422.50	424.62	2.12	1.84	2.30	325-Megane Zone
	426.10	431.96	5.86	5.07	2.62	
including	426.94	429.15	2.21	1.91	6.21	
<b>ML-14-116</b>	83.92	84.46	0.54	0.47	5.84	Upper Shear Zone
	278.07	281.22	3.15	2.73	2.42	325-Megane Zone
<b>ML-14-117</b>	76.21	80.76	4.55	3.94	0.72	MLSZ
including	76.32	77.05	0.73	0.63	2.35	
<b>ML-14-118</b>	27.00	27.95	0.95	0.82	1.36	
	50.54	52.72	2.18	1.89	NSR	Upper Shear Zone
	500.15	501.39	1.24	1.07	1.13	Main Shear Zone
	505.20	506.35	1.15	1.00	2.12	
	510.50	514.70	4.20	3.64	3.15	
including	511.50	512.50	1.00	0.87	6.53	
	668.40	669.40	1.00	0.87	4.82	Lower Shear Zone
<b>ML-14-119</b>	No significant results					

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone <sup>(3)</sup>
ML-14-120	No significant results					
ML-14-121	No significant results					
ML-14-122	23.75	24.40	0.65	0.56	8.78	Main Shear Zone
ML-14-123	No significant results					
ML-14-124	210.00	213.00	3.00	2.60	0.60	MLSZ (Annie Showing)
ML-14-125	90.50	91.50	1.00	0.87	1.40	Upper Shear Zone
	546.60	564.40	17.80	15.41	NSR	Main Shear Zone
	701.15	702.96	1.81	1.57	0.84	Lower Shear Zone
ML-14-126	No significant results					MLSZ (Annie Showing)
ML-14-127	No significant results					
ML-14-128	509.73	512.90	3.17	2.75	0.80	Main Shear Zone
ML-14-129	No significant results					
ML-14-130	52.00	53.00	1.00	0.87	1.14	Upper Shear Zone
	97.65	98.00	0.35	0.30	3.38	
	200.00	201.00	1.00	0.87	1.29	
	477.00	487.60	10.60	9.18	46.33	325-Megane Zone
including	480.10	482.64	2.54	2.20	182.80	
	489.70	491.00	1.30	1.13	1.46	Lower Shear Zone
ML-14-131	74.00	81.00	7.00	6.06	NSR	Upper Shear Zone
	491.55	495.50	3.95	3.42	18.68	325-Megane and MLSZ
including	492.05	494.84	2.79	2.42	25.00	
	583.50	584.78	1.28	1.11	1.58	Lower Shear Zone
ML-14-132	435.38	435.95	0.57	0.49	2.05	325-Megane and MLSZ
	439.80	448.00	8.20	7.10	6.74	
including	442.60	443.45	0.85	0.74	21.65	
including	446.50	448.00	1.50	1.30	16.11	
	555.40	556.40	1.00	0.87	1.96	Lower Shear Zone
ML-14-133	150.00	166.00	16.00	13.86	NSR	Upper Shear Zone
	597.05	598.90	1.85	1.60	0.90	MLSZ

Notes:

(1) True widths of intersections are approximately 85-90% of the core interval.

(2) Assays are reported uncut. Drill hole intercepts are calculated using a 0.50 g/t Au lower cut-off.

(3) MLSZ = Monster Lake Shear Zone.

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone <sup>(3)</sup>
<b>ML-15-134</b>	213.20	214.10	0.90	0.82	1.43	325-Megane Zone
	216.00	217.60	1.60	1.46	18.80	
<b>ML-15-135</b>	226.20	227.73	1.53	1.39	7.25	325-Megane Zone
	252.70	253.80	1.10	1.00	1.98	
<b>ML-15-136</b>	231.79	232.87	1.08	0.98	2.11	325-Megane Zone
	236.10	240.20	4.10	3.73	0.89	
<b>ML-15-137</b>	129.40	130.04	0.64	0.58	1.08	Main Shear Zone – western limb of fold
<b>ML-15-138</b>	242.40	243.40	1.00	0.91	1.00	Main Shear Zone & ext. 325-Megane Zone
	244.50	246.00	1.50	1.37	1.18	
	252.10	252.80	0.70	0.64	2.74	
<b>ML-15-139</b>	No significant results					Main Shear Zone – western limb of fold
<b>ML-15-140</b>	464.00	464.90	0.90	0.82	1.93	Main Shear Zone & ext. 325-Megane Zone
<b>ML-15-141</b>	No significant results					Large EM anomaly – western limb of fold
<b>ML-15-142</b>	No significant results					Eratix Showing
<b>ML-15-143</b>	544.81	546.00	1.19	1.08	4.01	Main Shear Zone & ext. 325-Megane Zone
	552.81	554.48	1.67	1.52	1.84	
<b>ML-15-144</b>	34.00	36.10	2.10	1.91	1.58	
	58.56	60.02	1.46	1.33	1.15	
	206.40	207.78	1.38	1.26	1.87	MLSZ (Zone 52)
<b>ML-15-145</b>	No significant results					SW strike ext. of Main Shear Zone
<b>ML-15-146</b>	108.60	109.60	1.00	0.77	7.70	Eratix Showing
<b>ML-15-147</b>	229.72	235.70	5.98	3.41	4.51	Intersection of MLSZ and Main Shear Zone
including	234.70	235.70	1.00	0.57	10.80	

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone <sup>(3)</sup>
	240.14	258.95	18.81	10.72	3.64	MLSZ
including	255.30	258.95	3.65	2.08	9.04	
	260.92	263.54	2.62	1.49	2.50	
	272.80	274.45	1.65	0.94	1.48	
	278.18	279.80	1.62	0.92	2.71	
<b>ML-15-148</b>	No significant results					SW strike ext. of Main Shear Zone
<b>ML-15-149</b>	81.50	82.50	1.00	0.76	1.06	Eratix Showing
	252.10	253.00	0.90	0.69	1.10	
<b>ML-15-150</b>	No significant results					Main Shear Zone & ext. 325-Megane Zone
<b>ML-15-151</b>	248.88	249.60	0.72	0.66	2.03	SW strike ext. of Main Shear Zone
	262.80	263.56	0.76	0.69	1.86	
<b>ML-15-152</b>	441.38	444.13	2.75	2.09	4.13	325-Megane Zone and MLSZ
including	443.00	443.53	0.53	0.40	12.00	
	448.00	449.11	1.11	0.84	5.89	325-Megane Zone and MLSZ
	452.00	459.52	7.52	5.72	4.21	
	485.00	486.00	1.00	0.76	2.01	
	556.60	558.55	1.95	1.48	0.95	
<b>ML-15-153</b>	No significant results					SW strike ext. of Main Shear Zone
<b>ML-15-154</b>	139.87	143.12	3.25	2.96	1.55	SW strike ext. of Main Shear Zone
<b>LEJ-15-01</b>	No significant results					Lac à L'Eau Jaune Shear Zone
<b>ML-15-155</b>	146.32	147.00	0.68	0.56	3.43	
	472.10	476.90	4.80	3.93	3.30	Main Shear Zone & ext. 325-Megane Zone
<b>ML-15-156</b>	149.75	150.25	0.50	0.25	0.53	
<b>ML-15-157</b>	241.50	242.50	1.20	0.77	0.57	Upper Shear Zone
<b>ML-15-158</b>	494.68	495.30	0.62	0.40	2.87	Main Shear Zone & ext. 325-Megane Zone
<b>ML-15-159</b>	No significant results					Upper Shear Zone

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone <sup>(3)</sup>
<b>ML-15-160</b>	473.00	477.50	4.50	3.69	0.79	Main Shear Zone & ext. 325-Megane Zone
including	473.00	474.20	1.20	0.98	1.66	
<b>ML-15-161</b>	476.91	477.60	0.69	0.57	3.45	
	481.23	484.60	3.37	2.76	9.05	Main Shear Zone & ext. 325-Megane Zone
including	483.30	483.90	0.60	0.49	48.90	
	488.54	489.90	1.36	1.11	1.14	
<b>ML-15-162</b>	126.00	126.70	0.70	0.57	3.52	
	491.40	495.70	4.30	3.29	1.61	325-Megane Zone

Notes:

(1) True widths of intersections are approximately 85-90% of the core interval.

(2) Assays are reported uncut. Drill hole intercepts are calculated using a 0.50 g/t Au lower cut-off.

(3) MLSZ = Monster Lake Shear Zone.

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone <sup>(3)</sup> / Target
<b>ML-16-163</b>	497.07	497.90	0.83	0.64	0.86	325-Megane Zone
<b>ML-16-164</b>	No significant results					Trois-Chemins
<b>ML-16-165</b>	350.68	352.64	1.96	1.50	0.97	MLSZ and Main Shear Zone
<b>ML-16-166</b>	No significant results					Trois-Chemins
<b>ML-16-167</b>	No significant results					Junction NNE and E-W structures
<b>ML-16-168</b>	No significant results					MLSZ and Main Shear Zone
<b>ML-16-169</b>	No significant results					Junction NNE and E-W structures
<b>ML-16-170</b>	No significant results					Junction NNE and E-W structures
<b>ML-16-171</b>	127.78	128.26	0.48	0.42	10.10	Main Shear Zone and Lower Shear Zone
	233.41	237.77	4.36	3.78	0.96	Main Shear Zone
	346.24	347.64	1.40	1.21	20.16	Lower Megane Zone
<b>ML-16-172</b>	No significant results					Eastern ext. of the E-W Structure of 325 Showing, volcanogenic horizon
<b>ML-16-173</b>	No significant results					Eastern ext. of the E-W Structure of 325 Showing, volcanogenic horizon
<b>ML-16-174</b>	No significant results					Eastern ext. of the E-W Structure of 325 Showing, volcanogenic horizon
<b>ML-16-175</b>	399.36	400.18	0.82	0.71	9.01	Main and Lower Shear Zone
	414.30	420.60	6.30	5.46	2.68	
including	420.00	420.60	0.60	0.52	13.20	
	426.70	428.00	1.30	1.13	16.00	

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone <sup>(3)</sup> / Target
<b>ML-16-176A</b>	No significant results					
<b>ML-16-176B</b>	343.38	344.10	0.72	0.63	8.64	325-Megane Zone
	348.05	348.85	0.80	0.70	0.55	
	352.55	353.40	0.85	0.75	2.30	
<b>ML-16-177</b>	212.60	219.75	7.15	5.72	0.71	Main Shear Zone
<b>ML-16-178</b>	521.84	523.42	1.58	1.26	0.68	South ext. of Main Shear Zone
	558.45	559.50	1.05	0.84	0.52	
<b>ML-16-179</b>	237.70	244.33	6.63	4.26	3.07	Main Shear Zone and MLSZ
including	241.59	243.83	2.24	1.44	7.91	
	249.33	253.65	4.32	2.78	2.12	
including	250.41	251.06	0.65	0.42	7.10	
	256.84	257.88	1.04	0.67	0.85	
	260.00	261.00	1.00	0.64	2.37	
	397.75	399.00	1.25	0.88	1.76	
<b>ML-16-180</b>	No significant results					South ext. Main Shear Zone
<b>ML-16-181</b>	No significant results					Junction NNE and E-W structures
<b>ML-16-182</b>	267.75	268.50	0.75	0.62	0.52	
	375.00	376.60	1.60	1.31	6.72	Main and Lower Shear Zone
<b>ML-16-183</b>	No significant results					Fold Nose

Notes:

(1) True widths of intersections are approximately 65-90% of the core interval.

(2) Assays are reported uncut. Drill hole intercepts are calculated using a 0.50 g/t Au lower cut-off.

(3) MLSZ = Monster Lake Shear Zone.

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone
<b>ML-14-116-EXT</b>	399.90	405.70	5.80	5.02	NSR	Lower Shear Zone N
<b>ML-17-184</b>	319.40	322.25	2.85	2.18	3.20	Main Shear Zone and Lower Shear Zone N
<b>ML-17-185</b>	165.00	165.90	0.90	0.64	6.48	Main Shear Zone
	172.50	174.35	1.85	1.31	2.14	
	272.60	273.00	0.40	0.28	6.60	Lower Shear Zone N
<b>ML-17-186</b>	409.05	409.54	0.49	0.42	3.71	Main Shear Zone
	423.80	425.30	1.50	1.30	4.66	
	579.00	581.50	2.50	2.17	0.93	Lower Shear Zone N
<b>ML-17-187</b>	No significant results					
<b>ML-17-188</b>	253.50	254.00	0.50	0.43	1.76	Main Shear Zone
	256.10	256.70	0.60	0.32	1.56	
<b>ML-17-189</b>	264.20	265.10	0.90	0.87	3.08	MLSZ (Annie showing)

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone
<b>ML-17-190</b>	253.60	258.30	4.70	3.32	2.92	MLSZ
including	253.60	254.50	0.90	0.64	7.25	
	283.30	291.00	7.70	4.42	5.21	
including	283.80	286.00	2.20	1.26	15.99	
	308.60	311.60	3.00	1.93	9.82	
including	309.60	310.60	1.00	0.64	25.10	
	344.10	345.00	0.90	0.64	36.90	
<b>ML-17-191</b>	383.80	386.20	2.40	2.32	0.72	Main Shear Zone
	509.90	512.45	2.55	1.80	85.27	Lower Shear Zone S
<b>ML-17-192</b>	271.00	273.00	2.00	1.29	1.83	Main Shear Zone and Lower Shear Zone
	274.60	277.60	3.00	1.93	0.98	
<b>ML-17-193</b>	379.90	380.50	0.60	0.46	1.29	Main Shear Zone, Lower Shear Zone and MLSZ
	575.90	577.00	1.10	0.84	1.47	Lower Shear Zone N
<b>ML-17-194</b>	333.50	334.60	1.10	0.71	3.45	325-Megane Zone
	339.00	343.85	4.85	3.12	121.67	
including	340.40	342.10	1.70	1.09	316.89	
<b>ML-17-195B</b>	328.80	331.60	2.80	1.80	2.48	325-Megane Zone
<b>ML-17-196</b>	387.50	388.50	1.00	0.71	2.37	MLSZ
	417.80	418.70	0.90	0.64	1.14	
<b>ML-17-197</b>	335.30	336.30	1.00	0.77	10.05	325-Megane Zone
	338.70	339.50	0.80	0.61	1.90	
	342.00	344.30	2.30	1.76	2.28	
	347.30	351.90	4.60	3.52	67.42	
including	349.80	351.30	1.50	1.15	203.31	
<b>ML-17-198B</b>	96.00	97.00	1.00	0.77	12.35	Upper Shear Zone
	467.00	473.50	6.50	4.98	80.28	325-Megane Zone
including	470.30	472.70	2.40	1.84	208.41	
	478.80	479.85	1.05	0.80	1.34	
<b>ML-17-199</b>	402.90	406.50	3.60	3.26	NSR	Main Shear Zone
	539.40	541.20	1.80	1.56	39.48	Lower Shear Zone S
including	539.40	540.45	1.05	0.91	66.50	
<b>ML-17-200</b>	322.80	328.00	5.20	3.98	NSR	Main Shear Zone
	422.30	423.60	1.30	1.13	1.47	Lower Shear Zone N
<b>ML-17-201B</b>	271.00	272.60	1.60	1.23	1.01	325-Megane Zone
	278.40	282.40	4.00	3.06	3.66	
	286.60	288.00	1.40	1.07	1.24	
<b>ML-17-202</b>	245.40	246.70	1.30	1.22	1.08	MLSZ (Annie Showing)

Hole	From (m)	To (m)	Core length (m)	True width <sup>(1)</sup> (m)	Au <sup>(2)</sup> (g/t)	Zone
	280.20	281.40	1.20	1.13	3.91	
<b>ML-17-203</b>	194.20	195.50	1.30	1.13	1.27	
	209.00	209.90	0.90	0.78	3.73	Main Shear Zone
	303.80	308.10	4.30	3.72	NSR	Lower Shear Zone N
<b>ML-17-204</b>	203.40	208.40	5.00	3.83	2.74	MLSZ (Annie Showing)
<b>ML-17-205</b>	No significant results					Main Shear Zone and Lower Shear Zone
<b>ML-17-206</b>	347.70	348.70	1.00	0.64	1.50	MLSZ
	357.50	358.90	1.40	0.90	1.27	
<b>ML-17-207</b>	360.80	361.80	1.00	0.77	1.42	MLSZ
<b>ML-17-208</b>	497.25	499.60	2.35	1.80	1.41	Main Shear Zone
	619.75	620.95	1.20	0.98	1.33	Lower Shear Zone S
	623.75	626.65	2.90	2.38	7.42	
including	625.40	626.65	1.25	1.02	16.51	
	630.45	631.45	1.00	0.82	1.71	
<b>ML-17-209</b>	516.30	517.40	1.10	0.90	1.18	Main Shear Zone
	655.90	657.80	1.90	1.56	2.82	Lower Shear Zone S
<b>ML-17-210</b>	456.00	461.70	5.70	4.67	2.14	325-Megane Zone
including	456.00	458.40	2.40	1.97	3.03	
including	460.20	461.70	1.50	1.23	3.02	

Notes:

(1) True widths of intersections are approximately 60-90% of the core interval.

(2) Assays are reported uncut. Drill hole intercepts are calculated using a 0.50 g/t Au lower cut-off.

### **APPENDIX III – ALS CERTIFICATS FOR THE INDEPENDENT RESAMPLING (INNOVEXPLO)**



ALS Canada Ltd.

2103 Dollarton Hwy  
North Vancouver BC V7H 0A7  
Téléphone: +1 (604) 984 0221 Télécopieur: +1 (604) 984 0218  
www.alsglobal.com/geochemistry

À: INNOVEXPLO INC.  
560-B, 3E AVENUE  
VAL-D'OR QC J9P 1S4

Page: 1  
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Compte: INNOVEX

## CERTIFICAT VO18016142

Projet: MONSTER LAKE

Bon de commande #: IMGMON17G116

Ce rapport s'applique aux 16 échantillons de carotte forage soumis à notre laboratoire de Val d'Or, QC, Canada le 23-JANV-2018.

Les résultats sont transmis à:

CHARLOTTE ATHURION

KARINE BROUSSEAU

CORPORATIF WEBTREIVE

## PRÉPARATION ÉCHANTILLONS

CODE ALS	DESCRIPTION
WEI-21	Poids échantillon reçu
LOG-22d	Entrée échantillon - Reçu sans code barr
SPL-21d	Échantillon fractionné - dupliquer
PUL-35ad	Pulvériser la Division à 95% <106 um DUP
LOG-24	Entrée pulpe - Reçu sans code barre
CRU-QC	Test concassage QC
PUL-QC	Test concassage QC
LOG-22	Entrée échantillon - Reçu sans code barre
CRU-32	Granulation 90 % <2 mm
SPL-21	Échant. fractionné - div. riffles
PUL-35a	Pulvériser la Division à 95% <106 um
BAG-01	Entreposage pulp de ref.

## PROCÉDURES ANALYTIQUES

CODE ALS	DESCRIPTION	INSTRUMENT
Au-AA26	Teneur marchande Au 50 g fini FA AA	AAS
Au-GRA22	Au 50 g fini FA-GRAV	WST-SIM

À: INNOVEXPLO INC.  
ATTN: CHARLOTTE ATHURION  
560-B, 3E AVENUE  
VAL-D'OR QC J9P 1S4

Ce rapport est final et remplace tout autre rapport préliminaire portant ce numéro de certificat. Les résultats s'appliquent aux échantillons soumis. Toutes les pages de ce rapport ont été vérifiées et approuvées avant publication.

\*\*\*\*\* Voir la page d'annexe pour les commentaires en ce qui concerne ce certificat \*\*\*\*\*

Signature: *Nacera Amara*  
Nacera Amara, Laboratory Manager, Val d'Or



ALS Canada Ltd.

2103 Dollarton Hwy  
North Vancouver BC V7H 0A7  
Téléphone: +1 (604) 984 0221 Télécopieur: +1 (604) 984 0218  
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Projet: MONSTER LAKE

**CERTIFICAT D'ANALYSE VO18016142**

Description échantillon	Méthode élément unités L.D.	WEI-21	Au-AA26	Au-GRA22
		Poids reçu kg 0.02	Au ppm 0.01	Au ppm 0.05
P253651		0.72	1.12	1.53
P253653		0.93	5.16	5.67
P253654		1.29	0.02	
P253655		0.65	1.46	
P253657		1.83	0.02	
P253659		1.39	4.65	
P253660		1.31	0.19	
P253665		0.90	4.03	
P253666		0.56	4.08	
P253667		0.11	3.66	
P253668		0.70	3.26	
P253671		1.01	38.7	39.2
P253672		0.75	1.48	
P253673		1.30	9.68	9.37
P253674		1.41	1.24	
P253674D		<0.02	1.18	



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North Vancouver BC V7H 0A7

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Projet: MONSTER LAKE

**CERTIFICAT D'ANALYSE VO18016142**

## COMMENTAIRE DE CERTIFICAT

### ADRESSE DE LABORATOIRE

Applique à la Méthode:

Traité à ALS Val d'Or, 1324 Rue Turcotte, Val d'Or, QC, Canada.

Au-AA26

Au-GRA22

BAG-01

CRU-32

CRU-QC

LOG-22

LOG-22d

LOG-24

PUL-35a

PUL-35ad

PUL-QC

SPL-21

SPL-21d

WEI-21



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## CERTIFICAT VO18016146

Projet: MONSTER LAKE

Bon de commande #: IMGMON17G116

Ce rapport s'applique aux 9 échantillons de carotte forage soumis à notre laboratoire de Val d'Or, QC, Canada le 23-JANV-2018.

Les résultats sont transmis à:

CHARLOTTE ATHURION

KARINE BROUSSEAU

CORPORATIF WEBTREIVE

## PRÉPARATION ÉCHANTILLONS

CODE ALS	DESCRIPTION
WEI-21	Poids échantillon reçu
SCR-21	Filtrer à -100 - 106 um
LOG-22	Entrée échantillon - Reçu sans code barre
CRU-QC	Test concassage QC
PUL-QC	Test concassage QC
CRU-32	Granulation 90 % <2 mm
SPL-21	Échant. fractionné - div. riffles
PUL-35a	Pulvériser la Division à 95% <106 um
BAG-01	Entreposage pulp de ref.

## PROCÉDURES ANALYTIQUES

CODE ALS	DESCRIPTION	INSTRUMENT
Au-AA26D	Teneur marchande Au 50 g FA AA dup	AAS
Au-GRA22	Au 50 g fini FA-GRAV	WST-SIM
Au-GRA22d	Au 50 g fini FA-GRAV - DUP	WST-SIM
Au-SCR24	Au filtre FA double négatif -50 g	WST-SIM
Au-AA26	Teneur marchande Au 50 g fini FA AA	AAS

À: INNOVEXPLO INC.  
ATTN: CHARLOTTE ATHURION  
560-B, 3E AVENUE  
VAL-D'OR QC J9P 1S4

Ce rapport est final et remplace tout autre rapport préliminaire portant ce numéro de certificat. Les résultats s'appliquent aux échantillons soumis. Toutes les pages de ce rapport ont été vérifiées et approuvées avant publication.

\*\*\*\*\* Voir la page d'annexe pour les commentaires en ce qui concerne ce certificat \*\*\*\*\*

Signature: *Nacera Amara*  
Nacera Amara, Laboratory Manager, Val d'Or



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**CERTIFICAT D'ANALYSE VO18016146**

Description échantillon	Méthode élément unités L.D.	WEI-21	Au-SCR24	Au-SCR24	Au-SCR24	Au-SCR24	Au-SCR24	Au-SCR24	Au-AA26	Au-AA26D	Au-GRA22	Au-GRA22d
		Poids reçu	Au Total	Au (+) F	Au (-) F	Au (+) m	WT. + Fr	WT. - Fr	Au	Au	Au	Au
		kg	ppm	ppm	ppm	mg	g	g	ppm	ppm	ppm	ppm
		0.02	0.05	0.05	0.05	0.001	0.01	0.1	0.01	0.01	0.05	0.05
P253652		0.72	11.75	11.10	11.85	0.824	74.16	630.8	12.45	11.20		
P253656		0.90	201	257	197.5	15.740	61.19	824.8	>100	>100	245	149.5
P253658		1.08	63.7	55.4	64.4	4.381	79.07	989.9	68.2	60.6		
P253661		0.95	220	345	211	23.058	66.87	870.1	>100	>100	206	215
P253662		0.99	221	238	220	18.713	78.48	898.5	>100	>100	208	231
P253663		0.91	62.4	56.3	63.0	4.152	73.76	822.2	61.8	64.1		
P253664		0.41	517	532	515	29.769	56.01	349.0	>100	>100	510	520
P253669		0.71	10.60	10.40	10.65	0.817	78.66	616.3	11.30	9.98		
P253670		0.69	39.8	37.0	40.1	2.628	70.98	594.0	41.9	38.3		



ALS Canada Ltd.

2103 Dollarton Hwy

North Vancouver BC V7H 0A7

Téléphone: +1 (604) 984 0221

www.alsglobal.com/geochemistry

Télécopieur: +1 (604) 984 0218

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## COMMENTAIRE DE CERTIFICAT

### ADRESSE DE LABORATOIRE

Applique à la Méthode:

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Au-AA26

Au-SCR24

LOG-22

SPL-21

Au-AA26D

BAG-01

PUL-35a

WEI-21

Au-GRA22

CRU-32

PUL-QC

Au-GRA22d

CRU-QC

SCR-21