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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 6-K**

**Report of Foreign Private Issuer**

**Pursuant to Rule 13a-16 or 15d-16  
of the Securities Exchange Act of 1934**

Date: **February 23, 2023**

Commission File Number **001-31528**

**IAMGOLD Corporation**

(Translation of registrant's name into English)

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Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F            Form 40-F     

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): \_\_\_\_

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Indicate by check mark whether by furnishing the information contained in this Form, the registrant is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes            No     

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82-\_\_

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**Description of Exhibit**

Exhibit      Description of Exhibit

[99.1](#)      [Independent Technical Report for the Nelligan Gold Project, Canada](#)

**Signatures**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**IAMGOLD CORPORATION**

Date: February 23, 2023

By: /s/ Tim Bradburn  
Senior Vice President, General Counsel and Corporate Secretary

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# Independent Technical Report for the Nelligan Gold Project, Quebec, Canada

Report Prepared for  
**IAMGOLD Corporation**



**Vanstar Mining Resources Inc.**



Report Prepared by



SRK Consulting (Canada) Inc.  
CAPR002056  
February 22, 2023



# Independent Technical Report for the Nelligan Project, Quebec, Canada

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**Effective date: February 10, 2023**

**Signature date: February 22, 2023**

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Cover: Landscape of the Nelligan Project

## IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 *Standards of Disclosure for Mineral Projects* Technical Report for IAMGOLD Corporation (IAMGOLD) and Vanstar Mining Resources Inc. (Vanstar) by SRK Consulting (Canada) Inc. (SRK). The quality of information, conclusions, and estimates contained herein are consistent with the quality of effort involved in SRK's services. The information, conclusions, and estimates contained herein are based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by IAMGOLD and Vanstar subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits IAMGOLD to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to National Instrument 43-101. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with IAMGOLD and Vanstar. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

The Project is under an earn-in option in a joint agreement between IAMGOLD and Vanstar Mining Resources Inc. (Vanstar). The Technical Report is addressed to IAMGOLD and Vanstar ("the issuers") for the purpose of regulatory obligations and public filing on SEDAR.

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## Executive Summary

### Introduction

The Nelligan Project is a Mineral Resource stage gold exploration project, located in Quebec, Canada. IAMGOLD Corporation (IAMGOLD) holds an undivided 75% interest in the Nelligan Project through an earn-in joint-venture agreement with Vanstar Mining Resources Inc. (Vanstar). IAMGOLD is the operator of the joint-venture partnership.

This technical report documents a mineral resource statement for the Nelligan Project prepared by SRK. It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1. The mineral resource statement reported herein was prepared in conformity with generally accepted CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines. The Technical Report is addressed to IAMGOLD and Vanstar ("the issuers") for the purpose of regulatory obligations and public filing on SEDAR.

In accordance with National Instrument 43-101 guidelines, Mr. Blair Hrabí and Mr. Sandeep Prakash visited the Nelligan Project between August 8 and August 12, 2022, accompanied by Marie-France Bugnon, General Manager Exploration, and Shana Dickenson, Senior Geologist of IAMGOLD.

### Property description and ownership

The Nelligan Project comprises 9,356.37 hectares and consists of 167 active claims located within four claim blocks. According to GESTIM, the Project claims are registered 75% to IAMGOLD and 25% to Vanstar, except for nine claims located on the south edge of the property that are registered 100% to IAMGOLD.

The Project is approximately 45 kilometres south of the town of Chapais, 60 kilometres southwest of the town of Chibougamau and 280 kilometres northeast of the town of Val-d'Or. It is accessible by Highway 113 from Chapais or Chibougamau, followed by the Barette-Sud (R1009) logging road and a series of smaller logging roads.

IAMGOLD uses a core logging facility situated in the town of Chibougamau. There is no permanent infrastructure on the property.

### Geology and mineralization

The Nelligan Project is located in the northeastern corner of the Abitibi Sub-province of the Archean Superior Province, approximately 15 kilometres west of the metamorphic border of the Mesoproterozoic aged Grenville Province, named as Grenville Front. The Abitibi Greenstone Belt is located in the southern part of the Superior craton, Canada and is composed of Greenschist- to sub-greenschist-grade rocks.

The Nelligan Project is hosted within the southern portion of the Chibougamau mining camp, known as Caopatina-Desmaraisville segment, which is bordered to the north by the Archean Opatina subprovince, to the east by the Proterozoic Grenville front and to the south by a large cover of magmatic rocks known as Hébert pluton. The area is composed of volcanic and sedimentary rocks resulting from two complete volcano-sedimentary cycles.

The Project is located on the north flank of the Druillettes syncline, which represents a D<sub>2</sub> E-W regional fold. The deposit is principally hosted by the volcano-sedimentary detritic unit historically described as wacke.

The main mineralization of the deposit is comprised of five main gold zones, from north to south include the Dan, Liam, Z36, Renard and Footwall zones. These mineralized zones are divided into several sub-domains due to overprinting deformation and resultant structures. Overall, the mineralized zones are sub-parallel with an average orientation of 80 and 65 degrees dipping to the south.

The main alteration types on the Project are silicification, carbonatization, potassic- alteration, and occasionally albitization and hematization. The best gold intervals correspond to intense, pervasive silicification that locally obliterates the protolith. Deformation is mainly ductile, represented by schistic and mylonitic textures.

The various styles of alteration and mineralization makes it atypical and relatively hard to categorize into a single deposit type since many of the characteristics of mineralization could individually be representative of different deposit models. The Nelligan deposit presents significant similarities with an Intrusion-Related Gold Deposit (IRGD) and orogenic gold deposit models.

#### **Exploration Status**

Since becoming operator of the Nelligan Project, IAMGOLD completed multi-staged exploration programs including prospecting, geological mapping, soil and till geochemical surveys, geophysical surveys, thin section and hyperspectral analyses, metallurgical studies, and extensive core drilling.

A total of 267 core boreholes have been completed on the Nelligan Project since 1978. IAMGOLD completed 183 core boreholes (approximately 70,984 metres) since their involvement with the Project began in December 2014.

#### **Mineral resource estimates**

The mineral resources have been estimated in conformity with CIM Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines and are reported in accordance with the Canadian Securities Administrators' National Instrument 43-101.

The mineral resource model prepared by SRK considers 267 core boreholes (84,490 metres) drilled by IAMGOLD, Vanstar and historical operators during the period of 1978 to 2022. The resource estimation work was completed by Mr. Sandeep Prakash, PGeo (OGQ#02341), an independent Qualified Person as this term is defined in National Instrument 43-101. The effective date of the Mineral Resource Statement is February 10, 2023.

The construction of the mineral resource domains was a collaborative effort between IAMGOLD and SRK staff. IAMGOLD personnel provided initial wireframes considering geology, structure, alteration and gold grades for major mineralized domains. SRK provided some feedback after a field visit that led to slight changes in the mineralization domains. Mineralization is hosted in strongly altered sedimentary rock. The main alteration types are silicification, carbonatization (dolomite + ankerite ± siderite ± calcite), potassic alteration, and occasionally albitization and hematization. The mineral resource model of the Project is based on well-defined geological and alteration domains of silicified rocks.

SRK chose to composite assay intervals to 1.5 metres, within individual lenses honoring domain contacts. Capping of composites was performed for each domain separately. A block size of 10 metres by 5 metres by 5 metres dimension was used. The block model was rotated 170 degrees to better reflect the dip direction of the mineralized zones. The block model was populated with values using ordinary kriging in the mineralized domains, informed by capped composite data and three estimation passes with progressively larger search ellipsoids and data requirements.

SRK used Supervisor™ (version 8.15) software by Snowden to calculate and model gold variograms on capped composites for the mineralized domains. Geological modeling and grade estimation was performed using Leapfrog Geo and Edge software by Seequent.

Block model quantities and grade estimates for the Nelligan Project were classified according to the CIM *Definition Standards for Mineral Resources and Mineral Reserves* (May 2014). The block classification strategy considers borehole spacing, geologic confidence and continuity of category. The criteria used for block classification are:

- **Indicated:** Blocks estimated by passes 1 and 2 within a nominal borehole spacing of 50 metres or less. This corresponds to an average distance of 35 metres to informing data from three boreholes.
- **Inferred:** Remaining blocks estimated by passes 1, 2 and 3 with a nominal borehole spacing of 100 metres or less. This corresponds to an average distance of 70 metres to informing data from three boreholes.

SRK is satisfied that the mineral resources were estimated in conformity with the widely accepted CIM Estimation of Mineral Resource and Mineral Reserve Best Practices Guidelines (November 2019). The mineral resources may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent mineral resource estimates. The mineral resources may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic, and other factors. The Mineral Resource Statement for the Nelligan gold project presented in Table i was prepared by Mr. Sandeep Prakash, PGeo (OGQ#02341). Mr. Prakash is an independent Qualified Person as this term is defined in National Instrument 43-101.

**Table i: Mineral Resource Statement\*, Nelligan Project, Quebec, SRK Consulting (Canada) Inc., February 10, 2023**

Category	Zone	Quantity (Mt)	Grade (g/t Au)	Metal (000'oz Au)
<b>Indicated</b>				
	DAN	0.3	1.07	11
	Footwall	12.6	0.68	275
	LIAM	4.9	0.95	149
	RENARD	48.2	0.90	1,392
	Z36	7.5	0.67	163
	<b>Total</b>	<b>73.5</b>	<b>0.84</b>	<b>1,991</b>
<b>Inferred</b>				
	DAN	2.1	0.97	64
	Footwall	39.7	0.74	942
	LIAM	9.2	0.87	258
	RENARD	60.2	0.99	1,922
	Z36	18.3	0.70	414
	<b>Total</b>	<b>129.5</b>	<b>0.87</b>	<b>3,600</b>

\* Mineral resources are reported within a conceptual pit shell. Mineral resources are not mineral reserves and have not demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. Composites have been capped where appropriate.

\*\* Open pit mineral resources are reported at a cut-off grade of 0.35 g/t gold. Cut-off grades are based on a price of US\$1,500 per ounce of gold and gold recoveries of 83 percent.

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# 1 Introduction and Terms of Reference

The Nelligan Project is a Mineral Resource stage gold exploration project, located in Quebec, Canada. It is located in Nord-du-Québec administrative region, south of the towns of Chibougamau and Chapais, in the Province of Quebec. IAMGOLD Corporation (IAMGOLD) holds an undivided 75% interest in the Nelligan Project through and earn-in joint-venture agreement with Vanstar Mining Resources Inc. (Vanstar). IAMGOLD is the operator of the joint-venture partnership.

In July 2022, IAMGOLD commissioned SRK Consulting (Canada) Inc. (SRK) to visit the property and prepare a geological and mineral resource model for the Nelligan Project. The services were rendered between August 2022 and February 2023, leading to the preparation of the Mineral Resource Statement reported herein that will be disclosed publicly by IAMGOLD and Vanstar in a news release on February 23, 2023.

This technical report documents a mineral resource statement for the Nelligan Project prepared by SRK. It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1. The mineral resource statement reported herein was prepared in conformity with generally accepted CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines*. The Technical Report is addressed to IAMGOLD and Vanstar ("the issuers") for the purpose of regulatory obligations and public filing on SEDAR.

This technical report summarizes the technical information available on the Nelligan Project and demonstrate that the Nelligan Project qualifies as an "Advanced Exploration Property" as defined by the Toronto Stock Exchange. In the opinion of SRK, this property has merit warranting additional exploration expenditures. An exploration work program is recommended comprising diamond core drilling, underground development to facilitate exploration drilling, and geological and mineral resource modelling.

## 1.1 Scope of Work

The scope of work, as defined in a letter of engagement executed on July 25, 2022, between IAMGOLD and SRK includes the construction of a mineral resource model for the gold mineralization delineated by drilling on the Nelligan Project and the preparation of an independent technical report in compliance with National Instrument 43-101 and Form 43-101F1 guidelines. This work typically involves the assessment of the following aspects of this project:

- Topography, landscape, access
- Regional and local geology
- Exploration history
- Audit of exploration work carried out on the project
- Geological modelling
- Mineral resource estimation and validation
- Preparation of a Mineral Resource Statement

- Recommendations for additional work

## 1.2 Work Program

The mineral resource statement reported herein is a collaborative effort between IAMGOLD and SRK personnel. The exploration database was compiled and maintained by IAMGOLD and was audited by SRK. IAMGOLD personnel provided initial wireframes considering geology, structure, alteration and gold grades for major mineralized domains. SRK provided some feedback after a field visit that led to slight changes in the mineralization domains. In the opinion of SRK, the geological model is a reasonable representation of the distribution of the targeted mineralization at the current level of sampling. The geostatistical analysis, variography and grade models were completed by SRK during the months of July 2022 and December 2022. The mineral resource statement reported herein was presented to IAMGOLD in a memorandum report on January 12, 2023, amended February 10, 2023, and will be disclosed publicly in a news release dated February 23, 2023.

The Mineral Resource Statement reported herein was prepared in conformity with the generally accepted CIM *Exploration Best Practices Guidelines* and CIM *Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines*. This technical report was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1.

The technical report was assembled in Toronto between the months of December 2022 and February 2023.

## 1.3 Basis of Technical Report

This report is based on information collected by SRK during a site visit performed between August 8 and August 12, 2022, and on additional information provided by IAMGOLD throughout the course of SRK's investigations. SRK has no reason to doubt the reliability of the information provided by IAMGOLD. Other information was obtained from the public domain. This technical report is based on the following sources of information:

- Discussions with IAMGOLD personnel
- Inspection of the Nelligan Project area, including outcrop and drill core
- Review of exploration data collected, and geological interpretation provided by IAMGOLD
- Additional information from public domain sources

## 1.4 Qualifications of SRK and SRK Team

The SRK Group comprises more than 1,400 professionals, offering expertise in a wide range of resource engineering disciplines. The independence of the SRK Group is ensured by the fact that it holds no equity in any project it investigates and that its ownership rests solely with its staff. These facts permit SRK to provide its clients with conflict-free and objective recommendations. SRK has a proven track record in undertaking independent assessments of mineral resources and mineral reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies, and financial institutions worldwide. Through its work with a large number of major international mining companies, the SRK Group has established a reputation for providing valuable consultancy services to the global mining industry.

The resource evaluation work was completed by Mr. Sandeep Prakash, PGeo (OGQ#02341). By virtue of his education, membership to a recognized professional association and relevant work experience, Mr. Prakash is an independent Qualified Person (QP) as this term is defined by National Instrument 43-101. Additional contributions were provided by Ms. Joycelyn Smith, PGeo (APGO#4963), including support for the analysis of analytical quality control data and the compilation of this technical report.

Dr. Oy Leuangthong, PEng (PEO#90563867), a Corporate Consultant and Practice Leader with SRK, reviewed drafts of this technical report prior to their delivery to IAMGOLD as per SRK internal quality management procedures. Dr. Leuangthong did not visit the project.

## **1.5 Site Visit**

In accordance with National Instrument 43-101 guidelines, Mr. Blair Hrabí and Mr. Sandeep Prakash visited the Nelligan Project between August 8 and August 12, 2022, accompanied by Marie-France Bugnon, General Manager Exploration, and Shana Dickenson, Senior Geologist of IAMGOLD.

The purpose of the site visit was to review the digitalization of the exploration database and validation procedures, review exploration procedures, define geological modelling procedures, examine drill core, interview project personnel, and collect all relevant information for the preparation of a revised mineral resource model and the compilation of a technical report. The site visit also aimed at investigating the geological and structural controls on the distribution of the gold mineralization in order to aid the construction of three dimensional gold mineralization domains.

SRK was given full access to relevant data and conducted interviews with IAMGOLD personnel to obtain information on the past exploration work, to understand procedures used to collect, record, store and analyze historical and current exploration data.

## **1.6 Acknowledgement**

SRK would like to acknowledge the support and collaboration provided by IAMGOLD personnel for this assignment. Their collaboration was greatly appreciated and instrumental to the success of this project.

## **1.7 Declaration**

SRK's opinion contained herein and effective **February 10, 2023**, is based on information collected by SRK throughout the course of SRK's investigations. The information in turn reflects various technical and economic conditions at the time of writing this report. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favourable.

This report may include technical information that requires subsequent calculations to derive subtotals, totals, and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material.

SRK is not an insider, associate or an affiliate of IAMGOLD, and neither SRK nor any affiliate has acted as advisor to IAMGOLD, its subsidiaries or its affiliates in connection with this project. The results of the technical review by SRK are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

## 2 Reliance on Other Experts

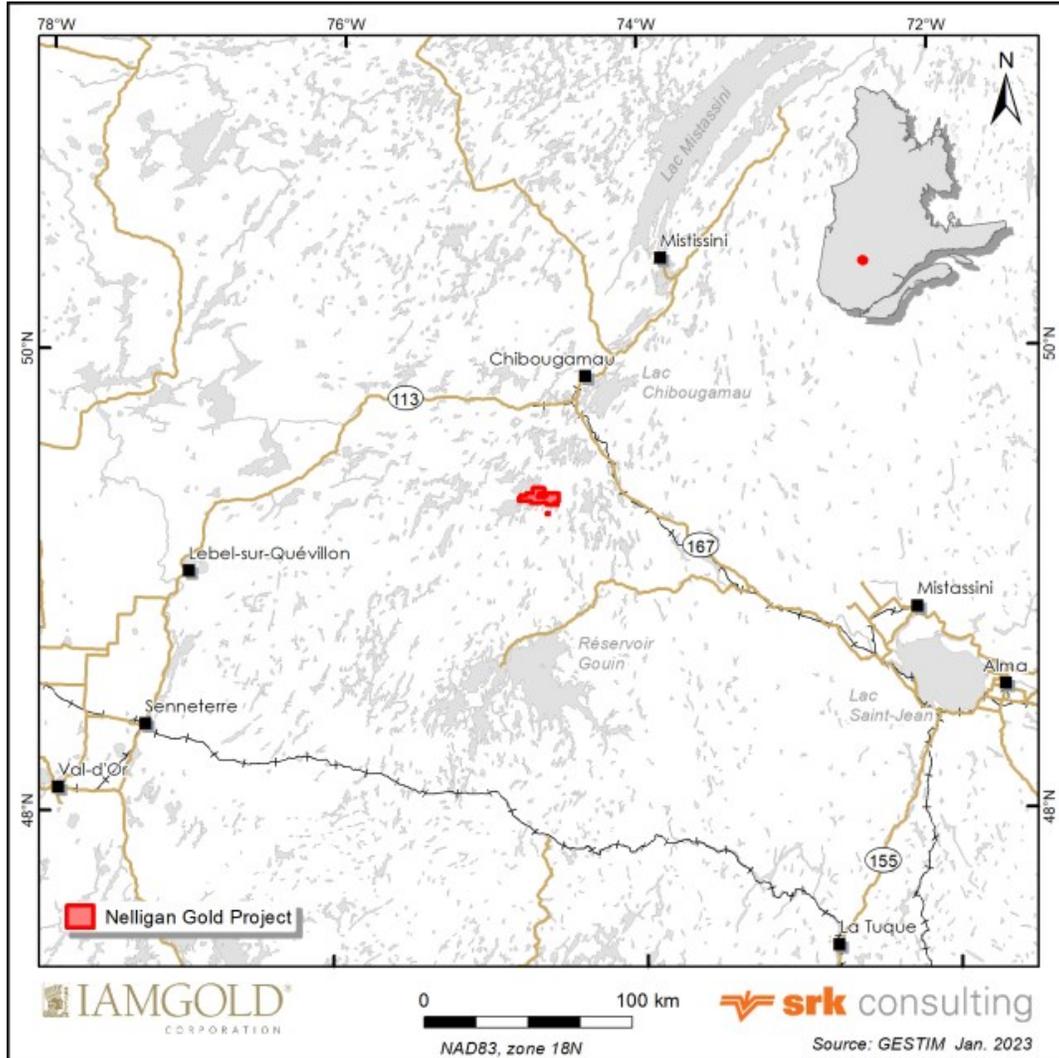
SRK has not performed an independent verification of land title and tenure information as summarized in Section 3 of this report. SRK did not verify the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties. SRK reviewed IAMGOLD's claim holdings using the Government of Quebec's online Public Register of Real and Immovable Mining Rights (GESTIM) database for the management of mining titles, accessed on January 19, 2023. The status of the mining titles exported from GESTIM (<https://GESTIM.mines.gouv.qc.ca>) are included in Appendix A. The reliance applies solely to the listed status of the claims disclosed in Sections 3.1 and 3.2 below.

Additionally, SRK has relied on information provided by Rémi Lapointe, Metallurgy Director for IAMGOLD, ALS Metallurgy, and SGS Canada Inc. for Section 12 of this report.

SRK was informed by IAMGOLD that there are no known litigations potentially affecting the Nelligan Project.

### 3 Property Description and Location

The Nelligan Project is located in the Nord-du-Québec administrative region in the Province of Quebec, Canada, approximately 60 kilometres south of the town of Chibougamau and 45 kilometres south of the town of Chapais (Figure 3-1).



**Figure 3-1: Location of the Nelligan Project**  
Source: GESTIM 2023

The Project is located in the Hazeur and Gamache townships on the map sheet 32G/07. The deposit centroid is located on the south side of Caopatina lake at coordinates 522824 E; 5473541 N (UTM NAD 83 Zone 18).

### 3.1 Mineral Tenure

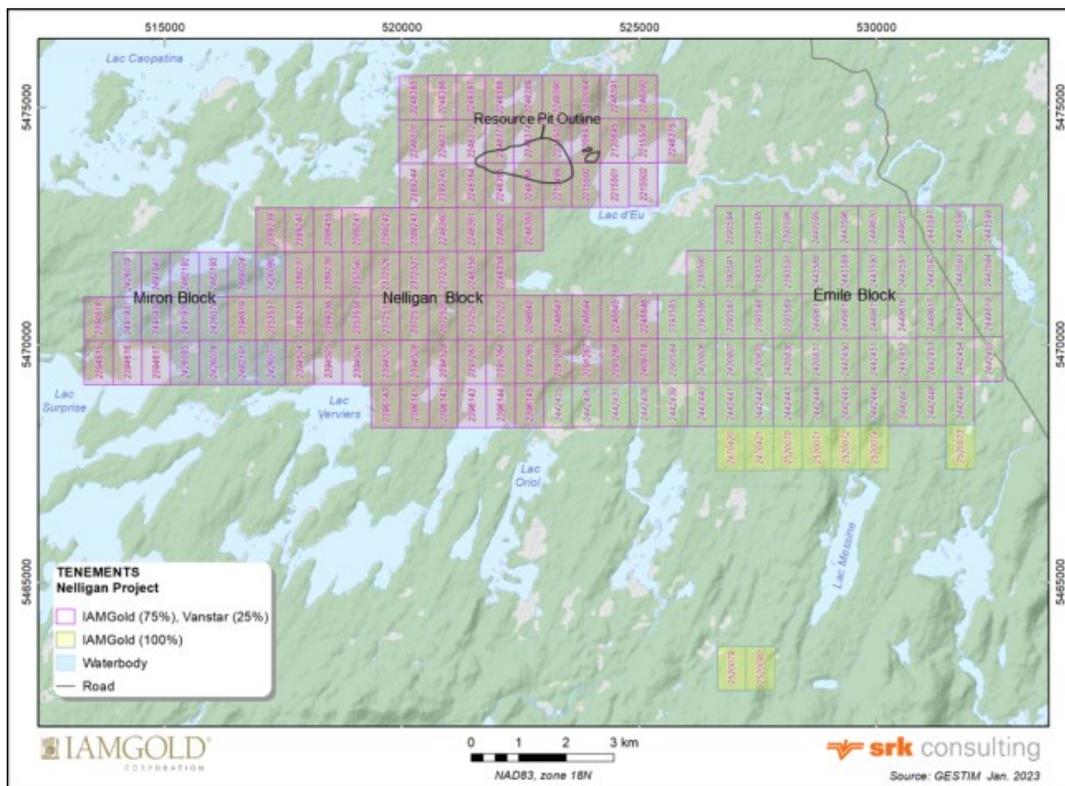
The Project consists of 167 active claims located within four claim blocks, named Nelligan, Émile, Miron and IAMGOLD (IMG) claim blocks, totaling 9,356.37 hectares (Table 3-1 and Figure 3-3). Exploration permits were staked by electronic map designation. A detailed list of mining titles is presented in Appendix A.

**Table 3-1: Summary of Mineral Tenure Information**

Claim Block	Status	Company	Record Date	Expiry Date	Area (ha)
Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013 to 6/28/2018	6/16/2023 to 4/27/2025	3,361.92
IMG	Active	IAMGOLD Corporation 100%	12/1/2016 to 6/28/2018	6/27/2023 to 11/30/2023	504.62
Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/9/2015 to 5/9/2017	11/6/2023 to 5/8/2024	784.39
Nelligan*	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/11/2007 to 8/21/2014	7/2/2023 to 4/13/2025	4,705.44
<b>Total</b>					<b>9,356.37</b>

According to GESTIM, the Project claims are registered 75% to IAMGOLD and 25% to Vanstar, except for nine claims located on the south edge of the property that are registered 100% to IAMGOLD.

The mining claims are subject to terms under several agreements as described in the following sections.



**Figure 3-2: Nelligan Project Mineral Claims**  
 Source: GESTIM 2023

### 3.1.1 Nelligan Property

In September 2010, Vanstar signed an agreement for the acquisition of the Nelligan Property comprised of twelve claims from two independent prospectors in consideration of a cash payment of C\$4,160 and the issue of 225,000 common shares, valued at C\$42,750. The vendors have retained a 2% NSR royalty from which 1% can be purchased for an amount of C\$1.0M. An additional 80 claims were acquired by Vanstar by map designation to form the original Nelligan Project. In 2012, 52 of the 92 originally acquired claims were not renewed when they expired.

In 2013, Vanstar acquired 35 claims by map designation and 23 claims were acquired for 350,000 common shares of Vanstar, valued at C\$30,750. No royalty was retained.

On January 13, 2014, four of the twelve original claims were sold by Vanstar to Stellar Africagold. On May 28, 2014, Vanstar acquired four claims for a cash consideration of C\$2,000 and 60,000 common shares of Vanstar valued at C\$5,400. On June 30, 2014, Vanstar acquired nine claims for a cash consideration of C\$4,500 and the issuance of 80,000 common shares valued at C\$8,000. No royalty was retained.

During 2015, 23 claims were not renewed as agreed between Vanstar and IAMGOLD.

In February 2017, Vanstar signed an agreement with the two prospectors to re-purchase their 2% NSR royalty granted on the remaining 8 claims acquired originally in 2010, in exchange for the issuance in their favour of 1,200,000 common shares of Vanstar valued at C\$72,000 and a payment of C\$75,000. In May 2017, this agreement was amended so that the cash payment of C\$75,000 was replaced by the issue of two convertible debentures of C\$37,500 for a 36-month term bearing interest at the rate of 10% per year.

The Nelligan Property currently comprises 84 active claims in two blocks of contiguous claims and covering a total surface area of approximately 4,705 hectares.

### **3.1.2 Émile Property**

In November 2014, Vanstar signed an agreement to acquire 100% of the Émile Property consisting of 13 claims in exchange for the issue of 400,000 common shares valued at C\$22,000. In February 2015, Vanstar acquired five additional claims by map designation.

In May 2016, Vanstar acquired a 100% interest in 33 claims, which were included in the Émile Property, in consideration of 1,000,000 common shares, valued at C\$60,000. Of those, a block of 21 claims is subject to a 1% NSR Royalty.

In June 2016, Vanstar acquired nine additional claims through map designation.

The Émile Property currently comprises one block of 60 contiguous active claims covering a total surface area of approximately 3,362 hectares.

### **3.1.3 Miron Property**

The Miron Property was originally aggregated by Vanstar in April 2015, comprising six claims located along the western edge of the Nelligan Project acquired through map designation.

In October 2016 and 2017, Vanstar acquired one and seven additional claims, respectively, through map designation.

The Miron Property currently comprises one block of 14 contiguous active claims covering a total surface area of approximately 784 hectares.

### **3.1.4 IAMGOLD Claims**

In December 2016 and June 2018, IAMGOLD has also acquired nine additional claims by map designation, seven located at the southern border of the Émile Property, and two forming an isolated block located further south of the Émile Property.

The IAMGOLD claims currently cover a total surface area of approximately 505 hectares.

## **3.2 Underlying Agreements**

### **3.2.1 IAMGOLD-Vanstar Agreement**

On November 17, 2014, Vanstar and IAMGOLD entered into an option agreement allowing the latter to acquire up to 80% of the Nelligan Project subject to certain conditions. The agreement specified that IAMGOLD could earn an initial interest of 50% on ownership by making instalment payments of C\$500,000 and incurring C\$4,000,000 in exploration expenditures over a period of four and a half (4.5) years. In addition, IAMGOLD could earn an additional 25% to 30% interest by conducting pre-feasibility and feasibility studies and making additional cash payments of C\$500,000.

On February 22, 2018, the original agreement was replaced by an Amending Agreement where Vanstar granted IAMGOLD an exclusive and irrevocable first option to acquire an undivided 51% interest in the Nelligan Project which, from that point on, includes the Nelligan, Miron and Émile properties, by paying to Vanstar an additional amount of C\$2,150,000 on the date of the Amending Agreement.

Following the exercise of the first option of the Amending Agreement, IAMGOLD earned an additional 24% interest in consideration of cash payments totalling C\$2,750,000 over a 4-year period, as well as the completion by March 2022 of a 43 101 compliant Mineral Resource Estimate and the filing of a supporting technical report. The C\$2,750,000 sum was completely paid out in December 2019, in advance to the 4th anniversary of the acquisition of the 51% interest. These conditions being met, 50% of the 2% NSR royalty on the original claim cells of the Nelligan Project acquired from the original owners in February 2017 have been cancelled by Vanstar.

Having vested to hold an aggregate undivided 75% interest, IAMGOLD retains a further option to earn an additional 5% interest, to hold an 80% interest in the Nelligan Project, by completing and delivering a feasibility study. Vanstar would then retain a 20% undivided non-contributory carried interest until the commencement of commercial production, after which: (1) the 20% undivided interest becomes participating; and (2) Vanstar will pay its attributable portion of the total development and construction costs to the commencement of commercial production from 80% of its share of any ongoing distributions from the Joint Venture. Vanstar will also retain the 1% NSR royalty on the original claims of the Project.

## **3.3 Permits and Authorization**

IAMGOLD has obtained all necessary permits and certifications from government agencies to allow exploration on the property, including drilling and mechanized stripping programs.

## **3.4 Environmental and Community Considerations**

Environmental disturbances on the Project are largely related to drilling activities. There are no major environmental liabilities with respect to the Project.

The 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.

### **3.5 Mining Rights in Quebec**

As defined by the Ministry of Natural Resources and Forestry (MRNF) website ([www.mrn.gouv.qc.ca](http://www.mrn.gouv.qc.ca)) the claim is the only valid exploration right in Quebec. The claim gives the holder an exclusive right to search for mineral substances in the public domain, except within sand, gravel, clay and other loose deposits, on the land subjected to the claim.

A claim can be obtained by map designation, henceforth the principal method for acquiring a claim, or by staking on lands that have been designated for this purpose. The accepted means to submit a notice of map designation for a claim is through GESTIM Plus ([www.gestim.mines.gouv.qc.ca](http://www.gestim.mines.gouv.qc.ca)).

The term of a claim is two years from the day the claim is registered, and it can be renewed indefinitely providing the holder meets all the conditions set out in the Mining Act, including the obligation to invest a minimum amount required in exploration work determined by the regulation. The Act includes provisions to allow any amount disbursed to perform work in excess of the prescribed requirements to be applied to the subsequent terms of the claim.

Any claim holder to specific mineral substances as described under Section 5 of the Mining Act can obtain a mining lease. The application must demonstrate that the deposit is mineable. The surface area of a mining lease must not exceed 100 hectares unless the circumstances warrant an exception deemed acceptable by the MRNF. A written application must be submitted that includes a report certified by a geologist or engineer describing the nature and extent of the deposit and its likely value. Mining leases have a duration of 20 years and are renewable by 10-year periods.

## **4 Accessibility, Climate, Local Resources, Infrastructure, and Physiography**

### **4.1 Accessibility**

The Nelligan Project is located in the Nord-du-Québec administrative region, which comprises the northern part of the province of Quebec, Canada. The Project is approximately 45 kilometres south of the town of Chapais, 60 kilometres southwest of the town of Chibougamau and 280 kilometres northeast of the town of Val-d'Or.

The Project is situated south of Caopatina Lake, accessible by Highway 113 from Chapais or Chibougamau, followed by the Barette-Sud (R1009) logging road and a series of smaller logging roads. From Chapais, it is an 85 kilometres drive taking approximately 90 minutes.

Mining and drilling operations may be carried out year-round with some limitations in specific areas of the Project. Surface exploration work (mapping, channel sampling) can be carried out between mid-May to mid-October. From January to April, lakes are typically frozen and suitable for drilling. Conditions may be difficult when the snow melts in May and for a few weeks during moose hunting season in the fall.

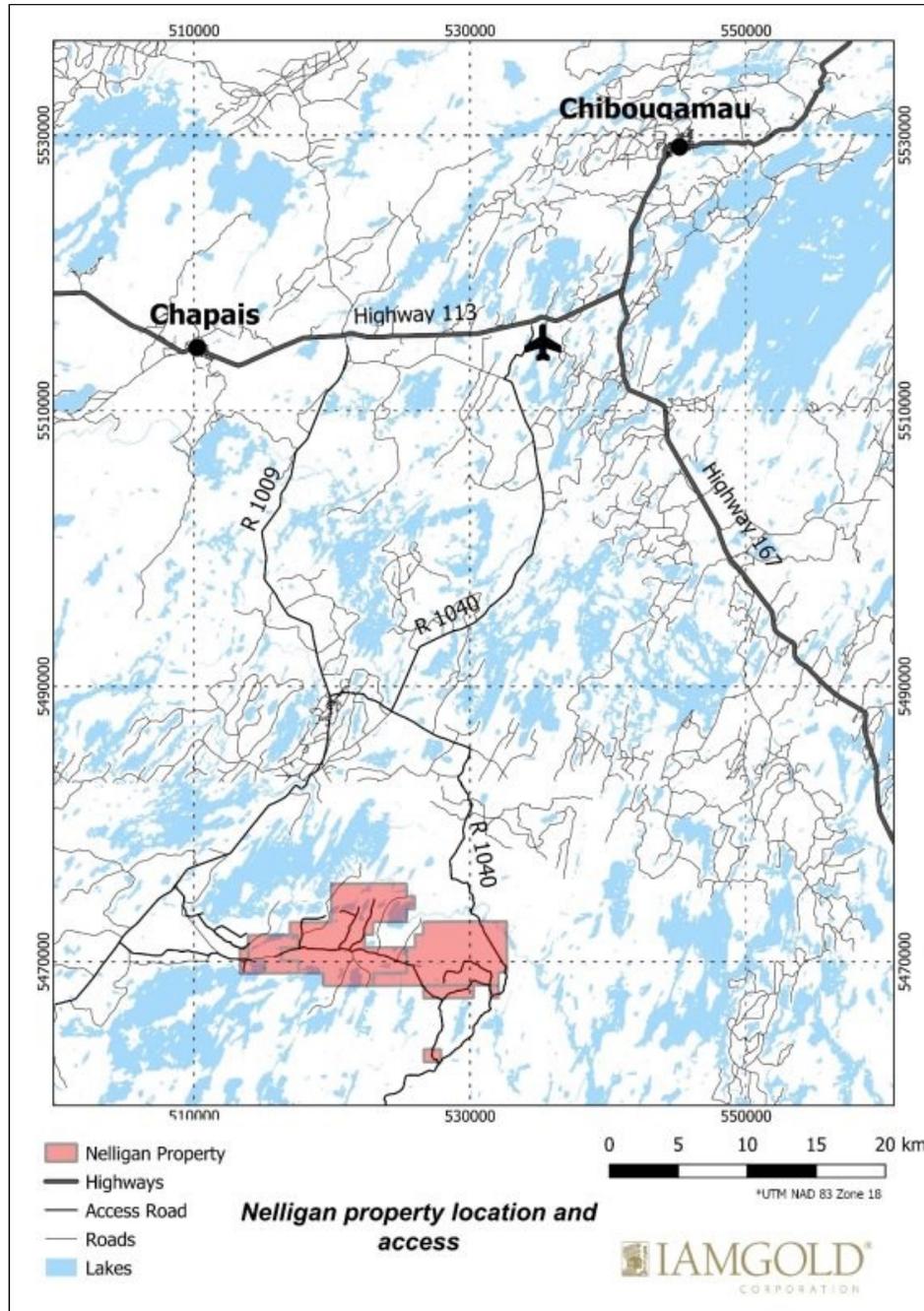
### **4.2 Local Resources and Infrastructure**

Various services are available at Chibougamau, a forestry and mining town with a population of approximately 7,500 accessed by Highway 113. Services include hotels, motels, restaurants, gas stations, building supplies, a post office, hospital and police services, and sports facilities. The town of Chapais, another forestry and mining town, has an approximate population of 1,500. Both localities also offer multiple services and workers specialized in mining, diamond drilling and exploration. Chibougamau and Chapais are former mining towns with approximately 60 years of mining history.

The area is equipped with various highway connections (to Val-d'Or or Montreal), railroad connections and high voltage powerlines. The region is covered by the Chibougamau/Chapais airport that has weekly flight connections to Montreal and other North-of-Quebec localities.

A greater range of services are available at Val -d'Or, Québec, located 440 kilometres. Val-d'Or is a gold mining town with a population of approximately 32,000 and is serviced by daily flights from Montreal.

IAMGOLD uses a core logging facility situated in the town of Chibougamau (Figure 4-1). There is no permanent infrastructure on the property.



**Figure 4-1: Plan Map Demonstrating Access to the Nelligan Project**  
Source: IAMGOLD, 2022



**Figure 4-2: Supporting Infrastructure and Typical Landscape of the Nelligan Project**

- A: Aerial view of the Nelligan core shack
  - B: Entry road to the Nelligan Project
  - C: Landscape and outcrop exposure
- Source: SRK 2022

### 4.3 Climate

The Project lies within the Abitibi plains ecoregion of the boreal shield ecozone. The climate is continental and is characterized by short mild summers and long cold winters, with mean monthly temperatures ranging from -25° Celsius in January to 21° Celsius in July. Peak temperatures can reach -40° Celsius in the winter and 30° Celsius in the summer. Mean annual precipitation ranges from 24 millimetres in February to 95 millimetres in July. 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).

#### 4.4 Physiography

Based on the vegetation zones map of Quebec, the Project lies within the boreal zone and the continuous boreal forest subzone. Forest cover is typical of the taiga biome, including areas dominated by sparse black spruce, birch, and poplar forests, in addition to large areas of peat bog devoid of trees.

The region has typical boreal forest fauna with moose, bears, partridges and other mammals. Bird species include sharp-tailed grouse, black duck, wood duck, hooded merganser, and pileated woodpecker.

Most of the area is relatively flat and has a high rate of lake coverage. The overall drainage level is very poor, and the property has significant coverage of wetlands and bog.

The approximate elevation of the Project varies from 381 to 411 above mean sea level (amsl). The Project is covered by thick glacial deposits. Typical outcrop exposure on the Project is poor and the average thickness of overburden is between 10 metres and 50 metres.

## 5 History

Information in this section is largely sourced from Quebec's Ministry of Natural Resources and Forestry (MERN) spatial reference geomining information system (SIGEOM) database, the Technical Report completed by InnovExplo Inc. (2019) and from other IAMGOLD internal reports.

### 5.1 Exploration History

A summary of the historical exploration work completed by previous operators is summarized in Table 5-1.

**Table 5-1: Summary of Historical Work Completed by Previous Operators on the Nelligan Project**

Year	Company	Type of Work	Areas of Interest
1977	Falconbridge Nickel Mines	- Geophysical: EM and Mag surveys	Hazeur and Gamache townships
1978	Falconbridge Nickel Mines	- Geophysical: Gravity survey - Diamond Drilling: 1 hole; 76 m	Hazeur and Gamache townships
	Patino Mines Ltd	- Geophysical: Mag and HEM surveys	Hazeur township
1982	Mines Northgate Patino Inc	- Geological survey	Hazeur township
1983	Mines Northgate Patino Inc	- Geophysical: HEM survey	Hazeur and Gamache townships
1984	Mines Northgate Patino Inc	- Geophysical: Max-Min survey	Hazeur township
1986	Société d'Exploration Minière Pontiac	- Geological: Overburden stripping, boulder sampling and prospecting	Hazeur and Gamache townships
1987	SOQUEM Exploration Muscocho	- Geophysical: EM and VLF surveys - Geophysical: Gradiometer survey	Hazeur township
	SOQUEM Exploration Noramco	- Diamond drilling: 13 holes - Diamond drilling: 7 holes	Hazeur township
1988	Exploration Muscocho	- Diamond drilling: 13 holes - Geochemistry: Hummus biochemical	
1989	Abbey exploration	- Geophysical: EM, VLF and Mag surveys	Hazeur and Gamache townships
1994	2736-1179 Quebec Inc	- Diamond drilling: 2 holes	Hazeur township
	SOQUEM and Ressources Unifiées Oasis Inc.	- Diamond drilling: 4 holes	Hazeur township
1995	Syndicat du Beep Mat	- Geophysical: Beep Mat survey (231 samples)	Hazeur and Gamache townships
	SOQUEM and Ressources Unifiées Oasis Inc.	- Diamond drilling: 10 holes	Hazeur township
1996	Ressources Unifiées Oasis Inc.	- Geochemistry: Till sampling	Hazeur township
2012	Vanstar	- Geophysical: Magnometer survey	Hazeur and Gamache townships
2013	Vanstar	- Diamond drilling: 11 holes; 1,968 m	Discoveries and Mila zones Mostly on Liam Zone
		- Diamond drilling: 9 holes; 1,406 m	
2014	Vanstar	- Geophysical: Mag survey	Hazeur and Gamache townships Liam, Dan and 36 zones
		- Diamond drilling: 15 holes; 2,400 m	

### 5.1.1 Historical Operators (1977-2012)

The first documented work completed on the Nelligan Project was in 1951 by Wright-Hargreaves Mines Limited and Paymaster. Prospecting, mapping and geophysical work were conducted after gold was discovered in the Joe Mann deposit, 18 kilometres ENE of the Project. The Joe Mann discovery (historical production of 1.08 Moz of gold and 22.5 Mlb of copper from 1956 to 2003) sparked great interest in the Chibougamau-Chapais area (Harris, 1951; Low, 1906), but significant exploration work did not occur until the late 1960s.

In 1952, the first local magnetic (Mag) survey was performed by Kerromac Mining Co. Ltd in Hazeur Township, as well as detailed prospecting and exploration work on a portion of the Project. In 1958, subsequent geophysical magnetic and electromagnetic (EM) surveys were completed by New Jersey Zinc, leading to the first trenching on the Project in 1959 (Low, 1951). In 1964, iron prospecting by McAdam and Flanagan took place after the publication of the Lac Surprise aeromagnetic survey over the Gamache and Hazeur townships. Detailed geophysical work targeted aeromagnetic anomalies. In 1965, a 152-metre hole was drilled, yielding poor results for iron prospects, and McAdam and Flanagan performed no further work (Duquette, 1965). The authors of various reports during this period mentioned the difficulties caused by the thick overburden cover and sparse outcrops.

In 1977, Falconbridge Nickel Mines conducted electromagnetic (EM) surveys with horizontal loops using a 300 to 400 ft cable combined with a Mag survey. A gravity survey was performed the next year to refine potential targets. In 1978, nine holes were drilled for 734 metres on different geophysical anomalies, of which one of the holes (777-5) was drilled on the Project (Lavoie, 1977; Lavoie, 1978; Simoneau et al., 1978). From 1978 to 1982, Patino Mines Limited conducted some geological and geophysical surveys (Helicopter EM, Mag and Max-Min) (Larivière, 1982; Murdy, 1978; Kennedy, 1983; Kennedy, 1984). From 1983 to 1984, SOQUEM conducted geophysical surveys (Helicopter EM, Magnetic, Induced Polarization (IP)), prospecting, drilling and boulder prospecting (Thériault, 1984). In 1986, Société d'Exploration Minière Pontiac and SOQUEM performed a variety of work in the area, including overburden stripping, boulder sampling and prospecting, which led to the discovery of the Tour de Feu showing (2.2 g/t gold) in the northeast part of the Project (Grenier, 1986).

From 1987 to 1988, SOQUEM continued its fieldwork with mapping, trenching and drilling. A total of 17 holes were drilled for 1,910 metres (DDH 87-01 to 88-17), 13 of which were on the Project (Miron, 1988). SOQUEM compiled the geophysical reports and performed a heliborne combined Mag, EM and Very-Low-Frequency (VLF) survey over the Lac Surprise area, covering part of the Project (De Carle, 1987; Hubert, 1988).

In 1988, Exploration Muscocho performed a gradiometer survey and drilled 13 holes. They also conducted a biochemical survey on their Hazeur Iron Property in the same year (Brodie-Brown and Zuiderveen, 1988). Exploration Noramco drilled seven holes (Tremblay, 1988). In 1989, Abbey Exploration carried out several geophysical surveys on the Project (Killin, 1989). In 1994, 2736-1179 Quebec Inc. conducted a drilling program consisting of four holes for 1,213 metres, two of which were drilled on the Project (AD-94-1, D 1-94) but neither yielded significant results (Fournier, 1994).

From 1994 to 1996, SOQUEM and Ressources Unifiées Oasis Inc., both part of the Syndicat du Beep Mat, completed work as contractors while the property was optioned by a group comprising Pontiac Exploration Inc., Ressources Abbey and R.W. Metcalfe. An extensive Beep Mat survey was performed. Eighteen holes were drilled for 1,557 metres (1138-94-01, 1138-94-04 to 1138-94-20), four of which were on the Project (De Chavigny, 1994). An additional 19 holes were drilled in 1995, 10 of which were on the Project (Chainey, 1995a;1995b;1995c; 1995d; 1996). In 1996, Ressources Unifiées Oasis Inc. conducted a till sampling program in the northwestern part of the Project (Chainey, 1996b).

### **5.1.2 Vanstar (2012-2014)**

In 2012, Vanstar carried out a drilling program on the Lac d'Eu showing for a total of 11 holes totalling 1,968 metres (Tazerout, 2012a; 2012b). Following the results of a detailed geophysical survey (ground magnetic; Lambert, 2013), Vanstar developed new drill targets that led to the discoveries of Liam (hole NE-13-04) and Mila zones (hole NE-13-01) in 2013.

Between 2013 and 2014, additional drilling was completed on these targets demonstrating the continuity of the Liam zone and allowing the additional gold discoveries of the Dan zone. During the 2013 and 2014 period, Vanstar drilled 24 holes for a total of 3,806 metres (Lambert, 2014; Kelly, 2014a, 2014b; Boivin, 2014).

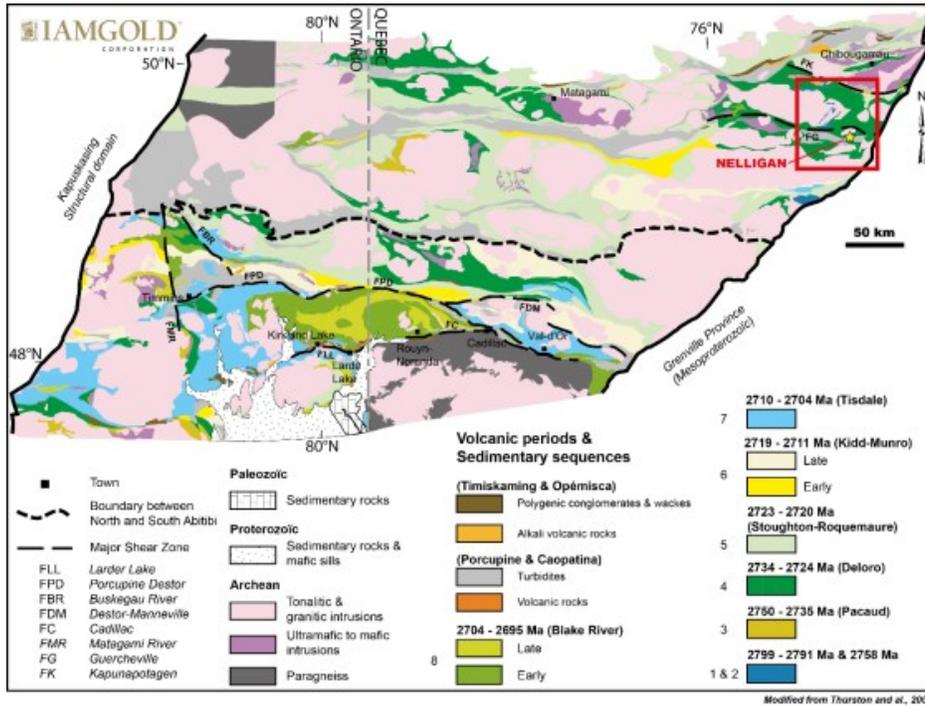
In November 2014, Vanstar and IAMGOLD concluded an option agreement on the Project.

## **5.2 Historical Mineral Resource Estimates**

In October 2019, a Mineral Resource Estimate for the Nelligan Project was prepared by InnovExplo Inc. Consultants (InnovExplo). The results of the estimate were documented in a technical report with an effective date of October 22, 2019, filed on SEDAR. All blocks in the 2019 estimate were classified as inferred with a total of 3.19 Moz at 1.02 g/t gold at a cut-off of 0.5 g/t gold reported considering an open pit mining method. SRK has not reviewed the InnovExplo estimate and while it is relevant in that it provides an estimate of the mineral resources contained on the project before the recent drilling, the mineral resource estimate is no longer considered current as it is being replaced by the estimate presented in Section 13 of this report.

## 6 Geological Setting and Mineralization

The Nelligan Project is located in the northeastern corner of the Abitibi Sub-province of the Archean Superior Province, approximately 15 kilometres west of the metamorphic border of the Mesoproterozoic aged Grenville Province, named as Grenville Front (Figure 6-1).



**Figure 6-1: Regional Geological Setting of the Nelligan Project**

Source: IAMGOLD 2022, modified from Thurston et al., 2008

### 6.1 Regional Geology

#### 6.1.1 Abitibi Greenstone Belt

The Abitibi Greenstone Belt is located in the southern part of the Superior craton, Canada and is composed of Greenschist- to sub-greenschist-grade rocks extending approximately 300 kilometres by 700 kilometres (Goodwin and Ridler, 1970). The Abitibi sub-province is bordered to the west by the Proterozoic Kapuskasing Tectonic Zone and to the southeast by the Grenville Front, comprised by Archean rocks overprinted by Grenvillian deformation higher grade metamorphism (Allard, 1976).

Recent seismic profiles (Lithoprobe) reinterpretation and new profiles surveyed at regional scale (Metal-Earth seismic transects in 2017) suggest that the Opatica subprovince, north of Abitibi and Baie James, represents amphibolite-grade middle crust extending below the Abitibi greenstones and both the Opatica and Abitibi rocks are considered as one contiguous terrane (Benn, 2006; Benn and Moyen, 2008; Maleki et al., 2020; Cheraghi et al., 2020).

The Abitibi subprovince is interpreted as forming during the accretion of juvenile arc terranes (Dimroth et al., 1983; Card and Ciesielski, 1986; Ludden et al., 1986; Desrochers et al., 1993; Daigneault et al., 2004) and dislocation of the stratigraphic succession by regional thrust faults registering vertical stretch (Bleeker et al., 2008; Lin et al., 2013; Gapais et al., 2014). In contrast, others have interpreted the same regional rock sequences as an autochthonous stratigraphy of seven volcanic cycles (>2750-2695 Ma), four sedimentary periods (<2707-2606 Ma) and intruded by numerous 2.73-2.64 Ga plutonic rocks (Jackson and Fyon, 1991; Thurston, 2002; Ayer et al., 2002; Thurston et al., 2008).

Structuration of the Abitibi belt has followed several stages:

1. The construction period, with the formation of mafic crust mostly represented by tholeiites, komatiites and transitional to calc-alkaline facies;
2. The maturation period, with the intruding of tonalite-dominated magmatic systems (TTG-TTD suites) represented by felsic volcanics, pyroclastic rocks mostly calc-alkaline, and subordinates tholeiitic to transitional calc-alkaline volcanic rocks; and
3. The cratonization period, including a succession of sedimentation and deformation events (Mathieu, 2021).

## 6.1.2 Regional Stratigraphy and Synvolcanic Period

The Nelligan Project is hosted within the southern portion of the Chibougamau mining camp, known as Caopatina-Desmaraisville segment, which is bordered to the north by the Archean Opatica subprovince, to the east by the Proterozoic Grenville front and to the south by a large cover of magmatic rocks known as Hébert pluton (Figure 6-1). The area is composed of volcanic and sedimentary rocks resulting from two complete volcano-sedimentary cycles (Figure 6-2).

The oldest rocks include mafic to felsic lava flows and volcanoclastic sequences of the Chrissie and Des Vents formations (Leclerc et al., 2017) and are aged >2760 Ma (David et al., 2011). These units are overlain by the Roy Group, a larger volcanic group covering the area constituted of two volcanic cycles with an age between 2730 and 2710 Ma.

Cycle I is composed of 2 to 4 kilometres thick piles of mafic and intermediate volcanic rocks interbedded by thin volcanogenic turbidites (Obatogamau Formation) and topped by an assemblage of mafic to felsic volcanic and sedimentary units (Waconichi Formation) (Leclerc et al. 2017).

Cycle II is concordant and composed at its base by a mafic pile of layered gabbros and basalts (Bruneau Formation) overlain by a thick pile (two to three kilometres) of intermediated to felsic lava flow and pyroclastics interbedded with volcanogenic to silicoclastic sediments (Blondeau Formation) topped by distal sedimentation sequences and banded iron formations (Bordeleau Formation).

During Cycle II, mafic to ultramafic sills of the Cummings Complex (Roberge, Ventures and Bourbeau sills) intruded into the lower part of the Blondeau Formation (Bédard et al., 2009).

The Opémisca Group (dated between 2704 and 2690 Ma) discontinuously overlies of the Roy Group and was deposited in shear-zone-bounded basins along the axes of synclines. This group records the erosional process of the early stages of the accretionary system with volcanism linked to transitional TTD-TTG suites and depositional sequences of polygenic conglomerates, arkoses and more distal sediments (Leclerc et al., 2017).

The Nelligan deposit is regionally hosted on the north limb of the Druillettes Syncline, a pinched sedimentary basin filled by the basin-restricted Caopatina Formation dated  $2707.3 \pm 2.3$  Ma (coeval to Cycle II and Opémisca group) (Leclerc et al., 2012). The north limb of the syncline is composed of alternations of mafic lava flows, mafic sills, mafic to felsic volcanoclastics and detrital sequences.

### 6.1.3 Deformation and Syntectonic Period

The following structural model applied to the south of the Chibougamau terrane is modified and summarized from Daigneault et Allard (1990), Leclerc et al. (2011), Faure (2012), Leclerc et al (2017) and Mathieu (2021). The syntectonic period is divided in three main deformation events mostly related to terrane assembly between 2701 and 2690 Ma:

1.  $D_1$ : a preliminary and spread over time compressional event initiated prior to molassic basins (e.g., Opémisca Group)
2.  $D_2$ : the main N-S shortening event
3.  $D_3$ - $D_4$ : the waning stages of  $D_2$ .

The transition from synvolcanic to syntectonic period is characterized by ( $D_1$ ), a regional progressive N-S compression induced by accretionary arc system (late maturation to early cratonization stages) and resulted in a collisional system with the formation of regional E-W folds from the uplift of volcanic assemblages (anticlines) and the pinching/plunging of sedimentary basins (synclines) (Figure 6-3). A variety of mantle- and crustal-derived magmas formed during the syntectonic period and were derived by crustal faults (Mathieu et al., 2020). This tectonic episode developed in the region of the Nelligan deposit, south part of the Chibougamau terrane, and several structural blocs separated by intense verticalized deformation demonstrating evidence for dominant reverse stretching.

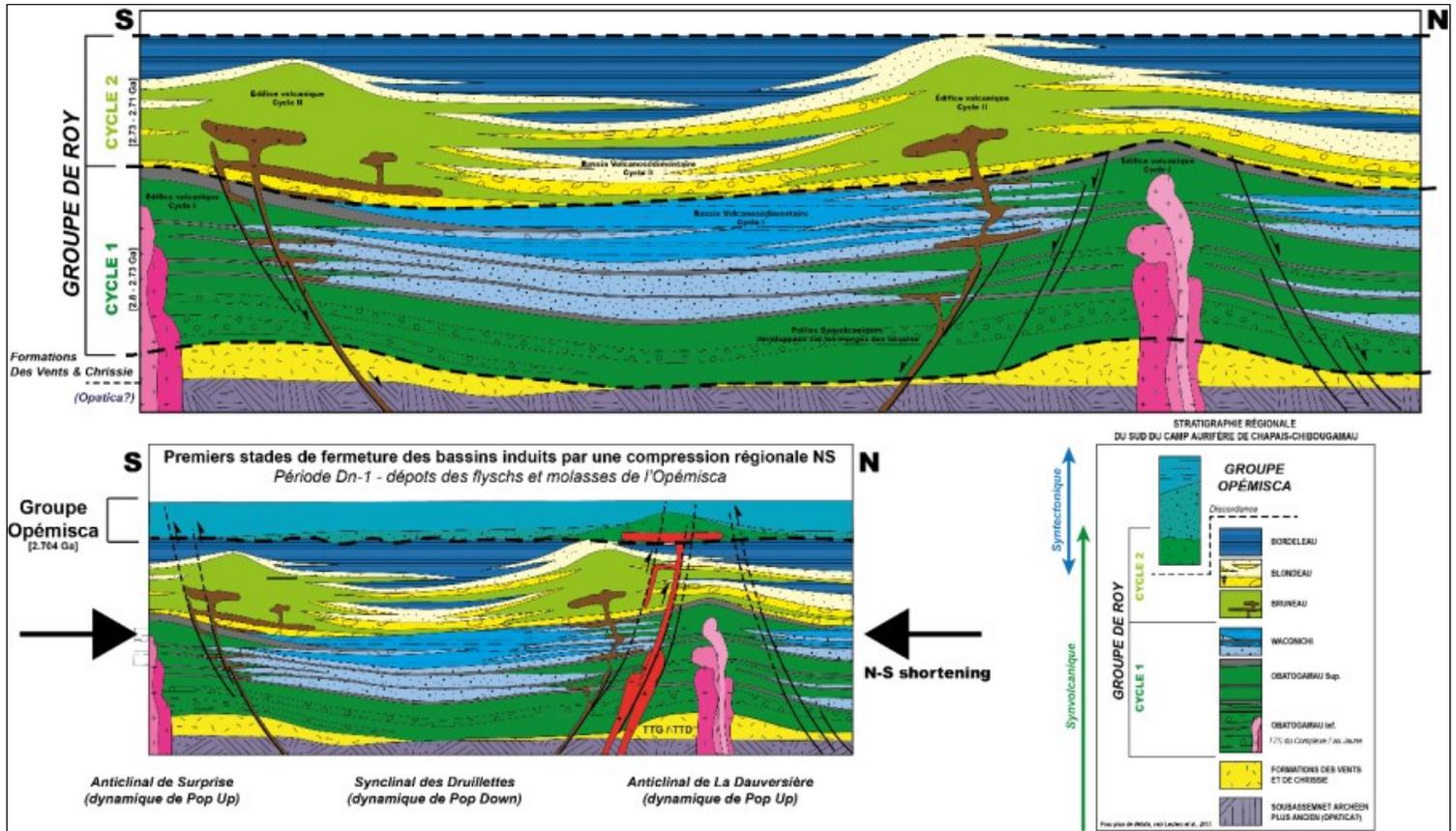


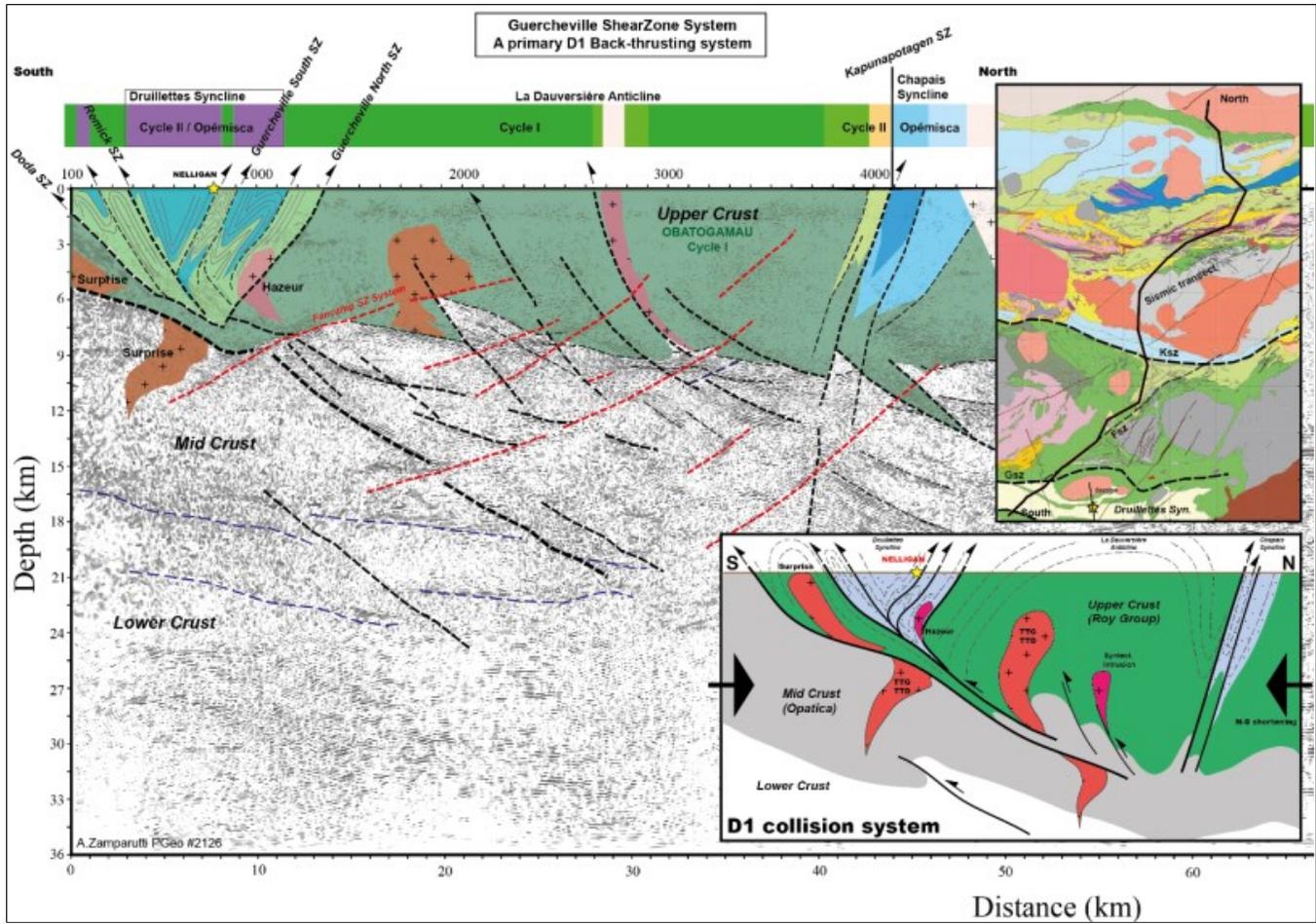
Figure 6-2: Stratigraphy of the Synvolcanic Period and Transition to the Syntectonic Period

Source: IAMGOLD 2022

The resultant structural blocs include:

1. The Chapais Syncline, hosting Opémisca sediments dipping and grading to the south;
2. The La Dauversière Anticline, a strongly deformed and sliced bloc exposing mostly Cycle I volcanic rocks of Roy Group and reversed grading Cycle II volcano-sediments on its northern limb;
3. The Druillettes Syncline, an open to pinched syncline hosting the Caopatina Formation and the Nelligan deposit; and
4. The Opawica anticline to the extreme south, hosting the Surprise and Hébert plutons and volcanic rocks strongly amphibolitized. E-W major deformation corridors are originally related to synvolcanic inherited crustal faults reactivated with reverse faulting during first stages of convergence, and then verticalized during ( $D_1$ ) period at the end of the compressional period (, Figure 6-3 and Figure 6-4).

The E-W La Dauversière anticline is structurally limited to the north by the E-W Kapunapotagen Deformation Corridor (KDC), and to the south by the Guercheville Deformation Corridor (GDC). The KDC is a large shear zone registering reverse faulting toward north. The GDC is another strongly sheared reverse faulting system dipping vertically to the south, with the exception of the northern portion around the syntectonic Hazeur pluton where the GDC is subvertical. The anticline is also crosscut by a NE-SW major shear zone dipping strongly to the SE, the Fancamp Deformation Corridor (FDC). The FDC is implied in a primary northwest verging thrust crosscutting obliquely the fold to accommodate the late stages of the collisional system. The western bloc of the La Dauversière anticline is strongly sliced by secondary pinched thrust-folds to accommodate this N-S shortening and molding of the Lapparent/Eau Jaune Complex core of synvolcanic intrusions to the west (Figures 6-3 and 6-4).



**Figure 6-3: Interpretation of the Southern Portion of the Metal-Earth Seismic Transect (2017) in the Chibougamau Area**  
 Source: IAMGOLD 2022, modified from Maleki et al. (2019)

The Druillettes Syncline is bordered to the north by several E-W intense shear zones referred as the Guercheville Deformation Corridor, which is transposed along stratigraphic contacts.

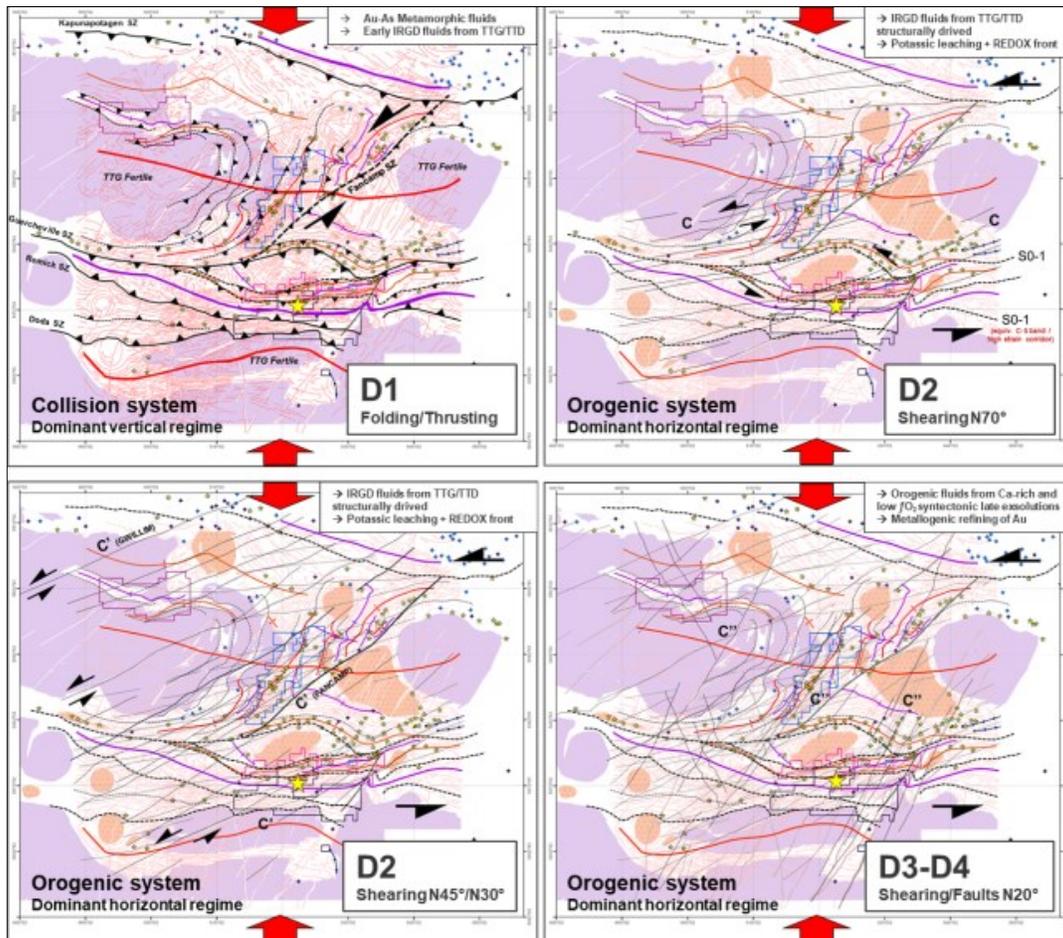
The main E-W structures crosscutting the Nelligan Project are the Guercheville south shear zone and the Nelligan shear zone. These shear zones and associated secondary structures are developed along lithologic contacts, preferentially along volcanogenic turbidites and volcanic-sedimentary contacts, resulting from secondary thrust-folding completely pinched and verging to the north. The repetition of the volcano-sedimentary sequences within the basin with normal and reverse grading are observed within the beddings on outcrop and in drill cores (IAMGOLD internal data).

The south of the Druillettes syncline is limited by the E-W Remick and Doda Deformation Corridors acting as south-verging regional thrusts compressing the southern limb of the syncline against the Opawica Anticline prior the intrusion of the Surprise tonalite.

The end of the  $D_1$  period is marked by the development of a regional penetrative foliation trending mainly E-W and crosscutting all the secondary parasitic thrust-folds developed within the regional E-W folds, but also molding the syntectonic intrusions emplaced during this late stage period of crustal thickening (Figure 6-4). The Guercheville deformation corridor acted as a back-thrust system developed on the north limb of the Druillettes syncline (Figure 6-3).

During the ( $D_2$ ) syntectonic period, these large E-W deformation corridors as Guercheville, with schistosity transposed to stratigraphy, are activated as major ductile high strain bands ( $S_0$ - $S_1$  corridors with locally C transposed and absorbing a lot of stress) all along this ductile to brittle sinistral transpression period. At regional scale and mostly affecting the volcanic and sedimentary assemblages, a large number of ductile shear zones are progressively developed and chronologically ordered following the development model of ephemeral C and C' shear bands during this cratonization process (Finch et al., 2019) (Figure 6-4). Structures are grouped based on their orientation: NE-WS ( $N60^\circ$  to  $70^\circ$  trending) and its conjugate NW-SE ( $N110^\circ$  trending) are related to C fabrics, NNE-SSW ( $N45^\circ$  to  $N30^\circ$  trending) acting as C' structures, and late stage ( $D_3$ - $D_4$ ) NNE-SSW ( $N20^\circ$  trending) as C'' structures.  $N350^\circ$  and  $N10^\circ$  cleavages and dry faults are mainly related to younger Grenvillian orogeny. With the transition from a ductile to a more-ductile-brittle domain during this period and in relation with local accommodation, several inherited C' structures ( $N45^\circ$  trending shear zones) are reactivated as dextral antithetic R' structures according to the Riedel fracturation model and induced favorable dilation zones for fluid circulation and mineralized processes (Daigneault, 1996).

The ( $D_2$ ) shear zones are characterized by intense schistosity, mylonitic zones and potassic alteration (sericite-rich) derived by a magmato-hydrothermal system characterized by hydraulic breccias and carbonate+chlorite-rich fluids. The  $D_3$ - $D_4$  structures contributed to the metallogenic refining of older mineralization as synvolcanic to transitional Intrusion-Related Gold Deposit (IRGD) systems (epithermal or porphyry domains) or synvolcanic Volcanic Massive Sulphide (VMS) deposits (Mathieu et al., 2021).



**Figure 6-4: Major Deformation Stages of the Syntectonic Period South of the Chapais-Chibougamau Mining Camp**

D<sub>1</sub>: the accretion-collision period with ductile accommodation, secondary pinched thrust-folds and fertile TTG-TTD suites

D<sub>2</sub>: the maturation-cratonisation period and a strong structural control of hydrothermalism, syntectonic TTG suites, and transition from ductile to ductile-brittle domain

D<sub>3</sub>-D<sub>4</sub>: the orogenic peak period with ductile-brittle structures, Ca-rich fault-valve system inducing metallogenic refining of IRGD systems, and post-peak decompression periods.

\*Note: Little yellow stars represent gold occurrences (SIGEOM) and the large star indicates the Nelligan deposit location.

Source: IAMGOLD 2022

## 6.2 Property Geology

Most of the host rocks on the Nelligan Project could be classified as volcano-sedimentary units. The Project is located within the Druillettes syncline, which represents a D<sub>2</sub> E-W regional fold (**Figure 6-5**).

The center of the Druillettes Syncline contains sediments from the Caopatina formation. In this group, several kinds of sedimentary rocks are identified. The principal unit is a medium- to coarse-grained, heterogenous wacke that has locally 300 metres of average thickness. Some polygenic conglomerates have been identified within this series as well as iron formation in the heart of the syncline. Minor layers of very well sorted, fine-grained, and typical facies of sandstone can be found in pluri-metric interbedded sequences.

Some pyroclastic flows are also interlaced within the sedimentary sequence with various thickness ranging from 1 to 50 metres with limited strike extension. These pyroclastic layers typically have a high matrix content with only 10% to 20% of pumice material. Locally, decimetric clasts have been observed in pyroclastic layers. Finally, an intermediate crystal tuff is observed, characterized by a dark grey, fine-grained matrix with 10% to 20% of sanidine crystals ranging in thickness and generally located at the transition between the volcano-sedimentary sequence and the Caopatina pelagic sediments.

On the flanks of the Druillettes syncline, the stratigraphy is dominated by volcanic material. Most of the southern part of the Property is dominated by chloritized mafic volcanics with minor interbedded greywacke. Mafic volcanics are mostly comprised of basalt and some locally present clastic layers with mafic to intermediate chloritized matrix. These volcanic units are impacted by major E-W shear zones that locally bring mafic volcanics to a high grade of metamorphism (amphibolite) with up to 20% coarse grained garnets.

Finally, the Project is bordered by two major tonalitic intrusions, with the syntectonic Hazeur Pluton to the north and the synvolcanic Surprise Pluton to the south.

### 6.2.1 Lithologies

The Nelligan deposit is located on the north flank of the Druillettes syncline at the contact between the volcano-sedimentary units and the mafic volcanic series. The deposit is principally hosted by the volcano-sedimentary detritic unit historically described as wacke. From the south to the north, several volcanics and sedimentary units have been identified: The conglomeratic units are mostly located on the south side of deposit followed by pyroclastic units, crystal tuffs and interbedded mafic volcanic flows. Magnetic, fine grained sediments with various thickness ranging from 5 to 30 metres have also been identified. These units have been described as iron formation as they present locally semi massive magnetite layers. The north boundary of the Nelligan deposit is marked by a mafic volcanic layer interpreted as basalt.

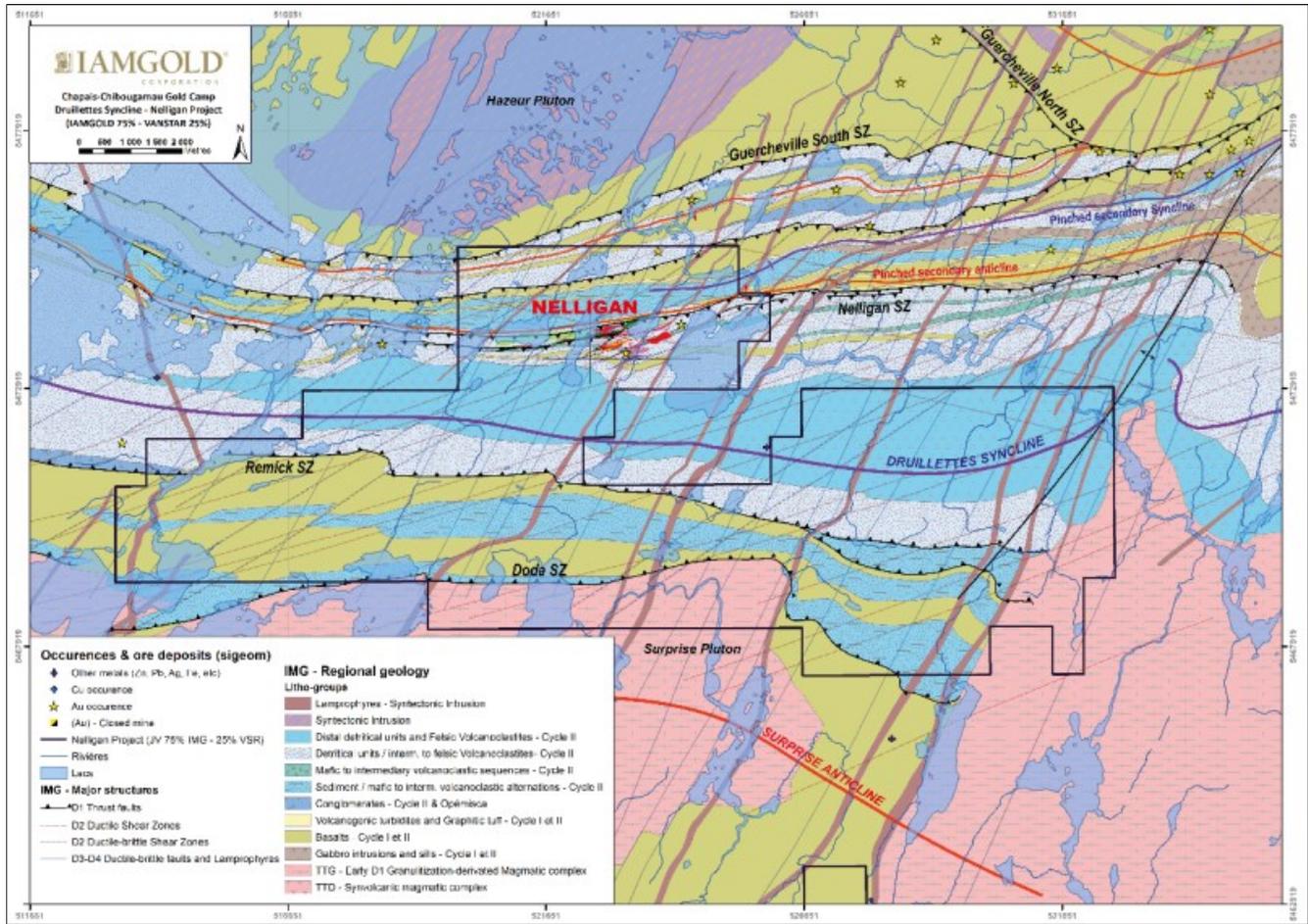


Figure 6-5: Geological Map of the Nelligan Project  
 Source: IAMGOLD 2022

### **Wacke**

Wacke at the Nelligan Project is mostly detritic with various sedimentary facies from fine grained well sorted laminated texture to heterogeneous medium grained and badly sorted granulometry. Most of the grains are made of quartz with various amounts from 30% to 60% of overall content. The rest of the grains is principally made of rounded plagioclases within a fine grained, light grey matrix. The wacke units are locally laminated and most of the time presents an overprinting schistosity. Some interbedded very fine grains layers can be identified and could represent pelagic detritic sediment or mudrock.

### **Conglomerate**

Two types of conglomeratic units are identified on the Nelligan Project. The first unit is supported by a dark grey matrix (more than 50% of dark grey to black) and medium sized, polygenic rounded clasts. Clasts are moderately stretched by regional deformation. The second unit is dominated by polygenetic clastic material. The clasts are mostly constituted of felsic to intermediate volcanic material. This matrix is hematite altered and a strong stretching by deformation.

### **Crystal Tuff**

A sub-porphyric texture composed of 15% to 20% of sub-augitic potassic feldspars. The feldspars are randomly oriented in a very fine grained dark grey ashy matrix. This unit presents a significant porosity that locally represent 10% of the average rock volume.

### **Basalt**

A fine grained to aphanitic homogenous volcanic rock with a dark green chlorite alteration of the matrix. The basaltic layers are most of the time injected by 10% to 15% of quartz-carbonates stockworks. The unit also presents a magnetite alteration expressed by various amount of fine-grained disseminated magnetite, amounting to 2% and locally up to 10%.

### **Iron Formation**

The iron formation is a laminated and fine-grained sediment that present centimetric layers of massive magnetite interbedded with detritic quartz dominated, fine grained layers. Locally on the property, the magnetite massive layers can reach 50 centimetres thickness. This unit can also have cherty or siliceous centimetric interbedded layers. The typical and common alteration for this unit is hematite.

### **Mafic Intrusives**

Mafic intrusive rocks represent a minor lithology composed of fine-grained intrusive rock, with a relatively low thickness varying from 20 centimetres to 2 metres. The units are fine-grained with homogenous texture. The rock is principally constituted of 30% of plagioclases feldspars, fine grained ferromagnesian minerals in the matrix and can present locally up to 20% of biotite. Mafic intrusive rocks commonly exhibit strong pervasive carbonates (calcite) alteration.

## 6.2.2 Alteration

In term of alteration, the Nelligan deposit presents various types of hydrothermal alteration types with different facies, characteristics and chronology.

### Silicification Alteration

Silica is one of the principal forms of alteration expressed by a strong increase of the silica content that overprints most of the primary mineral textures. Various types of ghost textures are generated through this alteration, depending on the nature of the altered host rock (Laminations, pyroclastic flows). The intensity varies from very weak alteration of the host rock matrix, to complete replacement and a total loss of the primary textures. This alteration is well constrained at the centre of the deposit and makes consistent and continuous silicified zones. These units are crosscut by carbonates breccias and stockwork veining associated with pyrite stringers. The silicified units have variable thickness ranging from 10 metres to 100 metres and can extend along strike for several kilometers through the Nelligan deposit.

### Hematite Alteration

On the hanging wall of the silicified units, the dominant alteration is hematite. The hematite alteration is well constrained to ductile-brittle structures from D1 and D2 events. It is well marked by a strong red color that overprint the host rock texture with variable intensity.

The hematite alteration is geometrically well constrained, occurring on the E-W major shear zone at the hanging wall of the Renard zone (Silicified unit) and various host rocks on the south part of the Nelligan deposit. Within this structure the hematite alteration is associated with micro-breccia textures and late carbonates injections. The hematite alteration is also present with iron formations, polygenic conglomerates and other magnetite bearing formations.

### Biotite-Phlogopite Alteration

A micaceous alteration characterized by a biotite-phlogopite alteration is observed on the footwall of the silicified units. The level of intensity appears related to the proximity with the silicified units. A pervasive dark brown intense alteration overprints primary lithological textures at the footwall contact of the silicified zones and can be logged as phlogopite zone. The intensity of the micaceous alteration progressively declines to the northern edge of the deposit and becomes a weak dark brown to dark green alteration of the host rock's matrix. Most of the time, the micaceous alteration is associated with carbonates (Calcite-dolomite) and locally fine-grained disseminated pyrite, particularly in the Footwall zone.

### Carbonate Alteration

The carbonate alteration is expressed in various forms on the Nelligan deposit. It is present in multiples units filling the latest cross cutting structures. It is typically observed as fracture filling and as a breccia in the silicified zones, vein and fractures filling along shear zones or stockworks and veinlets carbonates in hematized tectonics or mafic intrusives. Finally, carbonates, mostly calcite, can be identified as a very fine-grained pervasive matrix alteration in the wacke.

### **Sericite Alteration**

The sericite alteration is mostly constrained to N70 and N50 structures with various level of intensity. It is marked by a typical quartz-sericite schist facies that has a limited thickness (1 to 20 metres). The sericite alteration can be pervasive around this shear zones. Several macroscopic observations show a cross cutting relationship of the sericite alteration by silicification, indicating the sericite is relatively early.

### **6.2.3 Deformation**

Regional deformation is grouped into three major phases: D<sub>1</sub>, D<sub>2</sub> and D<sub>3</sub>. The Nelligan Project is affected by all phases of regional deformation.

Several D<sub>1</sub> E-W shear zones are cross cutting the Project, including the Doda and Remick shear zones on the south side of the Project and the Nelligan Shear in the north.

The second phase of deformation (D<sub>2</sub>) is expressed by two sets of ductile-brittle structures that are oriented N70 to N50. These shear zones present a sinistral dynamic and affect all the units.

The last deformation event (D<sub>3</sub>) is marked by N30 ductile brittle structures that are overprinting all units including the D<sub>1</sub> and D<sub>2</sub> events. These structures are associated with late intruding, strongly carbonatized mafic lamprophyres dykes.

### **6.2.4 Metamorphism**

Overall, the dominant metamorphic facies is greenschist with local transition to Amphibolite facies.

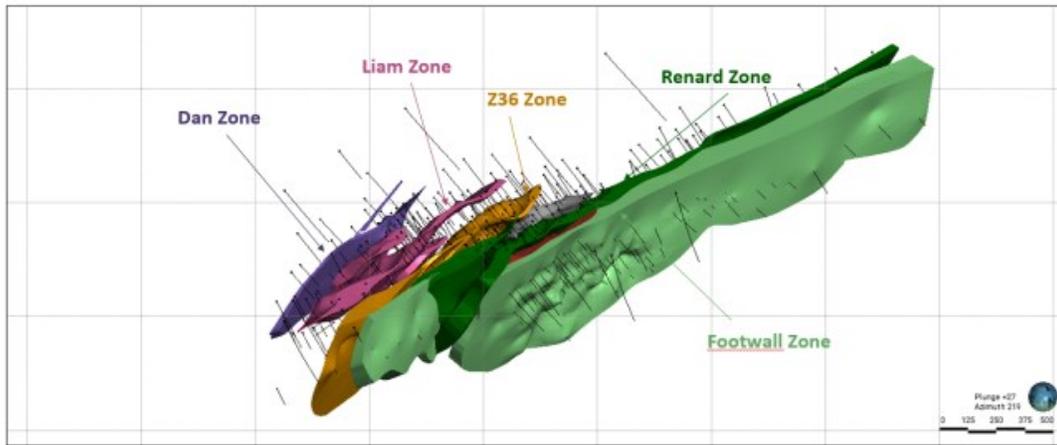
The transition zone between greenschist and amphibolite facies occurs at the western limit of the Project (Midra,1992). Metamorphic minerals belonging to upper greenschist and lower amphibolite facies in metasedimentary and volcanic rocks have been observed on the Project (hornblende, albite, biotite, phlogopite, chlorite, quartz, and garnet).

### **6.2.5 Mineralization**

The Nelligan Gold Deposit occurs on the northern edge of the Project. The deposit footprint has a strike length of four kilometres, vertical depth of 0.7 to 1.0 kilometres.

The main mineralization of the deposit is comprised of five main gold zones, from north to south include the Dan, Liam, Z36, Renard and Footwall zones (Figure 6-6).

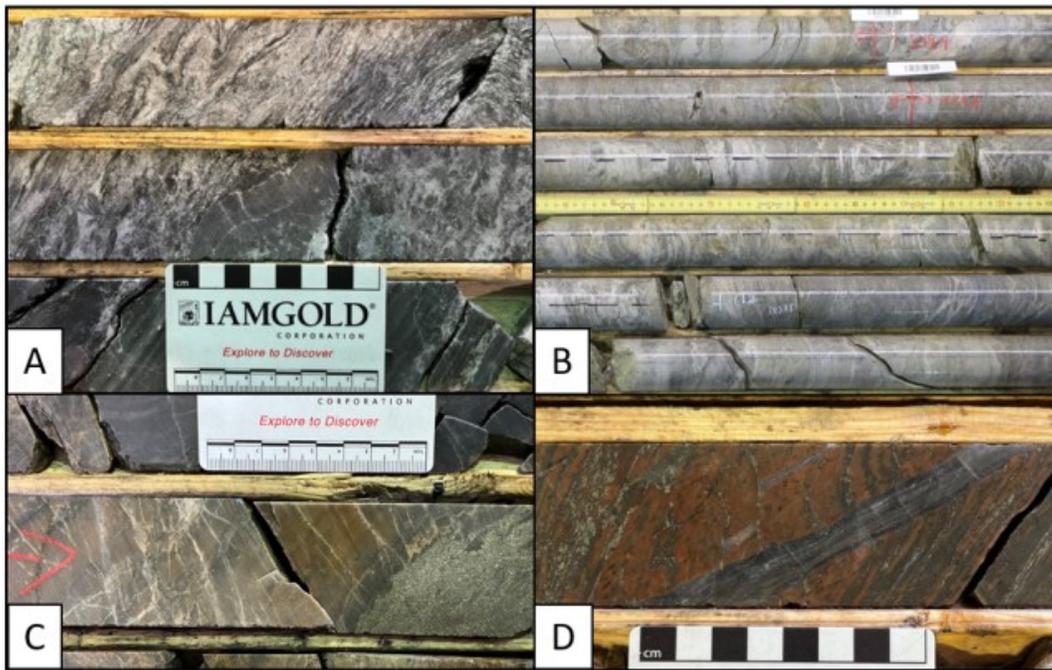
These mineralized zones are divided into several sub-domains due to overprinting deformation and resultant structures. Overall, the mineralized zones are sub-parallel with an average orientation of 80 and 65 degrees dipping to the south. The cross-cutting structures affect the geometry of the mineralized zones, with local offset in the deposit resulting in several mineralized domains sub parallel to each other.



**Figure 6-6: Mineralized Zones of the Nelligan Deposit**

Source: IAMGOLD 2022

At the Nelligan deposit, gold mineralization is expressed as several different facies. The first and principal host unit for gold mineralization is the silicified units. Gold is mostly associated with carbonates-pyrite stringers that crosscut the primary silica alteration. Gold is also associated with carbonates veinlets and stock works, particularly in shear zones. The Renard and Zone 36 mineralized zones are principally defined by these silicified units. In the Footwall zone, most of the gold content is associated with calcite stock works and disseminated pyrite in weakly micaceous altered wacke and volcano sedimentary material. Gold can also be associated with pyrite in quartz-sericite schist or pyrite-carbonates stringers hosted within hematized zones, particularly in the Dan Zone.



**Figure 6-7: Examples of Various Styles of Mineralization in Core from the Nelligan Project.**

- A: Carbonates injections in shear zones
- B: Silicified zones with carbonates breccia and pyrite stringers
- C: Semi-massive sulfide in silica-potassic alteration
- D: carbonates-pyrite stringers in hematized zones)

## 6.2.6 Mineralized Zones

### Dan Zone

The Dan Zone is the southernmost of the mineralized zones in the resource area. It includes two tabular mineralized envelopes, the first 800 metres long with an average thickness of 30 metres to 40 metres and the second 400 metres long with an average thickness of 5 metres. Mineralization is principally hosted in clastic sedimentary rocks, namely conglomeratic.

The entire zone is strongly silicified. Pervasive hematization and potassic alteration are common and the intensity ranges from moderate to strong. Fracture-controlled albitization is also present. A hematite and silica alteration halo occurs around the silicified zone: distal, pervasive and weak in some places, fracture-controlled in others.

### Liam Zone

The Liam Zone (including subzones Liam, Liam B and Liam C) is located on the north side of the Dan Zone. The Liam Zone extends on strike for 1,400 metres and extends vertically to 250 metres with an average thickness of 35 metres. The Liam Zone has two parallel mineralized zones called the Liam B and Liam C Zones, both of which are approximately 75 metres thick with a lateral extent of 300 metres. The Liam Zones are oriented N80, dipping 70 degrees to the south.

The Liam Zone is mostly marked by the quartz-sericite schist and sub-parallel silicified zones. The gold grade is principally associated with silicification and potassic alteration.

### **Zone 36**

Zone 36 consists of four mineralized envelopes, covering a 1.5 kilometres strike length. The principal zone is Zone 36C which has 1.2 kilometres lateral extent and a known vertical depth of 300 metres. The average thickness of this zone is 80 metres. The other three zones that make up Zone 36 (Zone 36 A, Zone 36 C and Zone 36 D) are thinner, with an average thickness of 25 metres. The mineralized zones in the Z36 domain are oriented N80 with an average dip of 65 degree to the south.

Zone 36 is principally constituted of intense silicification with carbonates fracture filling breccias. The intensity of the silicification is variable.

### **Renard Zone**

The Renard Zone is located north of the Dan, Zone 36 and Liam Zones, in the center of the Nelligan deposit. It is the principal zone of the deposit with 3,000 metres of lateral extend and an average thickness of 100 metres. The zone is oriented N80 with a consistent dip of 75 degrees to the south.

The Renard Zone is constituted of a major silicified unit with local sericite and potassic alteration, carbonates filling breccia and multiple pyrite stringers. At least two population of pyrite are observable, the first being a fine-grained, disseminated automorph and the second being sub-automorph to xenomorph and associated to carbonates breccias and injection textures.

It is notable that the Renard Zone is offset by late cross cutting structures principally N30 and N110 oriented shear zones and faults. This results in sigmoidal shapes of the silicified zones within the Renard Zone. The Renard 2 Zone and Renard East Zone are interpreted to be an offset of the Renard Zone respectively displaced by a N110 and N40 oriented structures. It has a very similar macroscopic description and is geometrically associated to Renard.

### **Footwall Zone**

The Footwall Zone is the most northern mineralized zone of the deposit. It extends over 4 kilometres strike length with a vertical depth of 500 metres and an average thickness of 150 metres. The Footwall Zone is hosted in a coarse grained, heterogeneous volcano-sedimentary unit and presents various intensity of micaceous alteration, mostly phlogopite and biotite in the matrix.

This altered unit is cross-cut by a set of quartz-carbonate (calcite) veinlets with sub automorphic pyrite that is associated with the gold grade. Locally, visible gold has been observed in these veinlets. The Footwall Zone presents various levels of alteration and mineralization intensity.

The Footwall East Zone is interpreted to be the eastern extension of Footwall Zone which has been displaced by a N40 oriented D<sub>2</sub> cross cutting structure.

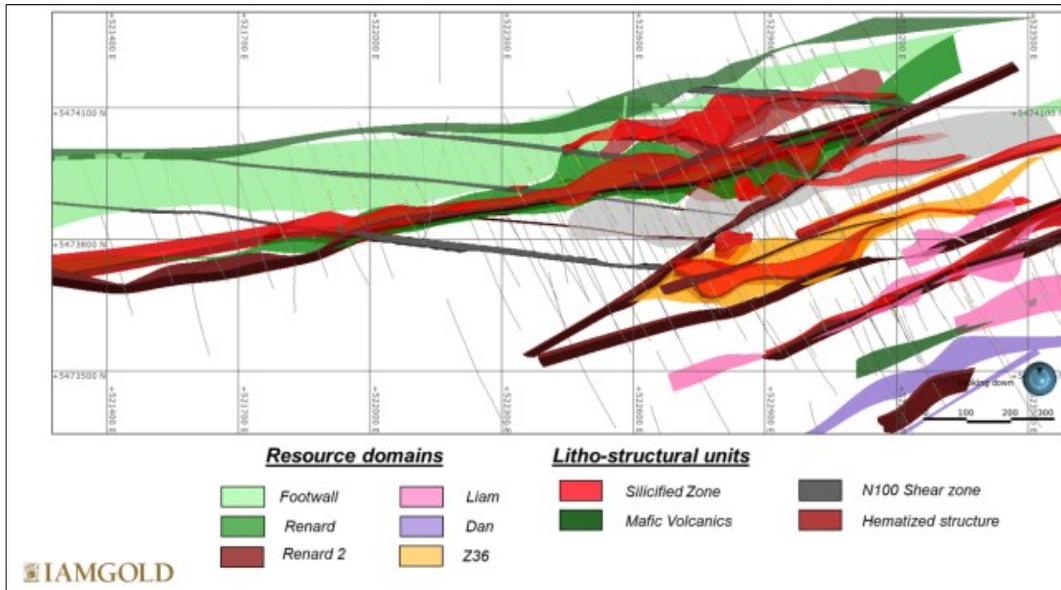


Figure 6-8: Plan View of the Nelligan Deposit at 250 metres Elevation Demonstrating Litho-Structural Relationship with Associated Mineralized Zones  
 Source: IAMGOLD, 2022

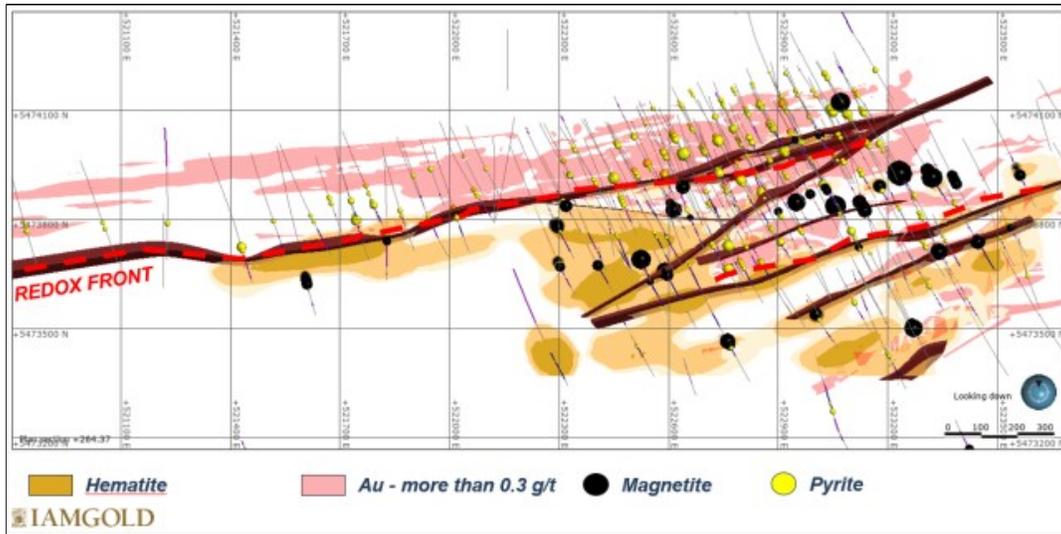


Figure 6-9: Plan View of the Nelligan Deposit at 250 metres Elevation Demonstrating the Relationship of Alteration Domains, Dominant Minerals Zonation and Gold Mineralization  
 Source: IAMGOLD, 2022.

## 7 Deposit Types

The Nelligan deposit is hosted in a typical Archean volcano-sedimentary rocks of the Caopatina Formation and associated with major crustal deformation zones. However, the various styles of alteration and mineralization makes it atypical and relatively hard to categorize into a single deposit type since many of the characteristics of mineralization could individually be representative of different deposit models.

The main alteration types on the Project are silicification, carbonatization, potassic- alteration, and occasionally albitization and hematization. The best gold intervals correspond to intense, pervasive silicification that locally obliterates the protolith.

Deformation is mainly ductile, represented by schistic and mylonitic textures. Conglomerate clasts are strongly flattened and stretched, and when present, the quartz- carbonate veins are sheared and folded.

At present, the categorization of the Nelligan deposit model is based on two major components. An early-stage hydrothermal event that could be intrusion-related with polymetallic assemblage and a secondary post-intrusion event related to fault-valve orogenic mineralization processes, well-constrained to the latest phases of deformation D<sub>3</sub> to D<sub>4</sub> and cross cutting earlier phases of structurally controlled (Late D<sub>1</sub>) to D<sub>2</sub> magmatic hydrothermalism.

This categorization is supported by recent work completed by Lucie Mathieu (2021), Intrusion-associated gold systems and multistage metallogenic processes in the Neoarchean Abitibi Greenstone Belt. The Nelligan deposit shares characteristics with IRGS Overprinted by Orogenic Gold System (OGS) group (Figure 7-1).

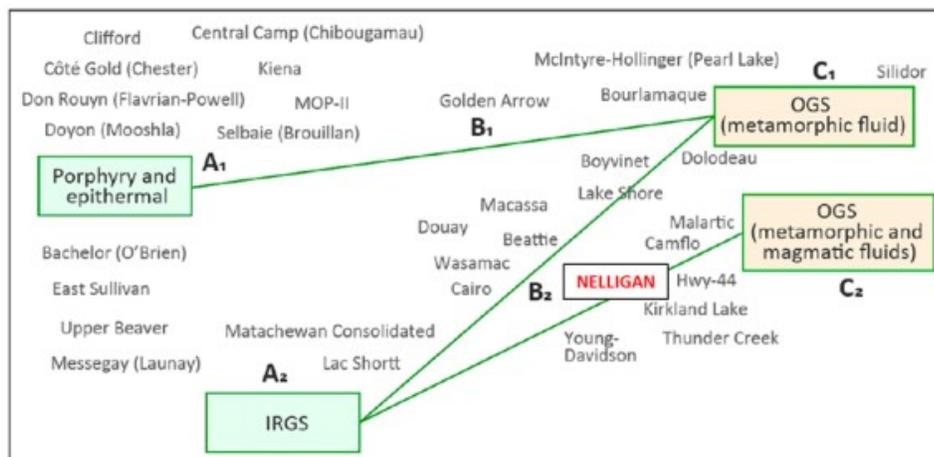


Figure 7-1: Organigram Presenting a Classification of the Mineralizing Systems Reviewed by L. Mathieu (2021), Based on Physical Characteristics:

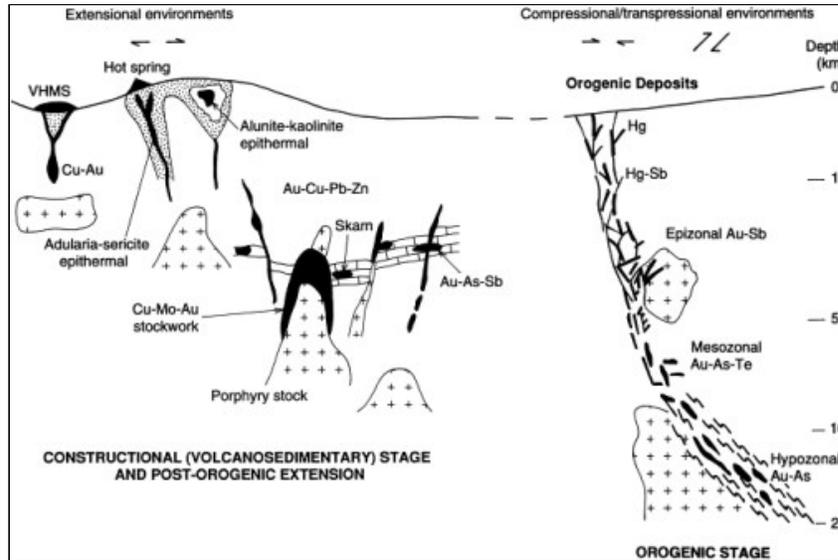
- Group A: Magmatic-hydrothermal systems
- Group B: Multistage systems
- Group C: Orogenic Gold Systems (OGS) or equivalent

## 7.1 Intrusion Related Gold Deposit

The Nelligan deposit presents significant similarities with an Intrusion-Related Gold Deposit (IRGD) model. Clear markers of potassic alteration are visible within the Nelligan deposit and an association with hematization implies high oxygen fugacity fluid that are usually related to intrusions. Locally, porphyric dykes have also been observed and cross-cutting relationships imply relatively early emplacement.

Intrusion related gold deposit models are characterized with a typical geochemical signature with several representative chemical pathfinders and traces elements. From the ICP data collected by IAMGOLD, gold mineralization presents a significant correlation with arsenic, antimony, molybdenite and Telerium and a typical zoning over the Property with silver and zinc bearing veins. At the Nelligan deposit scale, spatial and statistical relationships of these geochemical markers and gold mineralized zones can be demonstrated (Figure 7-2).

Zoning is well defined in IRGD models, as described by Hart and Goldfarb (2005), Azevedo et al., (2022) and Poulsen et al. (2000).



**Figure 7-2: A Proposed Classification in the Context of their Crustal Distribution and Relationship to Other Gold Deposit Types**  
 Source: Goldfarb et al. 1998

## 7.2 Orogenic Gold Deposit

The Nelligan deposit also presents various typical characteristics of an Orogenic gold deposit. The general context based on greenschist-amphibolite facies transition, the ductile-brittle and the spatial relationship with major crustal events are typical markers. The quartz-carbonates veinlets and the carbonate breccia zones that are associated with gold mineralization are also significant criteria. From Goldfarb et al. (1998), geochemical associations that are observed in some areas of the deposit (Au-As-Te) is typical of orogenic mesozonal gold deposits.

## 8 Exploration

This section presents the exploration programs completed by IAMGOLD between 2014 and 2022. Exploration work conducted by previous operators summarized in Section 5 (History).

### 8.1 Exploration by IAMGOLD (2014-2022)

Between 2014 and 2022, IAMGOLD completed multi-staged exploration programs on the Nelligan Project including prospecting, geological mapping, soil and till geochemical surveys, geophysical surveys, thin section and hyperspectral analyses, metallurgical studies, and extensive core drilling. Details regarding trenching and core drilling, and metallurgical studies are discussed in Sections 9 and 12, respectively.

#### 8.1.1 Geological Mapping and Prospecting

IAMGOLD has conducted geological mapping and prospecting across the Nelligan Project, with more concentrated exploration efforts within the Nelligan, Émile and Miron claim blocks (Table 8-1).

**Table 8-1: Summary of Mapping and Rock Sampling Completed by IAMGOLD (2014-2022)**

Year	Outcrops Mapped	Trenches Mapped	Rock Samples	Channel Samples	Target Area
2015	47	-	39	-	Nelligan
2018	-	-	10	-	Two southernmost claims
2019	323	-	86	-	Nelligan, Émile and Miron
2020	72	4	74	65	Nelligan
2021	15	3	3	130	Nelligan and Émile
2022	-	-	222	-	Nelligan
<b>Total</b>	<b>457</b>	<b>7</b>	<b>434</b>	<b>195</b>	

In August 2018, geological mapping was completed over the two southernmost claims, with a total of 10 grab samples taken from laminated mudrock units, but these did not return significant gold values (IAMGOLD, 2018).

In August 2019, geological mapping targeted the Nelligan, Émile and Miron claim blocks, with a total of 323 outcrops found and 86 grab samples collected. Folded iron formation was mapped within the Émile claim block, consistent with the magnetic high documented in the geophysical survey completed in 2018.

Between July 31 to October 25, 2020, a total of 72 outcrops and two trenches were mapped and 38 surface samples were collected on the Nelligan claim block. The best gold result from this work came back from a massive, slightly deformed biotite rich vein of 25 to 30 centimeters, oriented N60° to 80° and hosted in a mudrock without any apparent mineralization. Sample IMGVD40770 was taken on the NE20° to 162° outcrop and returned a value of 0.234 g/t gold.

On the Émile claim block, the mapping and sampling work took place from September 19 to October 23, 2020. The purpose of this campaign was the systematic inventory of outcrops that were not previously explored by IAMGOLD, detailed geological mapping and detailed stripping mapping and sampling. A total of five outcrops and one stripping were described during this program. Two surface samples and 36 channel samples were collected and analyzed by ALS Minerals in Val d'Or. No significant results were returned. Additionally, 65 channel samples were collected. No significant results were returned.

Between May 15 to June 28, 2021, the objective was to continue the systematic identification and sampling of outcrops not yet explored by IAMGOLD, as well as the detailed mapping of three trenches. A total of 15 outcrops and three trenches were described during the spring program of 2021. One trench was located on the Nelligan claim block and two were located on the Émile claim block. These trenches were all excavated in 2019 but could not be mapped in time before the arrival of the first snow. Three surface samples and 130 channel samples were collected. No significant results were returned.

Between June 8 to July 21, 2022, the principal objective was to sample existing outcrops for geochemistry assay. The description of the outcrops was also updated to refine the geological mapping of the Property. In total, 222 samples were collected and analyzed for gold and 48 elements. One sample returned a value of 0.54 g/t Au, approximately located 1.5 kilometres north of the Nelligan deposit. Rock geochemistry will be used for future interpretation and diamond drilling targeting.

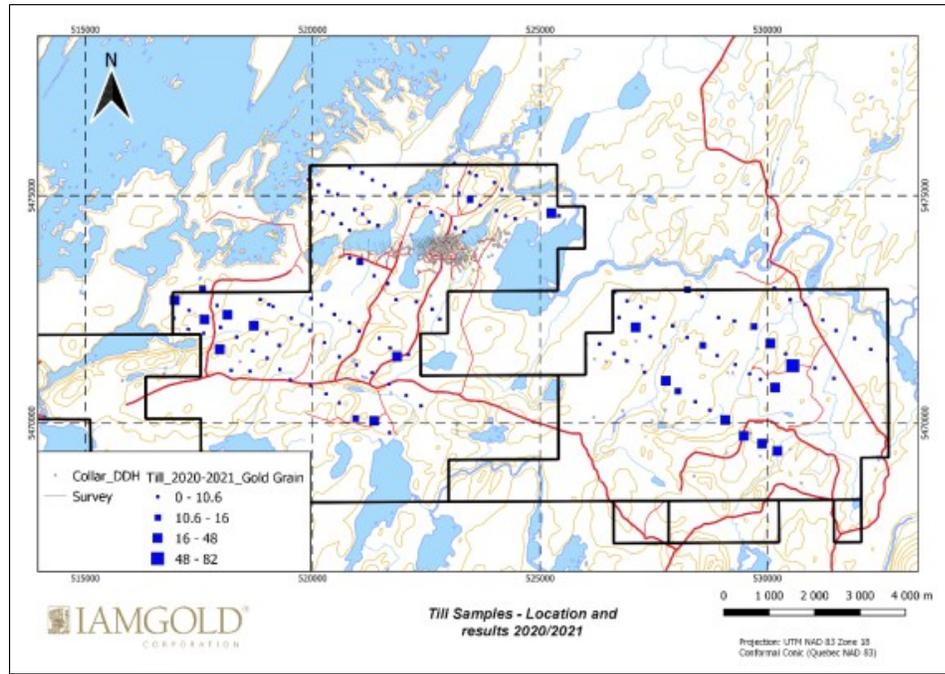
## **8.2 Geochemical Sampling**

### **8.2.1 Till Sampling**

The till sampling program was carried out by SL Exploration Inc. in 2020 and 2021 and includes a total of 128 samples of glacial sediments collected across the Project. In 2022, an infill sampling program was completed with a total of 58 samples were collected. The results of the 2022 sampling program are pending.

The samples typically weighed 10 kilograms, which were sent to the ODM Laboratory for visible gold grain counting and neutron activation dense fraction analysis. In parallel, a 1-kilogram aliquot was processed by ALS Minerals for fine fraction analysis.

Results of the visible gold grain count shows 13 significant results from 20 to 81 grains, while the analysis of the dense fraction shows several grades of more than 200 ppb gold, up to a maximum of 5,770 ppb gold (Figure 8-1). The tracing of anomalous contours and the interpretation of the results defines five gold targets. One of these targets can be explained by the presence of the Nelligan deposit recently discovered by drilling on the Property but it could also be derived from a separate, closer source located south of the Nelligan deposit.



**Figure 8-1: Location and Assay Results of the Till Sample Survey Conducted Between 2020 and 2021**

Source: IAMGOLD 2022

### 8.2.2 Soil Sampling

In 2022, a soil sampling survey was completed on the south edge of the Nelligan Property. In total, 80 samples of B horizon were taken and were sent for Mobile Metal Ion preparation and Inductively Coupled-Mass Spectrometry (ICP-MS) analysis. Results are pending at the time of writing this report.

## 8.3 Geophysical Surveys

IAMGOLD conducted various geophysical surveys including IP, Versatile Time Domain Electromagnetics (VTEM) and Unmanned Aerial Magnetic (UAV) geophysical surveys between 2015 and 2022.

### 8.3.1 Versatile Time-Domain Electromagnetic Survey

In 2015, IAMGOLD commissioned Geotech Ltd. to complete a helicopter borne VTEM Plus survey. This work was completed between July 8 to 10, 2015, and involved 573 line-kilometres. Discovery of faults on the Miron and Nelligan claim blocks through geological mapping efforts confirmed the faulted interpretation based on the VTEM survey.

### **8.3.2 Unmanned Aerial Magnetic Survey**

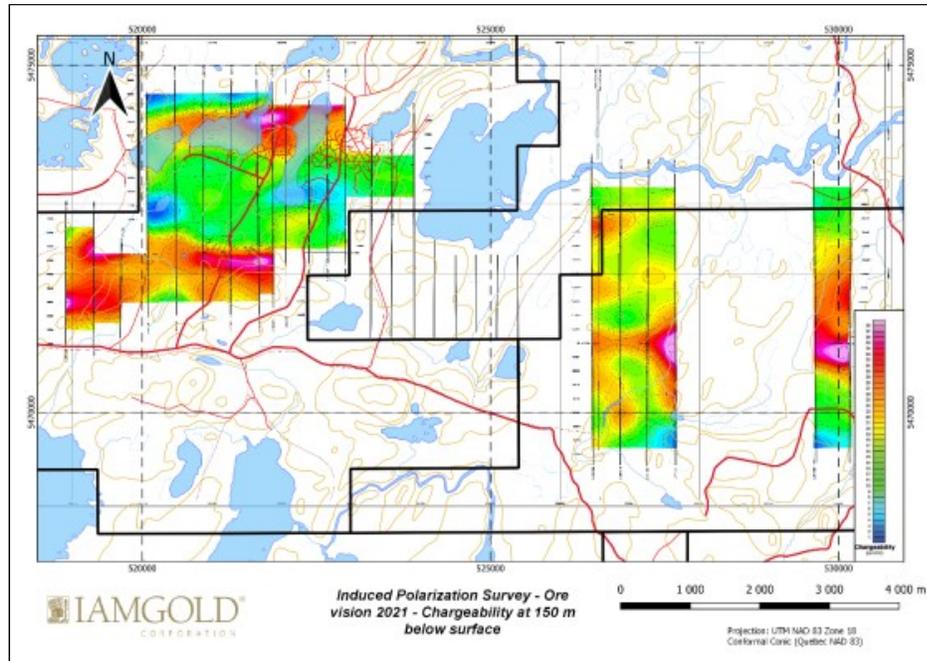
Stratus Aeronautics performed a magnetic survey from September 29 to October 3, 2018, by UAV. The UAV survey was part of a research project supported by IAMGOLD in partnership with the École de Technologie Supérieure and the Natural Sciences and Engineering Research Council of Canada (NSERC). The results yielded a response for the folded iron formations. A contour map of the magnetism survey on the Nelligan Project was produced using the survey results (IAMGOLD, 2018).

### **8.3.3 Induced Polarization Survey**

IAMGOLD commissioned Abitibi Geophysics to conduct an IP OreVision® survey over the Nelligan Project, which was carried out between January to February and March to April 2021. The survey covered a large portion of the Nelligan Property across two survey grids for Émile and Nelligan claim blocks (Figure 8-2). The objective of the survey was to detect responses in the vicinity of known mineralized zones and to delineate new anomalies that may host gold mineralization.

The survey was conducted with a line-spacing of 50 metres and n-spacings, where n=1 to 20 metres. A three-dimensional inversion was performed and produced a model of these physical properties to an approximate depth of 400 metres below the surface.

Results from the survey identified several distinctive resistive and conductive axes within the Nelligan Project. Specific targets of interest were likely areas within chargeable and conductive waste units. Although not of primary importance, areas that are resistive and chargeable may also merit further investigation.



**Figure 8-2: OreVision® Induced Polarization Survey Completed in 2021**

Source: IAMGOLD, 2022

#### 8.4 Thin Section Petrography

In 2017, COREM completed a petrographic description of 20 samples collected from the Project. Each sample was chosen by IAMGOLD to provide a better understanding of the Project's mineralization and alteration. Mineral identification was performed on polished thin sections of those samples using transmitted and polarizing light and using reflected light for oxides, sulphides and gold. Gold grains were analyzed with a scanning electron microscope (SEM). Modal mineralogical analysis was also performed.

The results of this study revealed the fine-grained nature of gold (<10 to 40  $\mu\text{m}$ ), which occurs with traces of silver, and locally as electrum. Reddish colour within the rock appeared to be due to potassic alteration, rather than previously thought hematite alteration described in the field. Additionally, the white to beige coloured alteration correlated with significant carbonate (dolomite) rather than previously thought albitization as described in the field. The host rocks for these samples were strongly altered sedimentary rocks. Although locally intrusive rock textures were suspected, they could not be confirmed.

## 8.5 Hyperspectral Analysis

Between September 7 and October 14, 2021, 16 boreholes from the Nelligan Project were scanned using geoLOGr technology sourced from Hyperspectral Intelligence Inc (HII). The majority of holes selected were focused within the Renard Zone. The hyperspectral data collected from the drill core using the geoLOGr was used to produce spectral logs that show the distribution of spectrally distinct mineral assemblages (i.e., lithotype) identified along the surface of the drill core.

The geoLOGr hyperspectral rock analyzer consists of a sensor head mounted on an extendable and height-adjustable, wheel-based metal frame. The sensor head contains a shortwave infrared (SWIR: 900 to 2,500 nanometres) point spectrometer that collects hyperspectral data in a continuous mode. It also contains a proximity sensor, a digital linescan camera, an alignment laser, as well as halogen and Light Emitting Diode (LED) light sources. The sensor head moves at a constant speed over the centerline of the drill core, collecting reflectance spectra and continuous linescan RGB colour photos. After one row of drill core has been scanned, the geoLOGr is moved by a technician to the next row. Once the hyperspectral data and drill core photographs are collected and uploaded to a secure cloud storage repository, the data are processed by HII using proprietary software tools developed to produce spectral logs that show the distribution of different lithotypes along the surface of the drill core.

In total, six different lithotypes were identified in these drill cores, with one lithotype identifying rocks that contain a high abundance of quartz/silica, which is believed to correlate with zones of increased mineralization.

A description of the main SWIR minerals identified in each lithotype is provided in Table 8-2. It is important to note that the minerals listed in the legend are representative of the dominant SWIR-active minerals. This classification confirms most of the macroscopic description of the intervals that were surveyed as the SWIR defined lithotypes are consistent with the described lithology and alterations. Furthermore, this survey will help to define more detailed composition of the complex alterations on the Nelligan deposit and can also provide information on mineralogical features that are visually challenging to describe.

**Table 8-2: Hyperspectral Lithotypes Defined at the Nelligan Project**

Lithotype	Main SWIR Minerals	Summary
Lithotype 1A	Phlogopite	Comprise mainly of mafic minerals, these three lithotype have differing relative abundances of phlogopite, Mg-chlorite, with additional minor phengite.
Lithotype 1B	Mg-chlorite & phengite	
Lithotype 1C	Mg-chlorite	
Lithotype 2A	White mica mix (HC: 2227 nm)	Each lithotype is comprised on a mixture of white micas - mainly phengitic illite and muscovite illite - with both high (HC) and low (LC) illite crystallinities. These lithotypes also contain chlorite and hornblende. The white mica trough position indicates a very high celadonite component.
Lithotype 2B	White mica mix (LC: 2227 nm)	
Lithotype 2C	White mica mix (HC: 2227 nm) + Mg-chlorite + hornblende	
Lithotype 2D	White mica mix (HC: 2227 nm) + Mg-chlorite + hornblende	
Lithotype 3A	Phengite (2229 nm)	These lithotypes are dominated by phengite, phengitic illite with low crystallinity, and muscovite. These lithotypes have a stronger SWIR response compared to Lithotype 2, which can make the rocks look brighter. White mica trough located at long wavelengths is consistent with phengite that has a very high celadonite component.
Lithotype 3B	Phengite (2223 nm)	
Lithotype 3C	Phengite (2218 nm)	
Lithotype 3D	Phengitic illite (LC: 2218 nm)	
Lithotype 3E	Muscovite (2214 nm)	
Lithotype 4A	Quartz/Silica ± Dolomite	These spectra resemble spectra collected from quartz and silica, with variable amounts of dolomite.
Lithotype 4B	Quartz/Silica ± Dolomite	
Lithotype 5	Hornblende	Spectra consistent with mafic minerals, like hornblende.
Lithotype 6	Dolomite	Carbonate spectra that closely resemble dolomite.

Source: Hyperspectral Intelligence Inc, 2021

## 9 Drilling

The Mineral Resource Estimate discussed herein is solely informed from the core drilling information. A total of 267 core boreholes have been completed on the Nelligan Project since 1978 (Table 9-1).

This section presents the drilling programs completed by IAMGOLD between 2014 and 2022. Drilling programs conducted by previous operators (prior to December 2014) are discussed in detail in Section 5 (History).

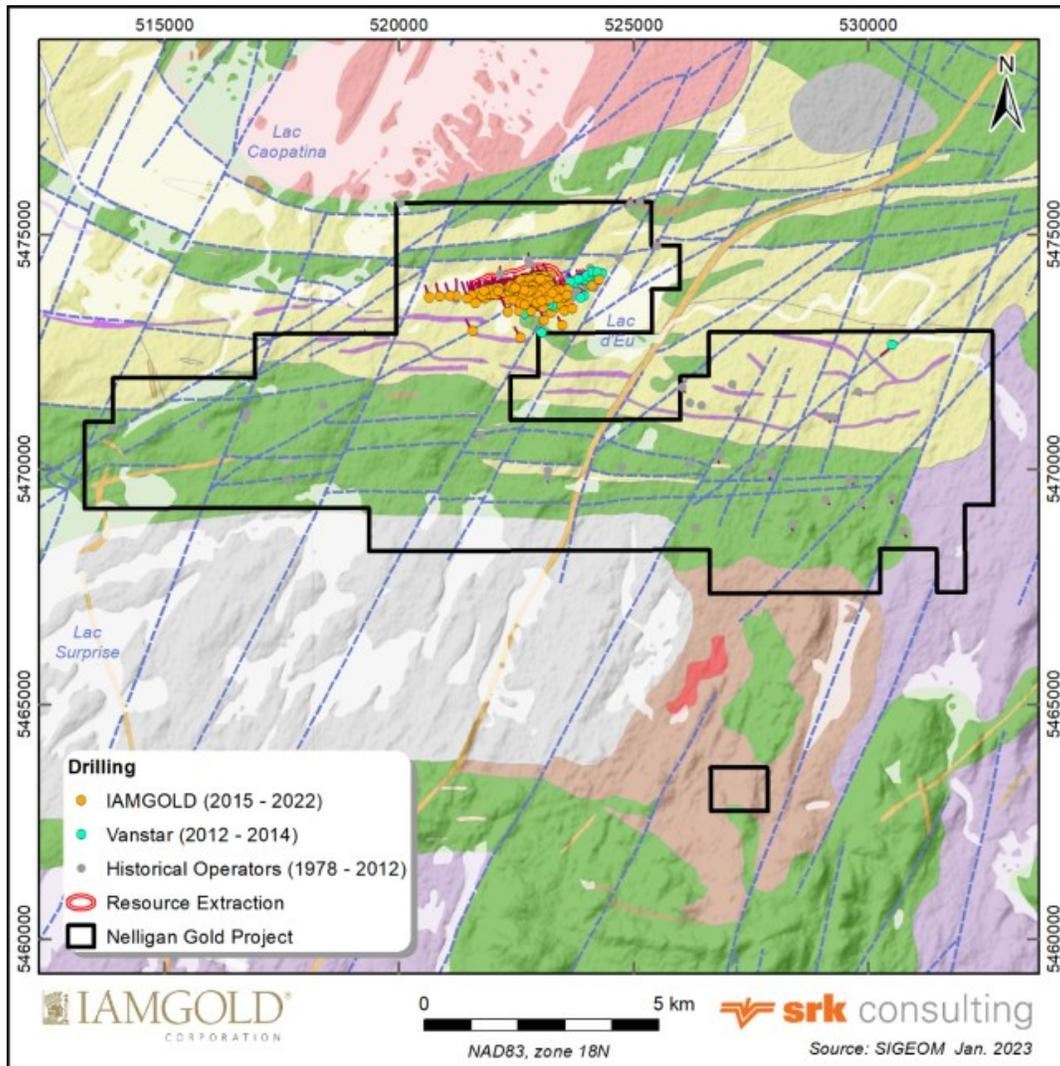
**Table 9-1: Summary of Drilling Conducted on the Nelligan Project (1978-2022)**

Company	Year	Type	Holes Drilled	Length (m)
Historical Operators	1978-1995	Core	49	7,731
Vanstar	2012	Core	11	1,968
Vanstar	2013	Core	9	1,406
Vanstar	2014	Core	15	2,401
IAMGOLD	2014	Core	3	585
IAMGOLD	2015	Core	7	2,516
IAMGOLD	2016	Core	21	7,279
IAMGOLD	2017	Core	17	7,669
IAMGOLD	2018	Core	32	13,362
IAMGOLD	2019	Core	50	17,528
IAMGOLD	2020	Core	17	7,561
IAMGOLD	2021	Core	28	9,534
IAMGOLD	2022	Core	8	4,950
<b>Total</b>			<b>267</b>	<b>84,490</b>

### 9.1 Drilling by IAMGOLD (2014-2022)

IAMGOLD completed 183 core boreholes (approximately 70,984 metres) since their involvement with the Project began in December 2014.

From 2015 to 2019, IAMGOLD drilled 129 holes for a total of 48,438 metres on the Liam, Dan, and 36 zones which also led to the discovery of the Renard Zone. This drilling confirmed the extensions of the mineralized bodies and reinforced the potential of the Project. Several exploration holes were also drilled during this time. The majority of drilling carried out between 2017 to 2022 concentrated on testing geophysical anomalies, testing geological and structural targets, and defining gold mineralized zones in the first 600 metres from surface.



**Figure 9-1: Summary of Drilling Conducted on the Nelligan Project**

Source: SIGEOM 2023

The geological information collected during the drilling campaign carried out during the winter and summer of 2020 made it possible to confirm the continuity of the Renard Zone, the Liam Zone and Zone 36 with constant gold grades, as well as highlighting the potential for extending the resource to the west.

Most of the core drilling carried out during the winter of 2022 targeted the depth extension of the Renard and Footwall Zones as well as Zone 36. Boreholes NE-22-192 to NE-22-196 successfully intercepted mineralization at depth and extended the footprint of the Nelligan deposit. Boreholes NE-22-197 and NE-22-198 successfully infilled a drilling gap between the Renard Zone and its interpreted extension to the west.

### 9.1.1 Drilling Procedures

The 2017 to 2019 drilling programs were performed by Chibougamau Diamond Drilling Ltd based in Chibougamau, Québec. The 2020 drilling program was performed by Forages Hébert based in Amos, Québec and the 2021 and 2022 drilling programs were performed by Forage G4, based in Val-d'Or, Quebec. The drilling was conducted with NQ caliber (47.6 mm core diameter) using a conventional surface drill rig.

The core from the Nelligan Project was oriented. The drillers mark the core at the end of each run using a Reflex ACT III electronic orientation tool. Before the core was removed from the core spring and then the core tube, the drillers used the tool to orient and trace a short line, at the end of the drill run, representing the bottom of the hole. This line corresponds to the in-situ underside of the core.

The casings were left intact at the end of drilling. A displacement plug was installed approximately 15 metres under the casing to prevent the water from flowing on surface. The casing was then covered with a steel cap and a steel marker was used to identify the collar by drillhole.

#### Surveying

A handheld Garmin GPSMAP 62s was used to locate the planned drill holes. Once the drill rig was lined up using a compass on the planned location, the hole starting dip was measured using a clinometer. Subsequent to completion, all collars were surveyed by a Land Surveyor, a.t.c. using a Digital Global Positioning System (DGPS) (GNSS Leica GS15).

The downhole dip and azimuth were surveyed using a Reflex EZ-Trac unit in single shot and multi shot modes. Reflex surveys start 15 metres below the end of the casing depth, and single-shot readings were taken every 30 metres until the hole is completed. When the hole reached its targeted depth, a downhole survey was completed using the multi-shot mode every 3 metres. The instrument was handled by the drilling contractors and the survey information was then electronically transferred via a USB drive to the Gems Logger database by a member of the IAMGOLD team.

All drilling programs utilized drill core orientation methodology with the Reflex ACT III System.

### 9.1.2 Logging Procedures

Once a day, an IAMGOLD technician transported the core boxes to the logging facility where the boxes were opened and cleaned. The hole length was checked, and the core was oriented. Magnetic susceptibility readings, using a SM-30 meter, along with core recovery and rock-quality designation (RQD), were measured and recorded for every 3-metre drill run in the GEMS logger database.

Once the core was received at the logging facility, a first short and concise description of the core was carried out by a professional geologist, including a quick check of the identification of the boxes and the positioning of the blocks indicating the footage. The drill cores were then aligned according to the orientation marks taken by the drillers (every 3 metres); the cores were placed end to end, and the orientation lines were extended along the entire length of the core whenever possible. This step includes measuring and identifying core boxes as well as taking magnetic susceptibility measurements.

Core recovery and rock quality designation (RQD) measurements for each run were recorded by the technician in the Gems Logger database. Core recovery was calculated by measuring recovery in percentage over each 3-metre drilling run. RQD is a measure of the degree of naturally induced jointing or fracture in a rock mass, measured as a percentage of the drill core in lengths of 10 centimeters or more for each 3-metre drill run.

A geological description of the core was completed (lithologies, major structures, alteration) and/or supervised by a registered geologist or engineer. Photographs of the dry and/or wet core were taken once the geologist has laid out the samples and inserted the sample tags. Those photographs were then archived on IAMGOLD's server.

Once logged, core sampling identification was carried out by the logging geologist with an allowed range from 0.5 metres to 1.5 metres, respecting geological contacts as much as possible with exceptions being made up to 3.0 metres when core recovery was below 60%. The lithological and structural contacts were used as sampling boundaries. During the IAMGOLD period, samples were completed for every interval. Finally, all the core boxes were photographed following a standardized procedure.

The core of each selected interval was sawn in half by an IAMGOLD technician using a pneumatic table saw. The top half was placed in a numbered plastic bag along with a corresponding ID tag for shipment to the laboratory. The core was sawed slightly to one side of the orientation reference line to preserve it for future studies. If the orientation line cannot be continued through the run, the geologist drew a cut line (dashed line) on affected pieces of core so representative samples can be collected. The bottom half with the orientation line was retained as a witness sample and returned to the core box. A tag bearing the same sample number was stapled in the box, at the end of each sampled interval.

Core orientation lines were used to measure the structures encountered within the hole, serving as a baseline at the Beta angle (0 to 360°) clockwise looking down the hole. Accurate beta angle measurements were made using specially constructed circular protractors or, more simply, a flexible wrap-around protractor printed on a transparent film. Both angles (alpha and beta) were then entered into Gems Logger, along with the hole orientation survey data. The orientations can then be determined using stereographic plotting software. The orientation line also serves as a reference during sawing for better sample homogeneity. This step includes measuring and identifying core boxes as well as taking magnetic susceptibility measurements.

## **9.2 Core Recovery**

The Project is characterized by fractured and heavily weathered zones with poor core recovery and low RQD. Such areas can locally reach core lengths of six metres with core recovery of less than 60% and may include mineralized intervals. IAMGOLD has used both NQ and HQ sized core barrels without much improvement. Similarly, triple-tube drilling was attempted in a single hole, which was unsuccessful. IAMGOLD has improved core recoveries in these zones by using a refined mix of drilling muds and ensuring the drillers were well-skilled. SRK analyzed the relationship between gold grade and core recovery and found no apparent bias.

## **9.3 Drilling Pattern and Density**

The drilling in the Nelligan Project is designed to intersect mineralized domains perpendicular to capture the true thickness. The drilling pattern spacing varies from 50 metres to 200 meters within the Nelligan deposit resource area. In the center of deposit, the drill spacing ranges from approximately 50 meters to 100 meters. The current drilling is sufficiently dense to interpret the geometry and the boundaries of gold mineralization with confidence. IAMGOLD is encouraged to reduce mineral resource uncertainty with conditional simulation and drill hole spacing studies.

## **9.4 SRK Comments**

The Qualified Person is of the opinion that the drilling density at the Nelligan Project is sufficient to support the estimation of a Mineral Resource. While the details of the quality control protocols for some of the older historical drilling were not available, this only represents 9% of the meterage available. Most of the drilling in the database was carried out by IAMGOLD, utilizing sufficient quality control procedures.

SRK, however, noted that the low core recovery during drilling presents a risk that the assay intervals are less reliable with low RQD. IAMGOLD continues to investigate further methods to improve core recovery and reduce cross-contamination of material both during extraction and core handling.

## 10 Sample Preparation, Analyses, and Security

Vanstar used Laboratoire Expert Inc. (Lab Expert) in Rouyn-Noranda for all analytical services. Lab Expert was independent of Vanstar.

IAMGOLD used two laboratories to prepare and assay the Project samples. AGAT Laboratories in Val-d'Or, Québec, was used from January 2015 until March 2016, and ALS in Val-d'Or, Québec was used from March 2016 to July 2022. Both are commercial laboratories independent of IAMGOLD with no interests in the Nelligan Project. Both laboratories received ISO/IEC 17025 accreditation through the Standards Council of Canada (SCC).

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.

### 10.1 Sample Preparation and Analyses

The following item describes the sample preparation, analysis and security procedures for the drilling results included in the current resource estimate.

The Project is characterized by three periods of data acquisition:

- Historical: before May 10, 2012
- Vanstar: from May 10, 2012, to May 26, 2014
- IAMGOLD: since December 2014

#### 10.1.1 Historical Operators (1977-2012)

The sample preparation, analyses and security procedures utilized by historical operators are unknown.

#### 10.1.2 Vanstar (2012-2014)

SRK did not have access to information regarding the detailed procedures used for sample preparation, analyses and security procedures utilized by Vanstar.

Gold was determined at Lab Expert by fire assay with atomic absorption finish to a detection limit at of 0.05 g/t gold.

### 10.1.3 IAMGOLD (2014-2022)

#### Core Samples

Although Vanstar increased the exploration and drilling effort on the Project, the most intensive period of data acquisition was the recent period since IAMGOLD's involvement.

Once logged, samples are sawn using a pneumatic table saw with a diamond blade. The operator cuts the core in two halves along the dashed line previously marked by the geologist. One half of the core remains in the core box and the other half is placed in a numbered plastic bag with a corresponding ID tag for shipment to the laboratory. Every bag is sealed with a plastic tie-wrap.

The core samples in bags are regrouped by batches of five in a rice bag including the insertion of quality control samples. The rice bags are identified with the company name, Project name and the sample's ID sequence. Once a shipment is ready, it is shipped by road transport (Transcol) to ALS laboratory.

The laboratory preparation and analyses procedures at ALS included the following:

- Samples are received at the ALS facility where they are sorted, barcoded and logged into the ALS Laboratory Information Management Software (LIMS) program.
- Samples are dried and weighed (method code WEI-21).
- Samples are crushed to +90% passing 2 millimetres (method code CRU-32).
- The crushed sample is split to 1,000 grams with a riffle splitter (method code SPL-21).
- The sub-sample is then pulverized to 95% passing a 106 microns mesh (method code PUL-35a).
- A 50-gram pulp aliquot is analyzed by fire assay (FA) with atomic absorption (AA; method code Au-AA24).
- When assay results are higher than 5 g/t gold, a second 50-gram pulp aliquot is re-assayed by FA with gravimetric finish (method code Au-GRA22).
- When assay results returned values higher than 10 g/t gold, metallic sieve analysis was completed from the 1 kilogram split or remaining reject, from which a new pulp is generated and screened at 106 microns.
- If visible gold is observed during core logging, the sample is directly sent for metallic sieve. In that case, the entire sample is pulverized and assayed (method code Au-SCR24).

Assay results are provided on Microsoft Excel spreadsheets. All the results presented in the database come from the first analysis, with predominance of the metallic sieve value, then the gravimetric value when present.

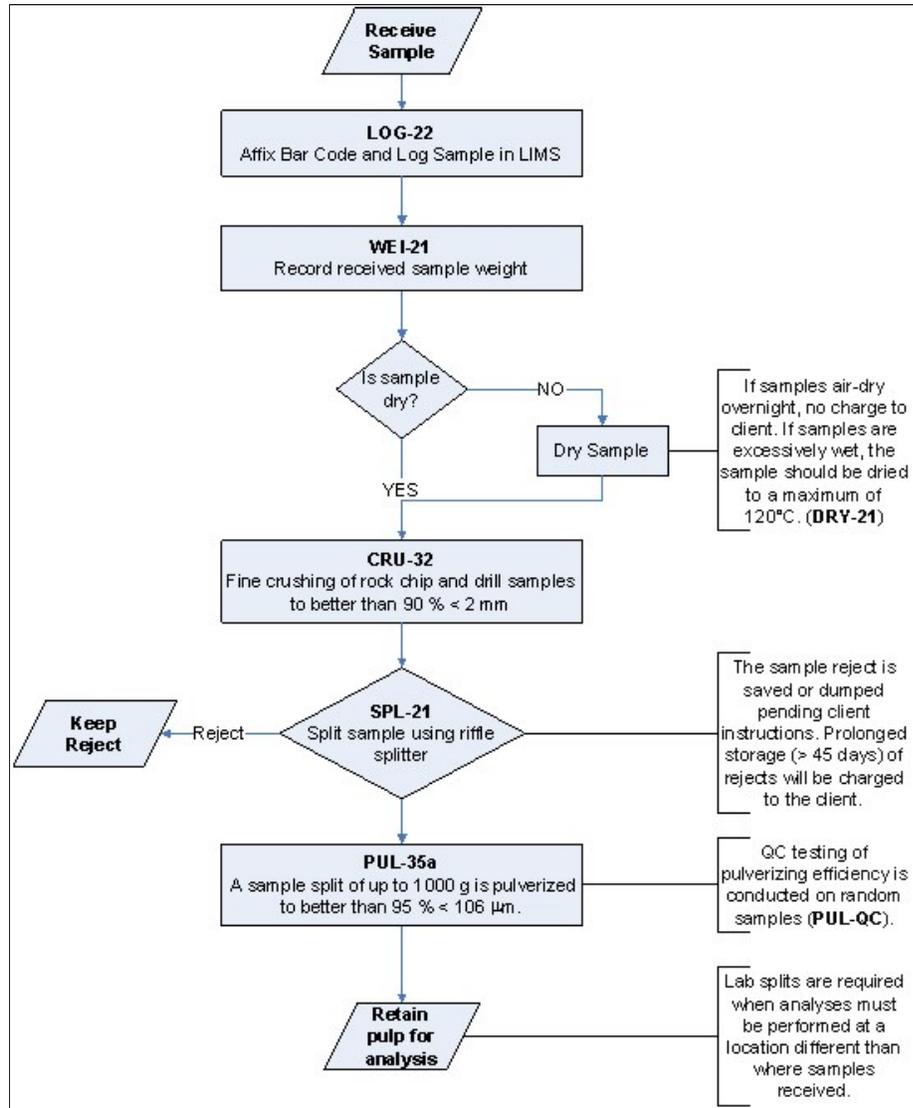


Figure 10-1: Sample Preparation Process Workflow for ALS Minerals Laboratory  
Source: IAMGOLD 2022

### Rock Samples

Rock samples collected by IAMGOLD between 2014 and 2022 followed a similar preparation as core samples and were submitted to ALS Minerals in Val d'Or for analytical testing for gold by fire assay with atomic absorption finish.

### Till Samples

Till samples weighing approximately 10 kilograms were sent to the Overburden Drilling Management Limited (ODM) Laboratory for visible gold grain counting and neutron activation dense fraction analysis (INAA). In parallel, a 1-kilogram aliquot was processed by ALS Minerals for fine fraction analysis (ICP-AES) of gold.

### Soil Samples

Soil samples collected from the B horizon were sent to ALS for Mobile Metal Ion (MMI) preparation and were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) for gold.

### Specific Gravity

Systematic measuring of bulk density was implemented on the Nelligan Project by IAMGOLD in 2018 for a total of 3,032 measurements. Measurements were taken at least every 30 metres or closer if there was a change in major lithologies. An additional 11 boreholes drilled before 2018 have bulk density measurements (209 measurements).

IAMGOLD used standard weight in water/weight in air methodology on core samples. Density is defined as the ratio of rock density to the density of a body taken as a reference (usually water).

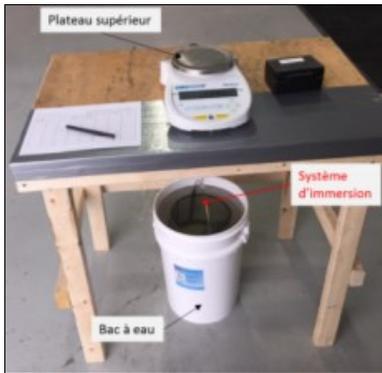
Water has the property of having a density of 1 g/cm<sup>3</sup> at a temperature of 3.98 °C and normal atmospheric pressure. The density of the rock was calculated by comparing the mass of the sample in the open air and its mass measured in water:

$$d = \frac{M}{M - M_s}$$

M = Actual dry rock mass (in g),  
M<sub>s</sub> = Mass of the rock suspended in the water (in g):  
d = Density

A CP-87 Adam Nimbus precision balance (± 0.02g) was placed on a table allowing direct measurement on the plate (carrot in the open air) and using an immersion basket for the submerged measurement (core in water) (Figure 10-2). The immersion weighing system consists of a hook provided for this purpose connected to the scale from below and finally linked by a chain to the immersion basket.

The procedure performed during this campaign was developed according to the guidelines of IAMGOLD. The water used must be clean and the level in the tank must be exact, according to a reference line provided for this purpose. The scale must also be placed perfectly level using a spirit level. Measurements are taken on half a core piece selected by the geologist, generally every 30 metres and/or at each change of lithological unit when possible. Measurements on heavily fractured rock cannot be carried out with the equipment available.



**Figure 10-2: Density Sampling Workstation**

As part of the quality control procedure, the following reference materials were used (Figure 10-3):

- Tronber brand "standard" weights with weight ranges varying from 100 grams to 0.5 grams.
- A quartz crystal with a known density of 2.65



**Figure 10-3: Calibration Weight and Quartz Crystal for Density Quality Control**

The procedure involves measuring the mass of a standard weight or the density of the quartz crystal for every five samples measured. During drill campaigns, the following sequence was carried out during the measurement of the samples for each of the boreholes: 50 grams standard before sample 1, quartz crystal after sample 5, 100 grams standard after sample 10 and quartz crystal after sample 15 and so on.

An acceptable measurement when weighing a reference material must be within the range of the certified mass or density  $\pm 2SD$  (SD being the precision of the balance, i.e. 0.02 grams). Measurements deviating from this value are considered incorrect.

## **10.2 Core Handling, Storage and Security**

Drill core is stored in wooden boxes at the drill site and labelled by drilling crews that bring it back in town. The core boxes are picked up by an IAMGOLD technician and brought to the logging facility where the core boxes are opened and displayed on logging tables.

At the end of each drilling program, the core is palleted and moved from the Chibougamau logging and core storage facilities to the IAMGOLD's storage facility in Rouyn-Noranda (Destor) where it is stored in a secure fenced area.

## **10.3 Quality Assurance and Quality Control Programs**

Quality control measures are typically set in place to ensure the reliability and trustworthiness of exploration data. These measures include written field procedures and independent verification of aspects such as drilling, surveying, sampling, assaying, data management and database integrity. Appropriate documentation of quality control measures and regular analysis of quality control data are important as a safeguard for project data and form the basis for the quality assurance program implemented during exploration.

Analytical control measures typically involve internal and external laboratory control measures implemented to monitor the precision and accuracy of the sampling, preparation, and assaying. They are also important to prevent sample mix-up and to monitor the voluntary or inadvertent contamination of samples.

Assaying protocols typically involve regularly duplicating and replicating assays and inserting quality control samples to monitor the reliability of assaying results delivered by the assaying laboratories. Check assaying is normally performed as an additional test of the reliability of assaying results. This generally involves re-assaying a set number of sample rejects and pulps at a secondary umpire laboratory.

This technical report reviews the analytical quality control measures implemented by Vanstar between 2012 and 2014 and by IAMGOLD between 2014 and 2022.

### 10.3.1 Historical Operators (1977-2012)

No information is available about the implementation of an analytical quality control program by historical operators prior to 2012. Overall, the historical period represents very little data, with only 49 boreholes and 887 samples (1.8%) inside the current mineralized domains. As discussed in the 2019 Technical Report, InnovExplo recovered the assay certificates for one hole (95-19; Chainey, 1996a), but could not find any documentation confirming sampling procedures for the other holes or whether a quality control program was in place at the time. No re-sampling or quality control checks have been performed on the historical holes.

### 10.3.2 Vanstar (2012-2014)

Analytical quality control measures for the May 2012, and May 2014, drilling programs consisted of inserting quality control samples (blanks and standard reference materials) within all sample batches submitted for assaying.

The details of the quality control procedures implemented by Vanstar were not available, however the insertion rate of control samples was inferred from the drill hole database. Blank materials were inserted approximately every 50 samples. Standard reference materials were inserted approximately every 75 samples, randomly selected and inserted into the sampling and assaying process. Additionally, approximately 8% of sample coarse reject material was resubmitted for analysis.

Vanstar used a total of four standard reference materials procured from Rocklabs Ltd. from New Zealand (Table 10-1). Vanstar used an unknown material as blank samples; this material was assumed to have zero gold values.

Analysis of other duplicate samples and umpire laboratory testing was not performed. Vanstar did not submit samples to an umpire laboratory.

**Table 10-1: Summary of Certified Reference Materials Used by Vanstar (2012-2014)**

Reference Material	Expected alue (g/t)	SD*	Inserts	Comment
<b>Low-grade gold (&lt;1 g/t)</b>				
SE58	0.607	0.019	10	Rocklabs Ltd
SG40	0.976	0.022	9	Rocklabs Ltd
<b>High-grade gold (&gt;5 g/t)</b>				
SP37	18.14	0.38	14	Rocklabs Ltd
SQ36	30.04	0.6	8	Rocklabs Ltd
<b>Total</b>			<b>41</b>	

\*SD = Standard deviation

### 10.3.3 IAMGOLD (2014-2022)

Analytical quality control data collected by IAMGOLD on the Nelligan Project involved the use of control samples (blank, standard reference materials and duplicate samples) inserted in all sample batches submitted for assaying. Umpire check assaying was performed on a selection of pulp samples across a variety of gold grades.

A total of 13 standard reference materials sourced from Rocklabs and Ore Research & Exploration Pty Ltd (OREAS) of Australia were used between 2015 and 2022 (Table 10-2). Blank material consisted of barren rock (decorative quartz pebbles). Each sample of the blank material was placed into a plastic sample bag and given a sample identification number. Blanks were sent to both laboratories and went through the same sample preparation and analytical procedures as the core samples.

For the reference material, one standard is inserted every 25 core samples with a specific sequence. One blank material is inserted every 25 core samples following a pre-define sequence. The insertion rate for pulp duplicate samples was 1 in 10 between December 2014 to 2017 and 1 in 50 between 2018 to 2022, equating to an overall average of 1 every 25 sample. Extra blank material is inserted before and after a sample that hosts visible gold.

Coarse rejects and pulp duplicates are inserted by the laboratory alternatively and randomly at a rate of one in 50 core samples. IAMGOLD did not include field duplicates in their quality control program.

In total, IAMGOLD aims to insert a minimum of 5% quality control samples.

**Table 10-2: Summary of Certified Reference Materials Used by IAMGOLD (2015-2022)**

Reference Material	Expected Value (g/t)	SD*	Inserts	Comment
<b>Low-grade gold (&lt;1 g/t)</b>				
OREAS 217	0.338	0.01	492	Ore Research & Exploration Pty Ltd
SE68	0.599	0.013	51	Rocklabs Ltd
OxF125	0.806	0.02	36	Rocklabs Ltd
SF67	0.835	0.006	104	Rocklabs Ltd
SF85	0.848	0.018	27	Rocklabs Ltd
OREAS 220	0.866	0.02	85	Ore Research & Exploration Pty Ltd
<b>Medium-grade gold (1-5 g/t)</b>				
OREAS 221	1.06	0.036	296	Ore Research & Exploration Pty Ltd
SH82	1.333	0.027	33	Rocklabs Ltd
OxI121	1.834	0.05	98	Rocklabs Ltd
SJ80	2.656	0.057	8	Rocklabs Ltd
OREAS 215	3.54	0.097	163	Ore Research & Exploration Pty Ltd
SK78	4.134	0.04		Rocklabs Ltd
<b>High-grade gold (&gt;5 g/t)</b>				
OREAS 229	12.11	0.206	113	Ore Research & Exploration Pty Ltd
<b>Total</b>			<b>1,506</b>	

\*SD = Standard deviation

## 10.4 SRK Comments

SRK reviewed the field procedures and analytical quality control measures used by IAMGOLD and historical operators where possible. The analysis of the analytical quality control data is presented in Section 11 below. In the opinion of SRK, IAMGOLD personnel used care in the collection and management of the field and assaying exploration data. Based on historical reports and data, SRK has no reason to doubt the reliability of exploration and drilling information provided for the Nelligan Project. In the opinion of the Qualified Person, the sampling preparation, security, and analytical procedures used by IAMGOLD are adequate for the purpose of informing mineral resources.

## 11 Data Verification

### 11.1 Verifications by IAMGOLD

The exploration work carried out on the Nelligan Project was conducted by IAMGOLD personnel and qualified subcontractors using documented Standard Operating Procedures (SOPs). IAMGOLD implemented a series of routine verifications to ensure the collection of reliable exploration data. All work was conducted by appropriately qualified personnel under the supervision of qualified geologists.

The quality assurance and quality control program implemented by IAMGOLD is comprehensive and was supervised by adequately qualified personnel. The Nelligan Project database is maintained by IAMGOLD, and exploration data were recorded digitally to minimize data entry errors. Core logging, surveying, and sampling were monitored by qualified geologist and verified routinely for consistency.

Data were captured and managed using Gems Logger software, which includes built-in validation tools to prevent data entry errors including overlapping intervals and contradictory data. Assay results were delivered by the primary laboratories electronically to IAMGOLD. Analytical data were examined for consistency and completeness prior to being entered into the database. Sampling intervals that did not meet analytical quality control standards were re-assayed where necessary.

The use of CRM is divided into two periods. Between December 2014 to 2018, IAMGOLD used Rocklabs standards. However, since Rocklabs materials returned recurring issues with insufficient samples, in 2018 IAMGOLD switched to OREAS standards.

As part of validation procedures, IAMGOLD sent a selection of pulp duplicate samples to a secondary laboratory for validation. From December 2014 to 2021, IAMGOLD selected 1,350 samples to be collected and sent to an umpire lab for check assay analysis which represent 2.8% of total core analyzed. The results from these paired data analyses are discussed below.

### 11.2 Verifications by InnovExplo (2019)

In 2019, InnovExplo performed a data verification program of the diamond drill hole database used for the 2019 Mineral Resource model. All drill hole results up to July 23, 2019, were available for verification. InnovExplo's data verification included visits to the Project (including drill sites and the core logging and storage facilities), as well as an independent review of the data for selected boreholes (surveyor certificates, assay certificates, QA/QC program and results, downhole surveys, lithologies, alteration and structures). It also included:

- A review of historical drilling
- Re-surveying of boreholes
- Validating downhole survey information
- Comparison of assay database to original laboratory certificates

- A review of core intervals in relation to the drillhole database
- An independent resampling program

InnovExplo was granted access to the original assay certificates (.csv and .pdf files) for all holes drilled by Vanstar and IAMGOLD (2012 to 2019). The assay results in the database were compared to the original laboratory certificates. Minor errors of the type normally encountered in a project database were found and corrected. The final database was considered to be of good overall quality.

InnovExplo excluded 11 historical boreholes from the 2019 mineral resource database due to a lack of information available about sample preparation, analytical or security procedures in the reviewed documents from the historical period.

Seven casings were validated during the site visit using a GPSMAP 76CSx. The differences between InnovExplo measurements and those recorded in the IAMGOLD database were within the order of precision of the instrument. InnovExplo concluded that the collar locations were adequate and reliable.

InnovExplo selected a series of intervals from the 2018 drilling program for resampling. During the InnovExplo' site visit, quarter-splits of selected core intervals were sawed by IAMGOLD personnel. InnovExplo bagged the samples and transported them to ALS to be analyzed.

The resampling results indicate a good reproducibility of the original sample assay results. InnovExplo believed the field duplicate results from the independent resampling program are reliable and valid for a gold project.

InnovExplo's data verification concluded that the data and protocols for the Project were acceptable. InnovExplo considered the IAMGOLD database to be valid and of sufficient quality for a mineral resource estimate.

## **11.3 Verifications by SRK**

### **11.3.1 Site Visit**

In accordance with National Instrument 43-101 guidelines and the requirements for a Qualified Person, Mr. Sandeep Prakash, PGeo (OGQ#02341) visited the property between August 8 and August 12, 2022. The purpose of the site visit was to inspect the property, conduct field investigations and discuss with IAMGOLD the controls on the distribution of the gold mineralization. Mr. Prakash reviewed the initial wireframes constructed by IAMGOLD geologists considering geology, structure, alteration, and gold grades for major mineralized domains.

Mr. Blair Hrabi, PGeo (APGO#1723) from SRK accompanied Mr. Prakash on the site visit. Marie-France Bugnon (General Manager Exploration) and Shana Dickenson (Senior Geologist) from IAMGOLD accompanied the SRK team during the site visit.

The site visits took place during no active drilling activity. Mr. Prakash reviewed the assay laboratory sample preparation, analysis and QA/QC procedure as presented by Naomi Goma.

The Qualified Person examined core from several boreholes and found that the logging information accurately reflects actual core and logged lithologies in the digital logsheets. The lithology contacts checked by SRK match the information reported in the core logs. The current data collection mapping, drilling, drill hole core handling, and chain of custody of logging, sampling, analytical quality control performance and found the practices employed by IAMGOLD Nelligan project to be consistent to industry standard practices.

The Qualified Person located four borehole collar locations as an additional check on the drill database. A Garmin inReach Explorer + was used during the site visit to collect the collar coordinates of these holes. The results of borehole collar locations are presented in Table 11-1. The northing, easting are within  $\pm 2$  metres, which is within the tolerance of the GPS instrument used. Although the elevation of drillhole collars show higher variability from the database, the handheld GPS is less accurate in this direction. SRK believes that the collar locations recorded in the drilling database are accurate.

**Table 11-1: Verification of Drill Hole Collar Survey**

Hole ID	IAMGOLD Database*			SRK Surveyed*			Difference (m)		
	X	Y	Z	X	Y	Z	X	Y	Z
NE-21-172	522,845	5,473,813	380	522,844	5,473,812	411	-1.4	-0.8	31.2
NE-21-169	522,841	5,473,925	379	522,840	5,473,927	405	-1.4	1.5	25.6
NE-19-133	522,952	5,474,058	382	522,951	5,474,057	393	-0.6	-0.5	10.9
NE-21-171	523,007	5,474,050	381	523,006	5,474,050	392	-1.0	-0.3	10.6

\*NAD83 UTM Zone 18

### 11.3.2 Verifications of Analytical Quality Control Data

IAMGOLD provided SRK with external analytical quality control data results produced by Vanstar and IAMGOLD for core sampling programs conducted between 2012 and 2022. All data was provided in Microsoft Excel spreadsheets. SRK Aggregated the assay results of the external analytical control samples for further analysis. Control samples (blanks and standards) were summarized on time series plots to highlight the performance of the control samples. Paired data (field and pulp duplicates and check assays) were analyzed using bias charts, quantile-quantile, and relative precision plots.

#### Vanstar (2012-2014)

The external analytical quality control data produced by Vanstar between May 2012 to May 2014 are summarized in Table 11-2 and presented in graphical format in Appendix B.

The external analytical quality control data produced by Vanstar on this Project represent approximately 12% of the total number of core samples collected and submitted for assaying.

**Table 11-2: Summary of Analytical Quality Control Data Produced by Vanstar on the Nelligan Gold Deposit (2012-2014)**

	<b>Core</b>	<b>(%)</b>	<b>Comment</b>
Sample Count	3,057		
Blanks	77	2.55%	
QC samples	41	1.34%	
SE58	10		Rocklabs (0.607 g/t)
SG40	9		Rocklabs (0.976 g/t)
SP37	14		Rocklabs (18.14 g/t)
SQ36	8		Rocklabs (30.04 g/t)
Pulp Replicates	234	7.65%	
Field Duplicates	-		
<b>Total QC Samples</b>	<b>353</b>	<b>11.55%</b>	

Approximately 4% of the samples analyzed were control samples included in the sampling and assaying process, including 77 blanks and 41 standard reference materials.

Blanks were inserted in the sampling and assaying process to monitor whether contamination or sample cross-contamination had occurred during the process. In general, analyses of blank samples consistently yielded gold values below 10 times the detection limit, with no samples returning values above the warning limit.

Although only a small number (41) of analyzed certified reference materials were available for this period, the results were overall acceptable, typically without failures. Reference material SG40 had a single failure and displayed a positive bias throughout its limited use in 2013 and 2014.

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 234 pulp duplicates were analyzed by Lab Expert during the Vanstar period. The pulp duplicates consist of second splits of the sample prior to the pulverization and homogenization. Both original and duplicate samples were assayed according to regular sample procedures at the primary lab.

Overall, the performance of pulp duplicate samples analyzed between 2012 and 2014 performed excellently, with over 90% of sample pairs returning Half Absolute Relative Difference (HARD) values below 10%, indicating good reproducibility of assay results.

**IAMGOLD (2014-2022)**

The external analytical quality control data produced by IAMGOLD from December 2014 to December 2022 are summarized in Table 11-3 and presented in graphical format in Appendix B. The external quality control data (blanks, standard reference materials and umpire check duplicates) produced on this project represent approximately 12 percent of the total number of samples assayed. The total number of control samples analyzed varies slightly depending on which analytical method was used.

**Table 11-3: Summary of Analytical Quality Control Data Produced by IAMGOLD on the Nelligan Gold Deposit**

	Core	(%)	Comment
Sample Count	44,870		
Blanks	2,037	4.54%	
QC samples	1,772	3.96%	
OREAS 217	492		Ore Research & Exploration Pty Ltd (0.338 g/t)
SE68	51		Rocklabs Ltd (0.599 g/t)
OxI125	36		Rocklabs Ltd (0.806 g/t)
SF67	104		Rocklabs Ltd (0.835 g/t)
SF85	27		Rocklabs Ltd (0.848 g/t)
OREAS 220	420		Ore Research & Exploration Pty Ltd (0.0.866 g/t)
OREAS 221	248		Ore Research & Exploration Pty Ltd (1.06 g/t)
SH82	7		Rocklabs Ltd (1.333 g/t)
OxI121	98		Rocklabs Ltd (1.834 g/t)
SJ80	8		Rocklabs Ltd (2.656 g/t)
OREAS 215	163		Ore Research & Exploration Pty Ltd (3.54 g/t)
SK78	113		Rocklabs Ltd (4.134 g/t)
OREAS 229	8		Ore Research & Exploration Pty Ltd (12.11 g/t)
Coarse Duplicates	1,132	2.52%	Laboratory internal
Pulp Duplicates	1,883	4.20%	Laboratory internal
<b>Total QC Samples</b>	<b>4,944</b>	<b>11.02%</b>	
Check Assays			
ALS and AGAT	1,350	3.01%	Umpire pulp replicates

A total of 44,870 core samples have been taken with an additional 4,944 quality control samples analyzed (blanks, standard reference materials, pulp and coarse reject duplicates) representing approximately 11% of the total samples in the database (excluding external check assays).

A total of 2,037 blank samples have been inserted during the IAMGOLD period. Blank samples analyzed at both ALS and AGAT consistently yielded below 10 times the detection limit of the labs. The results show little to no contamination throughout the course of IAMGOLD's drilling programs.

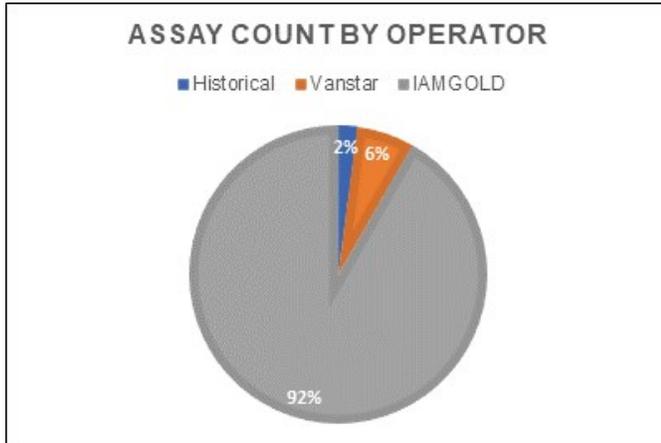
The performance of certified reference materials used by IAMGOLD were overall acceptable, typically below 6% of samples returning over three standard deviations of the expected value. A number of failures may be attributed to the mislabeling of reference materials. Some reference materials sourced from Rocklabs display periods of minor bias (OxI121 and SK78), however these referenced materials were discontinued in 2017 with the introduction of OREAS standards in 2018.

Paired data analysis of coarse reject duplicates analyzed by ALS performed well, with no obvious evidence of analytical bias and good reproducibility for this type of sample. The performance of pulp duplicate samples analyzed by ALS between 2016 to 2022 performed acceptably, with 85% of sample pairs returning values below 10% HARD value, indicating good reproducibility and homogenization of samples.

Overall, the performance of paired coarse reject and pulp duplicate data analyzed by the umpire laboratory, AGAT, performed acceptably, with over 70% of paired samples performing under 10% HARD and over 9% of pairs returning less than 30% HARD. These results show no obvious evidence of analytical bias. Higher grade (>10 g/t gold) display good reproducibility between laboratories.

## 11.4 SRK Comments

Although the insertion rates for standard reference materials submitted during the historical and Vanstar periods are either non-existent or low according to best practices, this data represents approximately only 8% of the total drilling database based on assay counts (Figure 11-1).



**Figure 11-1: Proportion of Assayed Intervals by Operator**

In the opinion of the Qualified Person, the review of analytical quality control data produced by IAMGOLD are sufficiently reliable for the purpose of Mineral Resource estimation. SRK recommends continued diligence in monitoring the performances of standard reference materials and implementing corrective action as required.

## **12 Mineral Processing and Metallurgical Testing**

SRK has relied on information provided by Rémi Lapointe, Metallurgy Director for IAMGOLD Corporation, for Section 12 of this report.

### **12.1 Characterization and Preliminary Metallurgical Testwork**

In 2019, basic metallurgical, mineralogical and environmental testwork was carried out on samples from the two main zones of the Project by SGS Minerals. Three composites were used, including two from the Renard Zone and one from Zone 36.

Mineralogy testing included a characterization for screened metallic for Au and Ag, sulphur, whole rock analysis (ICP method), and graphitic carbon. A gold deportment study was also completed to provide information on gold distribution, grain size, and metallic and mineral associations. Metallurgical testing included standard pre-robbing tests (Whole + carbon-in-leach (CIL)), flotation followed by cyanidation of the tails (Flotation + CN), gravity separation followed by gravity tailing cyanidation (Gravity + CN Gravity Tails), and whole-ore cyanidation (Whole + CN). Environmental testing included acid-base accounting (ABA).

The gold deportment study results showed that gold is primarily contained within pyrite. For composite 1, 38.5% was locked in the mineral; for composite 2, 21.7%; and for composite 3, 64%. The study also showed that composite 3, from Zone 36, contains finer gold compared to the Renard Zone composites (Table 12-1).

**Table 12-1: Gold Department Study Results**

Sample ID	Gold Grade (g/t Au)	Association	Number of Gold Grains	Gold Distribution (%)	Size Range (µm)	Average Size (µm)	Gold Mineral Abundance	Minerals Associated with Exposed and Locked Gold-Minerals
Comp 1	1.18	Liberated	20	30	0.6 - 53.2	10.9	Native Gold (~83%), Calaverite (~13%), Electrum (~3%), Pertzite, and Au-Ag-Hg (~1%)	Altaite/Pyrite (41.9%), Pyrite (40.2%), Dolomite (13.1%), Barite (3.5%), and Tennantite/Pyrite, FeAs/Altaite, Sulphur/Pyrite (<1%)
		Exposed	51	31.4	0.6 - 37.3	3.3		
		Locked	76	38.5	0.6 - 4.4	1.6		
			147	100		3.5		
Comp 2	1.36	Liberated	17	20.3	1.0 - 32.8	8	Native Gold (~73%), Calaverite (~9%), Pertzite (~8%), Au-Te (~6%), Sylvanite (2%), and other gold minerals (~2%)	Pyrite (45.0%), Silicates (19.4%), Calcite (9.91%), Altaite/Silicates (8.74%), Altaite/Pyrite (5.95%), Sulphur/Silicates (3.17%), Tennantite/Pyrite (3.07%), Altaite/Calcite (2.14%), and other gold minerals (<2%)
		Exposed	49	58	0.6 - 7.9	2.3		
		Locked	108	21.7	0.6 - 6.7	1.6		
			174	100		2.4		
Comp 3	0.8	Liberated	5	18.1	1.1 - 28.8	8	Native Gold (~75%), Au-Ag-Te (~11%), Pertzite (~10%), Calaverite (~2%), and other gold minerals (~2%)	Pyrite (62.7%), Dolomite (24.5%), Silicates/Pyrite (5.44%), Chalcopryrite/Pyrite (4.15%), and trace amounts (<2%), of Silicates, Dolomite/Pyrite, Rutile/Chalcopryrite/Pyrite, Rutile/ Iron oxides/Pyrite, Tennantite/Pyrite
		Exposed	26	18.2	0.8 - 4.1	2.1		
		Locked	104	63.7	0.6 - 6.6	1.5		
			135	100		1.8		

Source: Deshaies 2019

Following this study, several scenarios were performed to try to improve the gold recovery. The best results were obtained using the flotation scenario with a recovery of about 94% of the sulphides and 84% of the gold in the concentrate with an average mass pull of 17%. With 16% gold remaining in the flotation tails, it is necessary to also cyanide the tails to verify the possibility of extracting more. Thus, by regrinding the concentrate to 10 µm and separately leaching the concentrate and tails, it was possible to enhance the gold recovery rate as shown in (Table 12-2; Deshaies, 2019).

**Table 12-2: Gold Recovery Rates According to the Scenarios Tested**

Tests		Au Recovery (%)						
		Flotation+CN (tails 53 µm +Conc10 µm)	Whole+CIL (53 µm) 500 ppm	Whole+CN (53 µm)		Whole+CN (75 µm) 500 ppm	Gravity+CN Gravity Tails (53 µm)	
				500 ppm	1000 ppm		500 ppm	1000 ppm
Zone Renard	Comp 1	90.4	80.7	81.7	83.5	79.8	85.3	80.5
	Comp 2	93.5	86.1	86.0	86.1	83.2	88.9	87.6
Zone 36W	Comp 3	78.1	71.0	72.4	74.3	67.1	78.3	77.8

Source: Deshaies, 2019

Combined with the gold department, results showed that to be able to access the gold, which is very fine, and a significant percentage is contained in the minerals, it would be necessary to proceed with an ultra-fine particle grinding which would be too expensive to realize on the all-coming. The flotation of the ore and then to regrind the concentrate before leaching it, appears to be the most attractive solution in 2019 (Deshaies, 2019).

In 2021, 15 samples (called VT-1 to VT-15) were sent to SGS Québec Laboratory. The goal of this program was to provide a comprehensive characterization of fifteen samples representing different zones of the IAMGOLD Nelligan orebody and to evaluate the impact on gold recovery of implementing flotation and regrinding before cyanidation. The project also evaluated the impact of the grind size of the primary grinding product and of the flotation concentrate regrinding product.

The characterization has shown that the gold content of the samples varied from 0.55 to 1.80 g/t with the +150 mesh size fraction (when stage crushed to minus 10 mesh), displaying gold content from 1.24 to 3.56 g/t. None of the samples contained more than 0.05% of graphitic carbon. Sulphur contents varied from 1.8 to 7.2%. Pyrite contents varied from 3.3% to 17.9%. Fairly significant concentrations of micas (5.2% to 29%) were measured in the different samples. The main gold occurrence was native gold (62% to 99%).

Pyrite was well liberated and well exposed when the ore was ground at P80 of approximately 75 µm. Pyrite particle size varied from 5 to 140 microns, with more than 40% being between 30 to 60 microns.

The grindability tests have shown that an important variability exists between the different samples provided: SAG Mill Comminution (SMC) Axb indices varying from 30 to 75, it is moderately soft range to very soft in terms of A X b. The data is included in Table 12-3.

**Table 12-3: SAG Mill Comminution Grindability Test Results**

Sample ID	A	b	A x b	Hardness Percentile	t <sub>a</sub>	SCSE (kWh/t)	Hardness Percentile	DWI (kWh/m <sup>3</sup> )	M <sub>ia</sub> (kWh/t)	M <sub>ih</sub> (kWh/t)	M <sub>ic</sub> (kWh/t)	Relative Density
VT-01	74.0	0.68	50.3	42	0.48	8.93	41	5.39	16.3	11.5	6.0	2.71
VT-02	96.1	0.37	35.6	71	0.33	10.62	72	7.79	21.3	16.2	8.4	2.78
VT-03	77.5	0.39	30.2	84	0.28	11.42	83	9.07	24.3	19.1	9.9	2.75
VT-04	77.1	0.45	34.7	74	0.32	10.77	75	8.11	21.9	16.9	8.7	2.79
VT-05	71.3	0.43	30.7	84	0.28	11.49	84	9.14	24.0	18.9	9.8	2.80
VT-06	81.5	0.51	41.6	58	0.40	9.66	54	6.42	18.9	13.9	7.2	2.68
VT-07	70.0	0.80	56.0	34	0.53	8.54	33	4.89	15.0	10.4	5.4	2.72
VT-13	72.0	0.83	59.8	31	0.56	8.34	29	4.59	14.2	9.7	5.0	2.74
VT-14	85.6	0.51	43.7	54	0.41	9.58	52	6.32	18.2	13.3	6.9	2.75
VT-15	74.1	1.01	74.8	19	0.69	7.68	19	3.75	11.8	7.8	4.0	2.79

\* The t<sub>a</sub> value reported as part of the SMC procedure was an estimate  
Source: SGS Canada Inc., 2021

Bond rod mill indices ranged from 7.1 to 11.7 kWh/t (SGS database hardness percentiles from 3 to 22), Bond ball mill indices ranged from 9.3 to 12.9 kWh/t (SGS database hardness percentiles from 7 to 34), and Bond abrasion A<sub>i</sub> indices varied from 0.16 to 0.72 grams (SGS database abrasion percentiles from 33 to 92).

When pyrite concentrates produced by flotation were submitted to the IsaMill testwork procedure, it was found that the presence of mica makes it difficult to produce a grind size of ~10 µm. Metallurgical testwork has shown that, for most of the ore samples, a process where a pyrite concentrate is produced by flotation (from a ground product at a P80 of ~75 µm), and then reground to a P80 of ~25 µm, prior to selective cyanidation of the rougher concentrate and of the flotation tail provides higher percentages of gold extraction than a process where the whole ore (ground to a P80 of ~53 µm) is submitted to cyanidation right after primary grinding. Gold extractions were higher by 2.2 to 9.3% in the flowsheet incorporating flotation. For some samples where it was possible, regrinding the flotation concentrate to a P80 of ~10 µm (versus regrinding to a P80 of ~25 µm) resulted in higher gold extraction (Gold extraction higher by 0.7 to 5.3%).

Table 12-4 summarizes the impact of flotation and regrind of concentrate and tail on the overall recovery.

**Table 12-4: SAG Mill Comminution Flotation Test Results**

Test No.	Zone Name	Gold Extraction (%)					Overall	CN1 vs Overall Extraction Difference (%)
		Whole Ore CN1	Flotation	Flotation Tail CN2	Flotation Conc. CN3			
VT1	36W	69.0	84.1	79.9	73.1	74.2	5.2	
VT2	36W	70.0	80.8	75.8	78.9	78.3	8.3	
VT3	Dan	94.7	93.3	84.4	98.5	97.6	2.9	
VT4	Liam	88.6	85.6	83.5	95.6	93.9	5.2	
VT5	Liam	91.8	96.6	75.8	95.3	94.6	2.9	
VT6	Renard	82.3	82.3	78.7	91.1	88.9	6.6	
VT7	Renard FW	84.4	79.6	78.3	88.7	86.6	2.2	
VT8	Renard	90.5	85.4	80.4	95.4	93.2	2.8	
VT9	Renard	75.9	82.9	74.2	80.9	79.8	3.9	
VT10	Renard	83.9	85.2	81	89.7	88.4	4.5	
VT11	Renard	85.6	79.5	80.3	90.6	88.5	2.9	
VT12	Renard	83	82.5	68.8	91.9	87.8	4.8	
VT13	Renard	82.9	83.2	70.1	90.6	87.1	4.2	
VT14	Renard	84.5	90.2	76.7	92	90.5	6	
VT15	Renard 1	76.9	77.5	69.7	91	86.2	9.3	

Source: SGS Canada Inc., 2021

Solid-Liquid separation testwork indicated the bulk flotation concentrates responded well to Magnafloc 10 flocculant; this is for products at two different grind sizes.

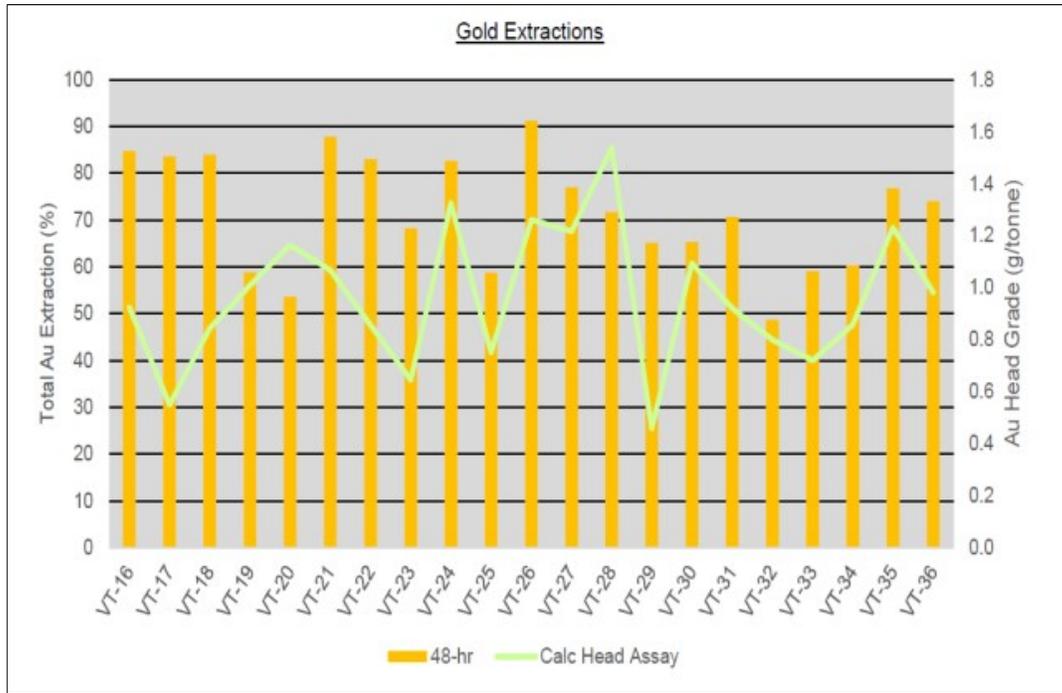
The cyanidation test program also explored the impact of varying leach parameters such as the maintained free cyanide concentration, the total leach time, and the conditioning lead nitrate dosages.

Environmental testing was performed on five selected samples; one sample (VT-5 CN1 Residue) will be acid-generating based on the Net Acid Generation test procedure, while the ABA test showed all the samples tested could potentially generate acid.

In summer 2022, 21 samples (called VT-16 to VT-36) were transferred to ALS Metallurgy Kamloops laboratory, which had been crushed to pass 6-mesh. The samples were homogenized and split into 1 kilogram test charges for the metallurgical study.

Two representative head cuts were split from each of the 21 Nelligan samples and assayed for gold by fire assay. A summary of the head assay results is summarized in Figure 12-1. Gold contents ranged on average between 0.46 and 1.67 g/tonne.

Each of the 21 Nelligan samples were tested using similar test conditions to evaluate the cyanidation leach extraction of gold. This involved conducting cyanidation bottle roll testing at nominal 75µm K80 at 50 percent by weight solids, pH 11, and maintaining a sodium cyanide concentration of 300ppm NaCN for 48 hours. Oxygen was sparged into the bottle headspace prior at each measurement interval.



**Figure 12-1: Cyanidation Leach Extraction of Gold at 21 Nelligan Samples**

Source: Sloan, 2022

The average gold extraction after 48 hours was 72 percent, ranging from 49 percent in sample VT-32 to about 91 percent for sample VT-26. For all the samples, most of the gold was extracted within 24 hours. Cyanide consumptions were relatively low, measuring between 0.03 to 0.35 kg/tonne, and lime consumption was on average about 0.5 kg/tonne.

The grinding size is very important, and fine grinding will be necessary for increase the recovery. Therefore, more comminution tests should be done.

IAMGOLD's metallurgist recommends using at this stage of the project a standard Gravity and CIL process and fixed gold recovery at 83% until a more representative metallurgical testing program is completed.

The heap leach process also needs to be evaluated. Heap leaching has been applied with remarkable success to a wide variety of gold and silver ores where grade or reserves are not sufficient to justify the capital and operating expenses of a conventional or carbon-in-pulp plant. Heap leaching is particularly suitable to low-cost open pit mining or to waste rock containing generally less than 2 grams Au per-tonne.

## 13 Mineral Resource Estimates

### 13.1 Introduction

The Mineral Resource Statement presented herein represents the second Mineral Resource Estimate prepared for the Nelligan Project in accordance with the Canadian Securities Administrators' National Instrument 43-101.

The mineral resource model prepared by SRK considers 267 core boreholes (84,490 metres) drilled by IAMGOLD, Vanstar and historical operators during the period of 1978 to 2022. The resource estimation work was completed by Mr. Sandeep Prakash, PGeo (OGQ#02341), an independent Qualified Person as this term is defined in National Instrument 43-101. The effective date of the Mineral Resource Statement is February 10, 2023.

This section describes the resource estimation methodology and summarizes the key assumptions considered by SRK. In the opinion of SRK, the resource evaluation reported herein is a reasonable representation of the global gold mineral resources found in the Nelligan Project at the current level of sampling. The mineral resources have been estimated in conformity with generally accepted CIM *Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines* (2019) and are reported in accordance with the Canadian Securities Administrators' National Instrument 43-101. Mineral resources are not mineral reserves and have not demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

The database used to estimate the Nelligan Project mineral resources was audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries for gold mineralization and that the assay data are sufficiently reliable to support mineral resource estimation.

Leapfrog Geo™ software (version 2022.1.) was used to construct the geological solids. SRK used a combination of Leapfrog EDGE™ (extension), and Datamine Supervisor version 8.14.3 (Supervisor) to prepare assay data for geostatistical analysis, construct the block model and estimate gold grades.

### 13.2 Resource Estimation Procedures

The resource evaluation methodology involved the following procedures:

- Database compilation and verification.
- Review of wireframe models and estimation domains in Leapfrog software.
- Data conditioning (compositing and capping) for geostatistical analysis and variography.
- Selection of estimation strategy and estimation parameters.
- Block modelling and grade interpolation.
- Model validation, classification and tabulation.

### 13.3 Resource Database

The mineral resource model is based on a database comprised of 267 core boreholes (84,490 metres). IAMGOLD provided the mineral resource database as part of a Leapfrog project. The first set of header, down-hole survey, lithology, alteration, structure and geotechnical logging intervals, and assay results was received on July 20, 2022. SRK and IAMGOLD collaborated to clean and remediate some technical issues and missing intervals in the database. The database for this updated resource estimate was finalized on August 11, 2022.

Since 2020, IAMGOLD drilled 53 holes (22,045 metres) to expand the resource base, particularly to the west. The drilling database comprises 267 core boreholes (84,490 metres), of which 203 boreholes intersect the mineralized domains. An additional 24 boreholes from 1987-2016 (3,935 metres; 1987 (6), 1988 (17) and 2016 (1)) outside of domains were added to the 2022 database.

Table 13-1 shows there is a 28% percent increase in drilled meters in comparison with the database used for the 2019 mineral resource statement. The effective date of the database includes drilling completed up to April 21, 2022, with NE-22-198 as the last borehole added to the exploration database.

**Table 13-1: Nelligan Drilling Database Comparison Inside Mineral Resource Domains**

Year	Data	Up to 2019 DD Exploration	2020 - 2022 DD Exploration	Total
2019 Model	Collars	190		190
	Drilled meters (m)	56,966		56,966
	Assays	34,796		34,796
2022 Database	Collars	24	53	267
	Drilled meters (m)	3,935	22,045	78,921
	Assays	0	14,121	48,917
Database Change	Collars		20%	29%
	Drilled meters (m)		28%	28%
	Assays		29%	29%

SRK was provided with 48,917 assayed intervals (78,921 metres) which represents a 29% increase in comparison with the database used for the 2019 mineral resource model.

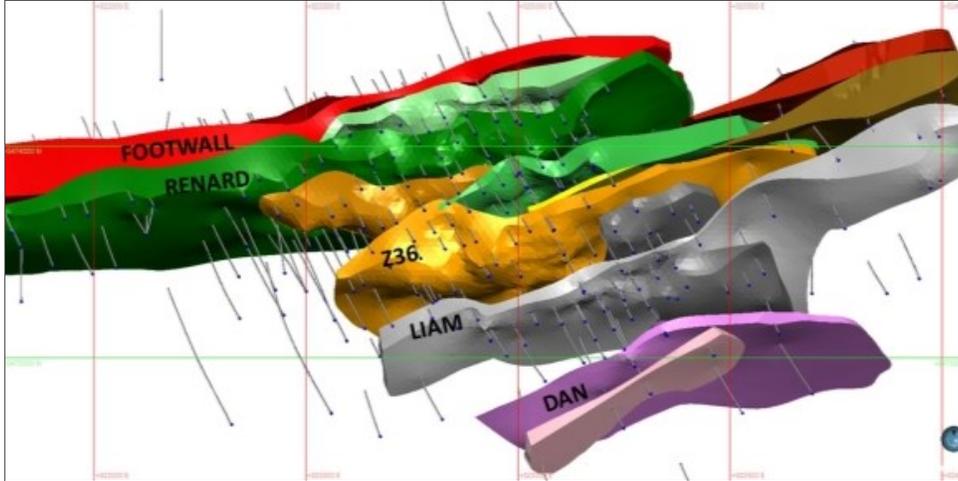
### 13.4 Geological and Domain Modelling

The construction of the mineral resource domains was a collaborative effort between IAMGOLD and SRK staff. IAMGOLD personnel provided initial wireframes considering geology, structure, alteration and gold grades for major mineralized domains. SRK provided some feedback after a field visit that led to slight changes in the mineralization domains.

Mineralization is hosted in strongly altered sedimentary rock. The main alteration types are silicification, carbonatization (dolomite + ankerite ± siderite ± calcite), potassic alteration, and occasionally albitization and hematization. The mineral resource model of the Project is based on well-defined geological and alteration domains of silicified rocks. The modelled domains were created using lithology, structure and alteration type (or assemblage) and intensity, and on gold grade continuity specific to each domain. The mineralized domain model comprises five gold-bearing domains (Footwall, Renard, Z36, Liam and Dan). A northeast-striking post-mineralization fault cuts and offsets with sinistral separation the Footwall, Renard, and Z36 domains. The five main gold-bearing domains were then subdivided, resulting in 14 sub-domains with a summary of the grouping and the volume of the domains provided in Table 13-2. A waste solid was also created outside of the mineralized domains.

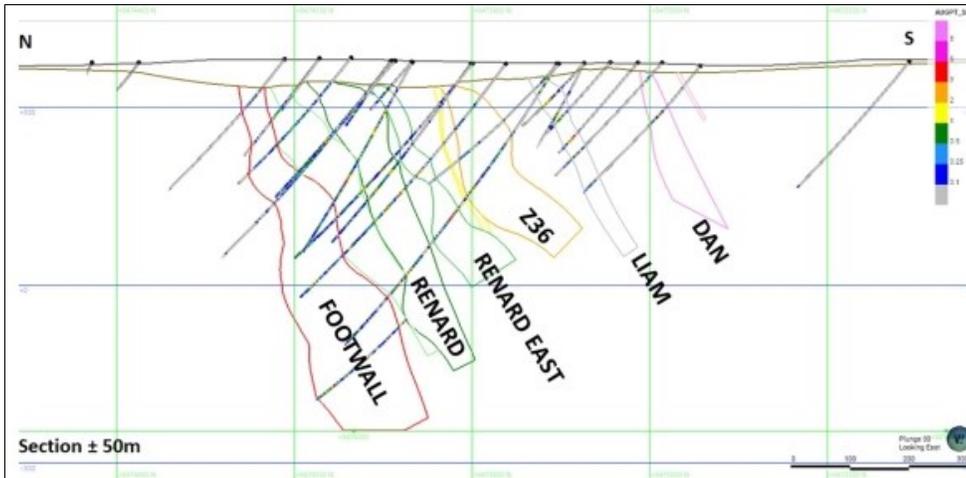
The mineralized domains in Nelligan deposit are interpreted as a series of parallel ENE-trending alteration envelopes, with an average dip of 60°-65° to the SSE. The interpreted domains are vertically stacked, separated by waste gaps of 25 to 75 metres. Mineralization domains were modelled in 3D, defined by lithological, structural and alteration which appears to be the main control for gold mineralization. The domain boundaries correspond to a minimum 3.0 metres true thickness and a single cut-off grade of 0.1 g/t gold; however some intervals with less than 0.1 g/t gold were also included in domains to maintain the continuity. The mineralization envelopes and subdomains are shown in plan view in Figure 13-1, and north-south cross-section in Figure 13-2.

Two surfaces were also created to define topography and overburden. The topography surface was created from CanVec data from Natural Resources Canada and refined with surveyed hole collars. The overburden surface was generated using casing depths.



**Figure 13-1: Plan View Showing the Modelled Nelligan Gold Project Estimation Domains**

Notes: Footwall in red; Renard in green; Z36 in yellow; LIAM in grey; DAN in pink.



**Figure 13-2: Cross-Sections Showing the Modelled Nelligan Gold Project Estimation Domains**

As an independent test to assess the quality of the mineralization domains, SRK coded the assay intervals into groups based on the grade threshold and their location inside/outside of the mineralized domains and analyzed the length distribution of the intervals constrained within the domains. Overall, the proportion of non-mineralized intervals (<0.10 g/t gold) within the mineralized subdomains is 23 percent of the total assay length constrained in the domains.

**Table 13-2: Mineralization Domains for Nelligan Gold Project**

Domain	Subdomain	Subdomain Volume (m <sup>3</sup> )	Total Volume (%)
DAN	DAN	10,029,000	3%
	DAN_B	1,124,500	<1%
FOOTWALL	FOOTWALL	161,320,000	49%
	FOOTWALL EAST	14,074,000	4%
LIAM	LIAM	15,962,000	5%
	LIAM C	1,879,400	1%
	LIAM_B	3,988,900	1%
RENARD	RENARD	50,837,000	15%
	RENARD_2	15,727,000	5%
	RENARD_EAST	19,161,000	6%
Z36	Z36_C	21,408,000	6%
	Z36_D	1,324,400	<1%
	Z36_E	10,364,000	3%
	Z36_F	3,433,000	1%
<b>Total</b>		<b>330,632,200</b>	

### 13.5 Specific Gravity

Table 13-3 provides a breakdown of bulk density measurements by domains. Overburden surface was attributed a bulk density of 2.00 g/cm<sup>3</sup>, this assumption is reasonable given the material type.

**Table 13-3: Specific Gravity Data for the Nelligan Project**

Domain	Count	Mean (g/cm <sup>3</sup> )
DAN	12	2.74
FOOTWALL	641	2.75
LIAM	76	2.74
RENARD	1,052	2.73
Z36	278	2.70
Overburden	-	2.00
Unknown	973	2.74
<b>Total</b>	<b>3,032</b>	

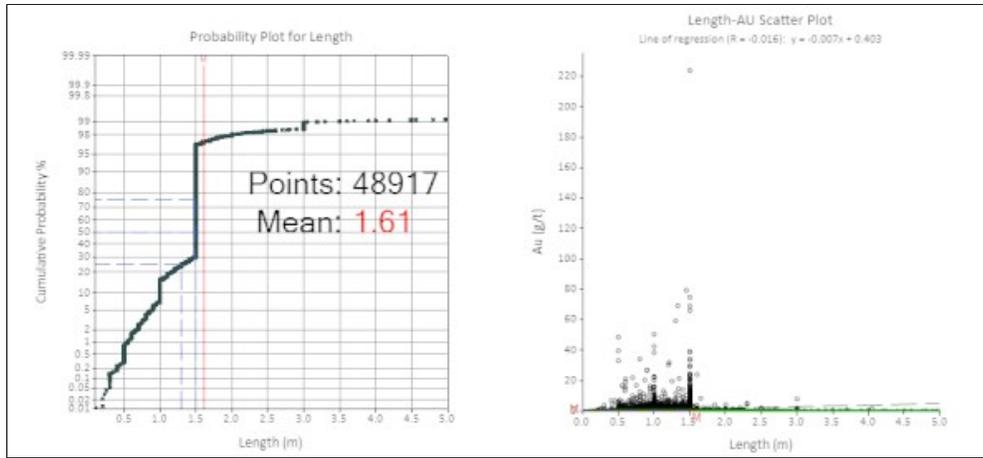
### 13.6 Compositing

For unsampled assay data in the exploration dataset, SRK assigned various constant values for traceability depending on the reason for a missing value: 0.0011 g/t gold for missing intervals, 0.0012 g/t gold for missing values, and 0.0013 g/t gold for negative values.

The number of assays from the exploration database available for the mineral resource update of the Nelligan Project is 48,917 samples. This represents a sample increase of 29 percent (22 percent from new IAMGOLD drilling and 7 percent from historical drilling) from exploration boreholes available for the 2019 mineral resource model. **Error! Reference source not found.** shows assay statistics for the 2022 drill hole samples used for estimation.

Figure 13-3 shows the distribution of assay lengths. Approximately 95% of assay samples measure 1.5 metres or less. SRK chose to composite assay intervals to 1.5 metres, within individual lenses honoring domain contacts. Any residual length less than or equal to 0.5 metres were added to the previous interval in order to avoid loss of assay information or metal.

Figure 13-3: Probability Plot of Assay Lengths (Left) and Length-Au Scatter Plot (Right)



### 13.7 Evaluation of Outliers

To further limit the influence of high gold grade outliers during grade estimation, SRK chose to cap composites, as these are the data used explicitly in estimation. Capping was performed for each domain separately. SRK relied on a combination of probability plots, decile analysis, and capping sensitivity plots. Probability plots and capping sensitivity curves for all sub-domains are included in Appendix C.

Separation of grade populations characterized by inflections in the probability plot or gaps in the high tail of the grade distribution were indicators of potential capping values. Decile analysis was then used to confirm the reasonableness of capped threshold. A visual review of the spatial distribution of these potential capped values was also performed. Uncapped composite statistics for boreholes are summarized in Table 13-4, while Table 13-5 shows statistics for capped composites, including additional information about metal loss and number of capped composites.

Despite grade capping, the coefficient of variation (CoV) in the unmineralized domain and some of the sub-domains remains high, suggesting that further controls on high grade composites may be required during grade estimation.

**Table 13-4: Summary Statistics for Drill Hole Core Gold Assays (Length-Weighted)**

<b>Domain</b>	<b>Count</b>	<b>Length (m)</b>	<b>Min (g/t)</b>	<b>Max (g/t)</b>	<b>Mean (g/t)</b>	<b>SD* (g/t)</b>	<b>CoV</b>
DAN	336	415	0.00	22.50	0.77	1.95	2.52
DAN_B	59	73	0.00	5.21	0.50	0.83	1.65
FOOTWALL	11,092	16,057	0.00	224.00	0.47	2.51	5.33
FOOTWALL_EAST	367	503	0.01	3.99	0.22	0.39	1.82
LIAM	1,603	2,009	0.00	42.50	0.67	1.69	2.54
LIAM_B	343	408	0.00	8.70	0.49	0.90	1.81
LIAM_C	342	437	0.00	19.10	0.44	1.27	2.92
RENARD	6,741	9,414	0.00	79.40	0.84	2.46	2.93
RENARD_2	3,061	4,119	0.00	50.60	0.63	1.40	2.24
RENARD_EAST	2,007	2,730	0.00	66.10	0.61	2.02	3.30
Z36_C	2,327	3,146	0.00	34.30	0.49	1.26	2.56
Z36_D	194	256	0.00	2.24	0.33	0.38	1.15
Z36_E	379	528	0.00	11.83	0.41	1.00	2.46
Z36_F	1,087	1,476	0.00	11.65	0.40	0.73	1.80
Overburden	256	7,383	0.00	2.47	0.00	0.05	17.49
Unknown	18,723	29,967	0.00	48.70	0.04	0.30	7.16
<b>Total</b>	<b>48,917</b>	<b>78,921</b>					

\* SD = Standard deviation; Min = Minimum; Max = Maximum; CoV = Coefficient of Variation

**Table 13-5: Summary Statistics for Capped Composites**

Domain	Count	Length (m)	Min (g/t)	1.5-metre Composites				Capped 1.5-metre Composites					
				Max (g/t)	Mean (g/t)	SD (g/t)	CoV	Max (g/t)	Mean (g/t)	SD (g/t)	CoV	Capped (Count)	Capped (%)
DAN	280	415	0.00	15.09	0.78	1.61	2.08	5.00	0.69	1.09	1.58	6	2.10%
DAN_B	49	73	0.00	4.77	0.50	0.76	1.53	4.77	0.50	0.76	1.53	-	-
FOOTWALL	10,722	16,057	0.00	224.00	0.47	2.48	5.27	40.00	0.45	1.15	2.56	2	0.00%
FOOTWALL_EAST	336	503	0.01	3.99	0.22	0.38	1.75	3.99	0.22	0.38	1.75	-	-
LIAM	1,349	2,009	0.00	16.86	0.66	1.30	1.95	6.00	0.63	1.00	1.59	11	0.80%
LIAM_B	274	408	0.00	5.34	0.50	0.72	1.44	4.00	0.49	0.69	1.40	2	0.70%
LIAM_C	295	437	0.01	10.90	0.44	1.08	2.49	8.00	0.43	1.00	2.34	3	1.00%
RENARD	6,300	9,414	0.00	70.28	0.84	2.15	2.56	30.00	0.82	1.75	2.13	3	0.00%
RENARD_2	2,758	4,119	0.00	34.03	0.63	1.22	1.95	7.00	0.60	0.79	1.33	8	0.30%
RENARD_EAST	1,830	2,730	0.00	66.10	0.61	1.89	3.09	12.00	0.57	1.02	1.77	4	0.20%
Z36_C	2,107	3,146	0.00	33.53	0.49	1.11	2.25	10.00	0.48	0.85	1.78	5	0.20%
Z36_D	173	256	0.00	2.18	0.33	0.34	1.03	2.18	0.33	0.34	1.03	-	-
Z36_E	353	528	0.00	8.87	0.41	0.88	2.16	3.00	0.36	0.53	1.47	5	1.40%
Z36_F	988	1,476	0.01	10.90	0.40	0.67	1.64	5.00	0.39	0.55	1.40	2	0.20%
Overburden	4,955	7,383	0.00	2.26	0.00	0.05	16.56	0.00	0.00	0.00	0.00	-	-
Unknown	20,056	29,966	0.00	16.28	0.04	0.21	5.00	2.00	0.04	0.11	2.86	17	0.10%
<b>Total</b>	<b>52,825</b>	<b>78,920</b>											

\* SD = Standard deviation; Min = Minimum; Max = Maximum; CoV = Coefficient of Variation

### 13.8 Variography

SRK used Supervisor™ (version 8.15) software by Snowden to calculate and model gold variograms on capped composites for the mineralized domains. The modeled variograms define the directions of spatial continuity of gold grades and were used for Ordinary Kriging estimation of gold.

For each domain, SRK assessed up to three different spatial metrics: (1) traditional semivariogram of gold, (2) correlogram of gold, and/or (3) traditional semivariogram of normal scores of gold. Downhole variograms were calculated to determine the nugget effect. The orientation that yielded the most continuous model was chosen for variogram fitting.

Variography was performed on sub-domains that had sufficient data density. Modelled variograms were applied to similarly oriented sub-domains that lacked sufficient data density. Table 13-6 provides a summary of variogram parameters for all resource domains. Modelled variograms are shown in Appendix D.

**Table 13-6: Modelled Gold Variograms by Domain**

Domain	Rotation*			Nugget C <sub>0</sub> **	Struct.	C**	Type***	Range		
	Dip	Dip Azm	Pitch					X (m)	Y (m)	Z (m)
DAN	60	155	20	0.2	1	0.4	Sph	88	20	4
					2	0.4	Sph	100	50	12
DAN_B	60	155	20	0.2	1	0.4	Sph	88	20	4
					2	0.4	Sph	100	50	12
FOOTWALL	70	165	19	0.3	1	0.2	Exp	95	60	2
					2	0.5	Sph	400	130	3
FOOTWALL_EAST	70	165	19	0.3	1	0.2	Exp	95	60	2
					2	0.5	Sph	400	130	3
LIAM	60	155	20	0.2	1	0.4	Sph	88	20	4
					2	0.4	Sph	100	50	12
LIAM_B	60	155	20	0.2	1	0.4	Sph	88	20	4
					2	0.4	Sph	100	50	12
LIAM_C	60	155	20	0.2	1	0.4	Sph	88	20	4
					2	0.4	Sph	100	50	12
RENARD	60	160	15	0.22	1	0.45	Sph	39	35	4
					2	0.33	Sph	106	96	16
RENARD_2	60	160	15	0.22	1	0.45	Sph	39	35	4
					2	0.33	Sph	106	96	16
RENARD_EAST	60	160	20	0.22	1	0.3	Sph	274	112	5
					2	0.48	Sph	370	130	27
Z36_C	50	160	25	0.2	1	0.32	Sph	140	64	4
					2	0.48	Sph	290	145	15
Z36_D	50	160	25	0.2	1	0.32	Sph	140	64	4
					2	0.48	Sph	290	145	15
Z36_E	50	160	25	0.2	1	0.32	Sph	140	64	4
					2	0.48	Sph	290	145	15
Z36_F	50	160	25	0.2	1	0.32	Sph	140	64	4
					2	0.48	Sph	290	145	15

\* Leapfrog Rotation Convention

\*\* Normalized to 1

\*\*\* Sph = Spherical, Exp = Exponential

### 13.9 Block Model and Grade Estimation

Table 13-7 summarizes the rotated block model definition. The difference in volume from wireframe and block model was checked to ensure the block model accurately reflects the mineralized volume. A block size of 10 metres by 5 metres by 5 metres dimension was used, deemed sufficient to fit wireframe boundaries. A rotation of 170 degrees (Leapfrog convention) was applied to the block model.

**Table 13-7: Nelligan Project Block Model Definition**

	<b>Block Size (m)</b>	<b>Origin* (m)</b>	<b>Block Count</b>	<b>Leapfrog Rotation</b>
X	10	524,200	406	170 <sup>o</sup>
Y	5	5,475,540	532	
Z	5	395	128	

The block model was populated with estimated gold grades using Ordinary Kriging (OK) in the mineralized sub-domains and applying up to three estimation passes with progressively relaxed search ellipsoids and data requirements. Table 13-8 summarizes the data requirements for gold grade estimation; search ellipsoids are aligned with variogram orientations (Table 13-6). The search distances were generally based on the ranges derived from the variogram analysis; however, search ranges were reduced to a reasonable distance for Pass 1 in a few domains, such as Footwall and Footwall East. The second and third pass search ranges are 2 and 3 times that of the first pass, respectively. Interpolation of gold grade was performed using a hard boundary and an ellipsoidal search.

For the Footwall, Renard and Liam C zones, SRK chose to limit the influence of high-grade composites using high grade restriction (constraining the effect of high values at a distance) within a specified distance percentage of the search ellipsoid size (Table 13-8). These restrictions were imposed after some grade smearing was observed in these domains.

**Table 13-8: Estimation Parameters for Gold**

Domain	Pass	Search Ranges			No. Data			High-Grade Restriction	
		X (m)	Y (m)	Z (m)	Min.	Max.	Max / Hole	Distance (%)	Threshold (g/t Gold)
DAN, DAN_B	1	100	50	10	7	12	3	-	-
	2	200	100	15	5	15	3	-	-
	3	300	150	20	2	20		-	-
FOOTWALL	1	200	125	10	7	12	3	10	20
	2	400	250	15	5	15	3	5	20
	3	600	375	20	2	20		3	20
FOOTWALL_EAST	1	200	125	10	7	12	3	-	-
	2	400	250	15	5	15	3	-	-
	3	600	375	20	2	20		-	-
LIAM, LIAM_B	1	100	50	10	7	12	3	-	-
	2	200	100	15	5	15	3	-	-
	3	300	150	20	2	20		-	-
LIAM C	1	100	50	10	7	12	3	10	4
	2	200	100	15	5	15	3	5	4
	3	300	150	20	2	20		3.5	4
RENARD	1	106	96	10	7	12	3	20	15
	2	212	192	15	5	15	3	10	15
	3	318	288	20	2	20		6.5	15
RENARD_2	1	106	96	10	7	12	3	-	-
	2	212	192	15	5	15	3	-	-
	3	318	288	20	2	20		-	-
RENARD_EAST	1	200	70	10	7	12	3	-	-
	2	400	140	15	5	15	3	-	-
	3	600	210	20	2	20		-	-
Z36_C, Z36_D, Z36_E and Z36_F	1	200	100	10	7	12	3	-	-
	2	400	200	15	5	15	3	-	-
	3	600	300	20	2	20		-	-

### 13.10 Model Validation and Sensitivity

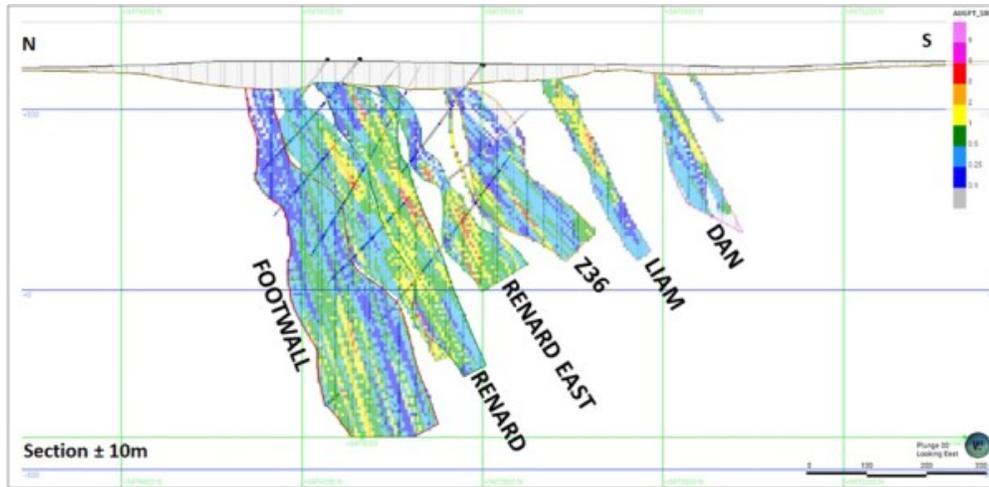
SRK validated the block model using a visual comparison of block estimates and informing composites, statistical comparisons between composites and block model distributions, and statistical comparisons between ordinary kriging estimates and alternate estimators at zero cut-off.

Block grades were compared against the informing composites on section (Figure 13-4) and in plan (Figure 13-5) to ensure that block grades correspond well to local composite grades, and that mineralization trends seen in composites are reflected in block grade distribution. Furthermore, visual inspection ensured that high grade samples did not result in excessively large volumes containing high grade blocks.

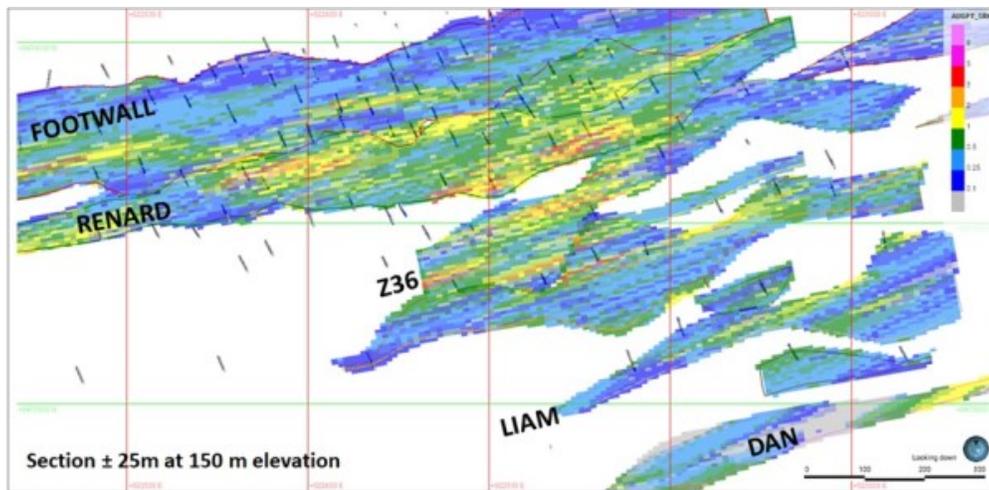
SRK generated block estimates using inverse distance to a power of 3 (ID<sup>3</sup>) and Nearest Neighbors (NN). The NN estimation used 5.0 metre composite length, with the outcome being representative of a declustered dataset used for further validation against OK and ID<sup>3</sup> gold grade estimation. A comparison of mean grades between OK, ID<sup>3</sup> and NN shows that the alternate estimators are within ± 2% in metal content (Table 13-9).

**Table 13-9: Comparison of Estimation Methods at 0 g/t Gold Cut-Off Grade**

Cut-off Grade (g/t Gold)	Estimation Method	Tonnage (Mt)	Grade (g/t Gold)	Metal (koz Gold)	Diff. from OK Metal (%)
0	Ordinary Kriging (OK)	897	0.5	14,316	
0	Inverse Distance (ID <sup>3</sup> )	896	0.49	14,229	-0.60%
0	Nearest Neighbor (NN)	897	0.5	14,509	1.30%



**Figure 13-4: Cross Section Showing Estimated Gold Grade and Informing Composite Data**



**Figure 13-5: Plan View Showing Estimated Gold Grade and Informing Composite Data**

SRK generated swath plots demonstrating a comparison between the OK, ID<sup>3</sup> and NN estimators in the block model for all domains (Figure 13-6). The swath plot shows generally good agreement between the different estimators, with NN being the most variable of the three models as expected.

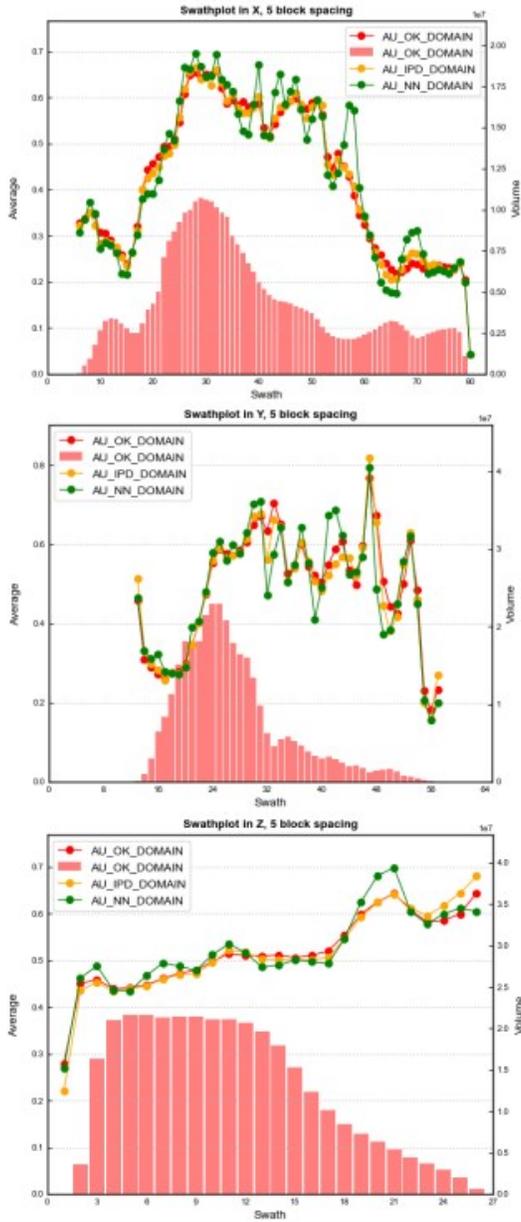


Figure 13-6: Swath Plot of Block Model in X, Y and Z Directions

### 13.11 Mineral Resource Classification

Block model quantities and grade estimates for the Nelligan Project were classified according to the CIM *Definition Standards for Mineral Resources and Mineral Reserves* (May 2014) by Mr. Sandeep Prakash, PGeo, an independent Qualified Person for the purpose of National Instrument 43-101.

Mineral resource classification is typically a subjective concept. Industry best practices suggest that resource classification should consider the confidence in the geological continuity of the mineralized structures, the quality and quantity of exploration data supporting the estimates, and the geostatistical confidence in the tonnage and grade estimates. Appropriate classification criteria should aim at integrating these concepts to delineate regular areas at similar resource classification.

SRK is satisfied that the geological modelling honours the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support resource evaluation.

The block classification strategy considers borehole spacing, geologic confidence and continuity of category. Criteria used for block classification are:

- **Indicated:** Blocks estimated by passes 1 and 2 within a nominal borehole spacing of 50 metres or less. This corresponds to an average distance of 35 metres to informing data from three boreholes.
- **Inferred:** Remaining blocks estimated by passes 1, 2 and 3 with a nominal borehole spacing of 100 metres or less. This corresponds to an average distance of 70 metres to informing data from three boreholes.

There are no Measured blocks considered for the Nelligan Project.

Figure 13-7 shows the classification and the relative distribution of the nearby exploration boreholes used in the estimation in a plan and vertical section views, respectively. All classified blocks are estimated with at least two boreholes.

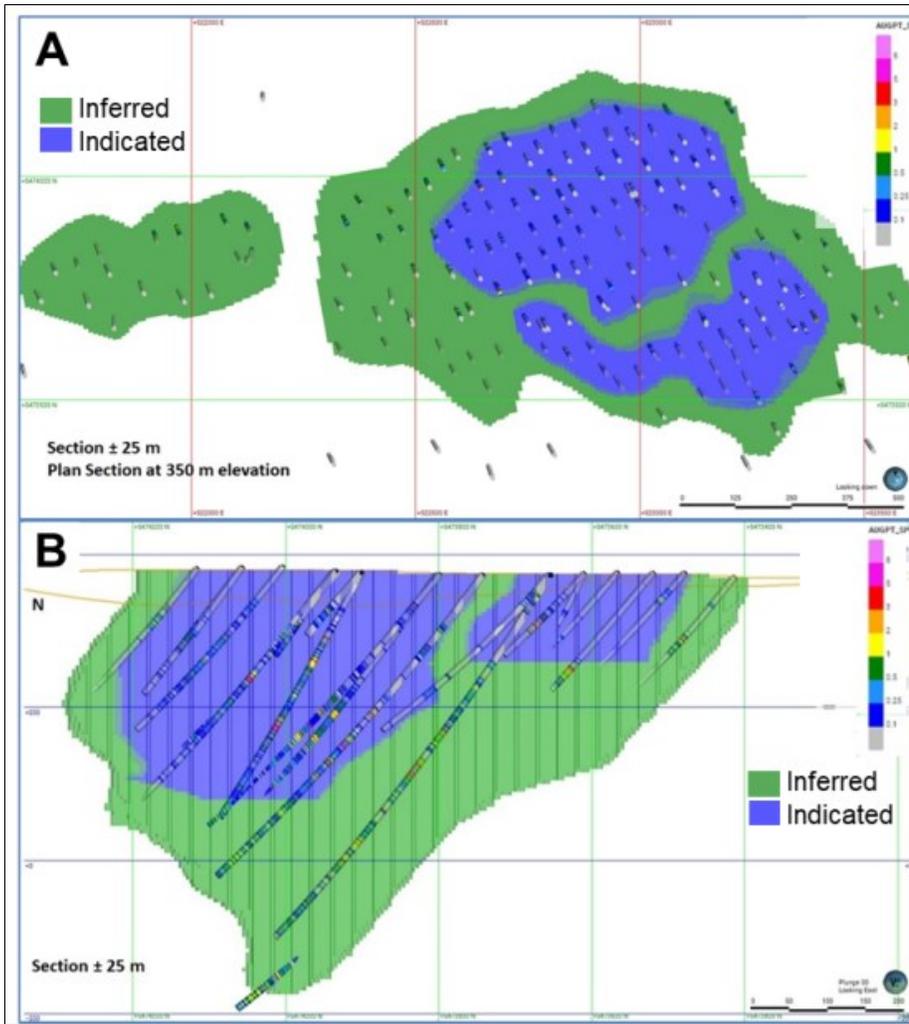


Figure 13-7: Classified Blocks with Informing Composites for the Nelligan Project

A: Plan Map

B: Cross sectional view looking east

### 13.12 Mineral Resource Statement

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a mineral resource as:

*"A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.*

*The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling."*

The "reasonable prospects for eventual economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade that takes into account extraction scenarios and processing recoveries. In order to meet this requirement, SRK considers that portions of the Nelligan Project are amenable for open pit extraction.

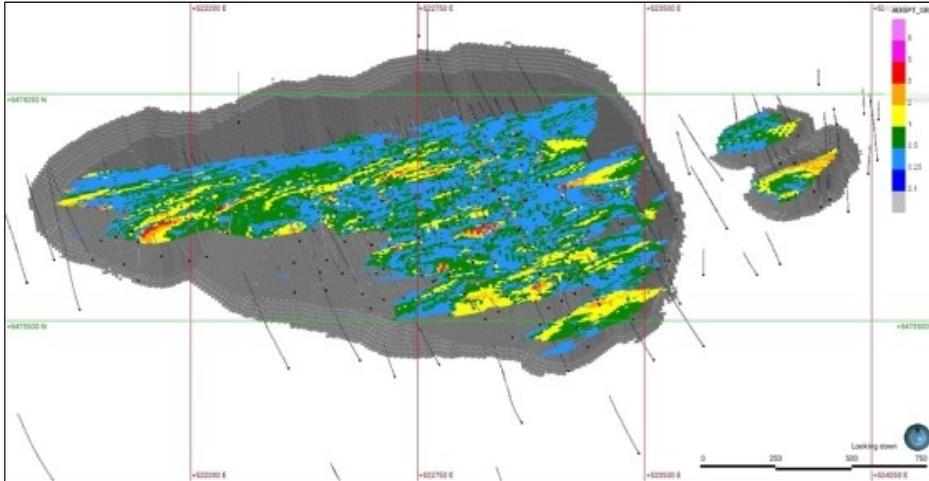
In order to determine the quantities of material offering "reasonable prospects for economic extraction" by an open pit, SRK used a pit optimizer and reasonable mining assumptions to evaluate the proportions of the block model (Indicated and Inferred blocks) that could be "reasonably expected" to be mined from an open pit.

The optimization parameters were selected based on experience and input from IAMGOLD, and benchmarking against similar projects (Table 13-10). The reader is cautioned that the results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for eventual economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Nelligan Project. The results are used as a guide to assist in the preparation of a Mineral Resource Statement and to select an appropriate resource reporting cut-off grade.

**Table 13-10: Parameters Considered for Conceptual Open Pit Optimization**

<b>Parameter</b>	<b>Unit</b>	<b>Value</b>
Gold price	US\$ per ounce	1,500
Exchange rate	US\$/C\$	1.2
Overburden stripping cost	C\$/ tonne mined	4.80
Base Rock Mining cost	C\$/ per tonne mined	3.00
Incremental mining cost	C\$/tonne mined/5m	0.0144
Processing	C\$/ per tonne of feed	9.56
General and administrative	C\$/ per tonne of feed	3.00
Bedrock pit slope	degrees	45.0
Overburden slope	degrees	18.4
Gold process recovery	percent	83
Minimum cut-off grade	grams per tonne	0.35

SRK considers that the blocks located within the conceptual pit envelope show "reasonable prospects for eventual economic extraction" and can be reported as an open pit mineral resource for classified blocks above a cut-off grade of 0.35 g/t gold (Figure 13-8).



**Figure 13-8: Plan Showing Estimated Blocks Above 0.35 g/t Gold Relative to the Conceptual Pit**

SRK is satisfied that the mineral resources were estimated in conformity with the widely accepted *CIM Estimation of Mineral Resource and Mineral Reserve Best Practices Guidelines* (November 2019). The mineral resources may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent mineral resource estimates. The mineral resources may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic, and other factors. The Mineral Resource Statement for the Nelligan gold project presented in Table 13-11 was prepared by Mr. Sandeep Prakash, PGeo (OGQ#02341). Mr. Prakash is an independent Qualified Person as this term is defined in National Instrument 43-101.

**Table 13-11: Mineral Resource Statement\*, Nelligan Project, Quebec, SRK Consulting (Canada) Inc., February 10, 2023**

Category	Zone	Quantity (Mt)	Grade (g/t Au)	Metal (000'oz Au)
<b>Indicated</b>				
	DAN	0.3	1.07	11
	Footwall	12.6	0.68	275
	LIAM	4.9	0.95	149
	RENARD	48.2	0.90	1,392
	Z36	7.5	0.67	163
	<b>Total</b>	<b>73.5</b>	<b>0.84</b>	<b>1,991</b>
<b>Inferred</b>				
	DAN	2.1	0.97	64
	Footwall	39.7	0.74	942
	LIAM	9.2	0.87	258
	RENARD	60.2	0.99	1,922
	Z36	18.3	0.70	414
	<b>Total</b>	<b>129.5</b>	<b>0.87</b>	<b>3,600</b>

\* Mineral resources are reported within a conceptual pit shell. Mineral resources are not mineral reserves and have not demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. Composites have been capped where appropriate.

\*\* Open pit mineral resources are reported at a cut-off grade of 0.35 g/t gold. Cut-off grades are based on a price of US\$1,500 per ounce of gold and gold recoveries of 83 percent.

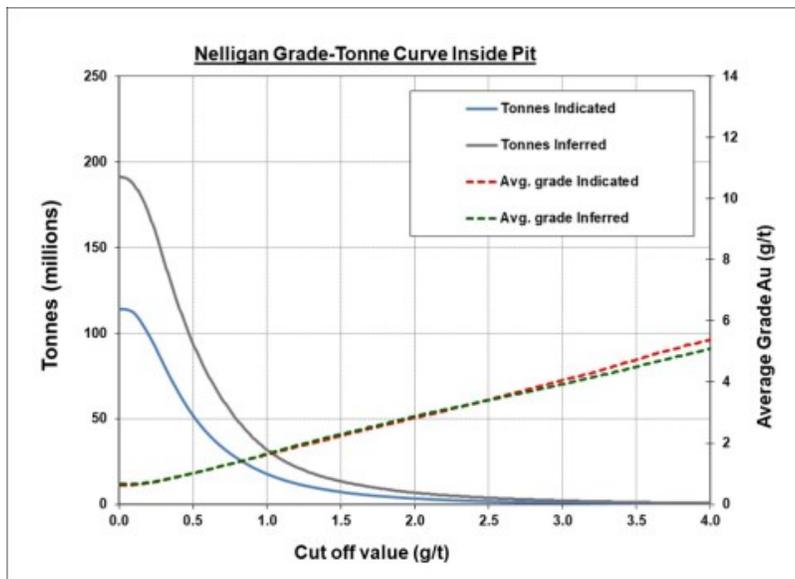
### 13.13 Grade Sensitivity Analysis

The mineral resources of the Nelligan Project are sensitive to the selection of the reporting cut-off grade. To illustrate this sensitivity, the global model quantities and grade estimates are presented in Table 13-12 at different cut-off grades. The reader is cautioned that the figures presented in this table should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade. Figure 13-9 presents this sensitivity as grade tonnage curves.

**Table 13-12: Global Block Model Quantities and Grade Estimates\*, Nelligan Project at Various Cut-off Grades**

Cut-off Grade (g/t Au)	Indicated Blocks			Inferred Blocks		
	Tonnage (Mt)	Grade (g/t Au)	Metal (koz Au)	Tonnage (Mt)	Grade (g/t Au)	Metal (koz Au)
0.10	112	0.63	2,281	187	0.67	4,045
0.15	106	0.66	2,259	180	0.70	4,016
0.20	99	0.70	2,218	170	0.72	3,963
0.25	91	0.74	2,160	158	0.76	3,872
0.30	82	0.79	2,081	144	0.81	3,748
<b>0.35</b>	<b>74</b>	<b>0.84</b>	<b>1,991</b>	<b>129</b>	<b>0.87</b>	<b>3,600</b>
0.40	66	0.90	1,896	116	0.92	3,443
0.45	58	0.96	1,798	105	0.98	3,282
0.50	52	1.02	1,700	94	1.03	3,118
0.55	46	1.08	1,603	84	1.09	2,957
0.60	41	1.14	1,511	76	1.15	2,801
0.65	37	1.20	1,424	68	1.21	2,646
0.70	33	1.26	1,342	61	1.27	2,494
0.75	30	1.32	1,263	55	1.33	2,348
0.80	27	1.38	1,190	49	1.40	2,206
0.85	24	1.44	1,120	44	1.46	2,070
0.90	22	1.50	1,051	40	1.53	1,942
0.95	20	1.56	989	36	1.60	1,823
1.00	18	1.62	929	32	1.67	1,712

The reader is cautioned that the figures in this table should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of a cut-off grade within the 2023 optimized pit. All figures have been rounded to reflect the relative accuracy of the estimates.



**Figure 13-9: Grade Tonnage Curves for the Nelligan Project**

### 13.14 Comparison with Previous Mineral Resource Statements

The comparison of the current mineral resource to the 2019 Nelligan mineral resources is shown in Table 13-13.

**Table 13-13: Comparison Between 2019 and 2023 Mineral Resource Statements**

Year	Classification	Tonnage (Mt)	Grade (g/t Au)	Metal (koz Au)
2019*	Indicated	-	-	-
	Inferred	97	1.02	3,194
2023**	Indicated	73.5	0.84	1,991
	Inferred	129.5	0.87	3,600
Difference (%)	Indicated***	-	-	-
	Inferred	33%	-15%	13%

\* 2019 Mineral resource statement reported at cut-off grade of 0.50 g/t gold within the open pit mining scenario

\*\* 2023 Mineral Resource statement reported at cut-off grade of 0.35 g/t gold within the open pit mining scenario

\*\*\* Indicated Resources reported for the first time in 2023; infill drilling successfully converting 62% (by metal content) of Inferred Resources in 2019 to Indicated Resources in 2023.

Since the 2019 mineral resource model, IAMGOLD drilled an additional 53 core boreholes (or 22,045 m), representing a 27% increase in drilled meters. Additional infill drilling contributed to the conversion of inferred resources to indicated category, resulting in the first time that Indicated resources are reported for Nelligan. Relative to the 2019 Mineral Resource Statement, the infill drilling program was successful in converting 62% of the Inferred Resource in 2019 to Indicated Resources in 2023.

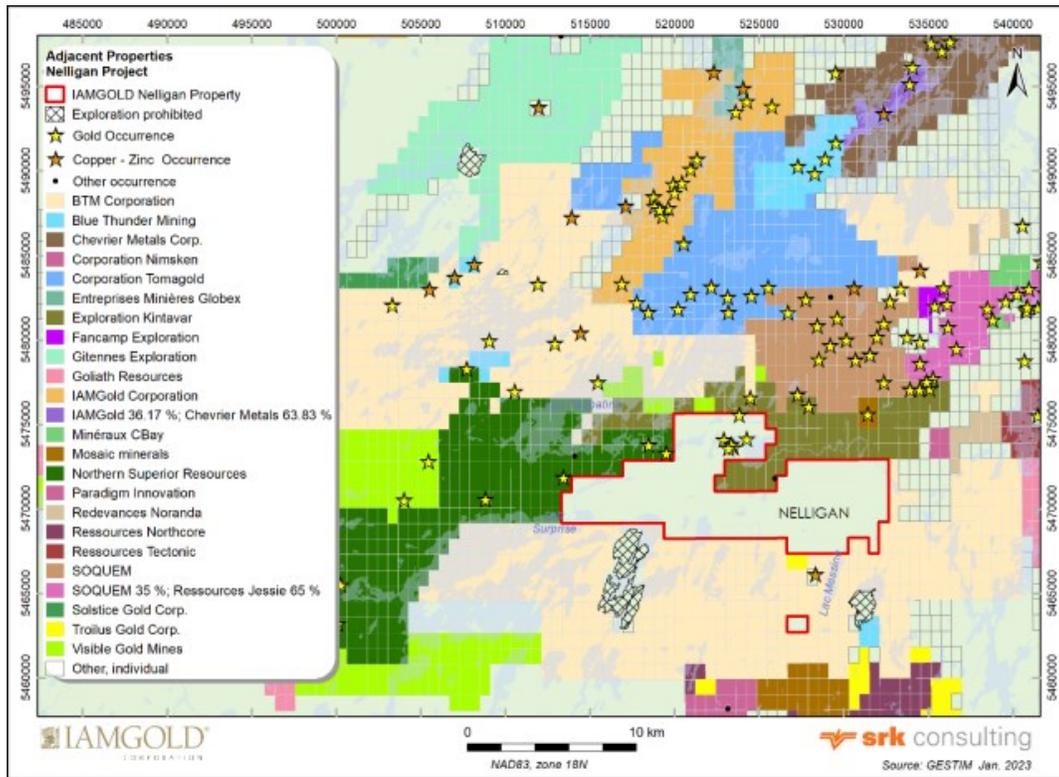
SRK understands that this represents a significant increase of Mineral Resources compared to 2019. In general, the changes are attributed to a combination of factors, including:

- Infill and expansion drilling program since 2019 was successful in (1) upgrading existing Inferred resources to Indicated resources with a conversion of 62 percent, and (2) expanding the Inferred resource base particularly to the west. Overall, the mineral resources have increased by 75% in contained metal.
- Decrease in reporting cut-off grade from 0.50 g/t Au to 0.35 g/t Au.
- Changes in economic parameters for open pit mining scenario, including a reduction in mining recovery from 92% to 83% based on recent test results.
- Additional drilling led to significant expansion of mineralization domains and conceptual open pit optimization parameters increased extent of pit volume to 62%.

## 14 Adjacent Properties

At the effective date of this report, the GESTIM database contains records for numerous mineral exploration properties in the area of the Project (Figure 14-1).

All the information presented below for properties adjacent to the Project come from the public domain and have not been verified by SRK. The nearby mines and deposits are not necessarily indicative that the project hosts similar types of mineralization.



**Figure 14-1: Adjacent Properties to the Nelligan Project**

\*Note: Claims held by prospectors are listed as "Other" in the legend

## 14.1 Anik Property

Owned by Exploration Kintavar Inc. (Kintavar), the Anik property is located along the eastern and northern boundaries of the Nelligan Project and comprises 96 claims constituted of three separated blocks of 81, 13 and 2 claims. On May 28, 2020, Kintavar announced it had entered into an Option Agreement to grant IAMGOLD an option to earn up a 75% interest in the Anik Project in consideration for staged cash payments totalling C\$600,000 and the completion of C\$4,000,000 in exploration expenditures on the Project over a period of 5 years for the First Option. A Second Option to acquire an additional 5% interest in the property has been granted to IAMGOLD upon the delivery of a pre-feasibility study within five years of the exercise of the First Option. Previous letter of intent (LOI) signed in January 2019 with the TomaGold spin-out corporation, Monster Exploration, to sell Anik Gold Property did not materialize. IAMGOLD is currently in its 3rd Year of the Anik Option Agreement.

The Anik property (Charbonneau and Pelletier, 2016) is an exploration project on which gold anomalies were identified in iron formations hosted in a sedimentary sequence (Duquette 1965). The STR-91-03 trench discovered in 1991 returned values of 22.1 g/t gold and 66.6 g/t gold (Pelletier, 2015). In 2014, the Orbi, Bobby, Kovi and Mirador sector were discovered. Subsequent drilling on the Bobby Zone revealed downward extension and returned gold values of 0.41 g/t Au over 56.5 m, including 1 g/t Au over 15 metres (Pelletier and Cayer, 2015) and 1.28 g/t gold over 7.96 m, including 3.06 g/t gold over 1.54 metres (Pelletier, 2017).

A National Instrument 43-101 compliant technical report on the Anik property, documenting the gold potential and exploration activities, was prepared by Inlandsis Consultants and filed in December 2016. Inlandsis Consultants concluded that low-grade but continuous mineralization is present on the project. They recommended that the compilation of historical data be completed, the interpretation updated, exploration targets generated, and follow-up sampling conducted through field work (Charbonneau and Pelletier, 2016).

Since summer 2020, IAMGOLD has carried out continuous exploration works including compilation and targeting, geological mapping and rock sampling, glacial till sampling and soil geochemistry surveys and some IP geophysics in different parts of the Anik property. In late 2021 and January 2022, a 7-boreholesdrilling campaign for a total of 2,145 metres was completed and targeted three areas of interest. IAMGOLD intersected 2.82 g/t Au over 6.3 metres in the extension of the Nelligan deposit stratigraphic sequence which now extends for more than 7 kilometres to the east, directly on the Anik property (see Kintavar press release, June 15, 2022).

## 14.2 Lac Surprise Property

Wholly owned by Northern Superior Resources Inc. (Northern Superior), the Lac Surprise Property is an exploration project located along the western boundary of the Nelligan Project. It consists of 333 claims (18,555 hectares). Most of the following information can be found on the Northern Superior web site.

In September 2019, a drill program consisting of ten holes totalling 3,000 metres was initiated to confirm the extension of the Renard Zone from the Nelligan Project and to test the extensions of the Black Phoenix Zone (Northern Superior news release of September 10, 2019). More recently through the first half of 2021, Northern Superior initiated and completed a 26 borehole (7011 metres) core borehole program (Northern Superior press releases, March 15 and August 17, 2021). This program follows on the success of a core drill program, completed in the fall of 2020, with the important discovery of the Falcon Gold Zone (FGZ) identified within the northeastern part of the Lac Surprise property (see Northern Superior press release, November 5 and December 22, 2020). In winter and fall 2022, Northern Superior completed additional drilling programs to better define the FGZ and also announced the discovery of a 3km long mineralized zone, north and east of the recently discovered FGZ (see Northern Superior press release, June 14 and October 21, 2022). The results on the FGZ continue to show robust thickness and strong vertical continuity and has highlighted the similarities to the Nelligan gold deposit of IAMGOLD according to Northern Superior (see Northern Superior press release, January 16, 2023). This gold zone is located in the western extension of the Nelligan structural corridor.

### 14.3 Opawica and Philibert-1 Properties

Wholly owned by Mosaic Minerals Corporation (Mosaic), the Opawica and Philibert-1 exploration properties consist of two claims blocks of eighty and four claims (respectively 4,480 and 224 hectares). It is located northeast of the Nelligan Project, directly adjacent to Kintavar's Anik property.

In 1993, 25 boreholes were drilled on the property totalling 11,959 metres. The objective was to evaluate the continuity of five mineralized zones as well as punctual testing of exploration targets (zinc- and gold-rich boulders).

In 2016, airborne Magnetic and VLF surveys were completed over the Opawica and Philibert I properties. An exhaustive interpretation by MB Geosolutions Inc. outlined eight gold and three copper-rich polymetallic exploration targets. Two of the copper targets are located in the Opawica South Block and one in the Philibert I block; four of the gold targets are located in the Opawica North block, three in the Opawica South block and one in the Philibert I block (see Stellar Africagold Inc. press release of June 13, 2016).

On September 21, 2021, Mosaic announced that it has completed a transaction to sell the Philibert I property to IAMGOLD. IAMGOLD will acquire 100% interest in the 4 mining claims by paying a total aggregate purchase price of C\$150,000 in stage payments on or before the date that is 18 months following the closing date. Mosaic will also retain a 0.5% net smelter royalty (NSR) (see Mosaic press release dated September 21, 2021). IAMGOLD is in the process to complete the purchase of the property. Exploration works are in the continuity of the exploration programs conducted on Nelligan and Anik properties.

### 14.4 Philibert

Owned by SOQUEM, the Philibert property consists of 110 mining titles (5,392.57 hectares). In 1990, SOQUEM published a historical mineral resource estimate of 1.4 million tonnes at 5.3 g/t gold. However, these resources are considered historical in nature and should not be relied upon. It is unlikely they conform to current NI 43-101 requirements or follow CIM Definition Standards, and they have not been verified to determine their relevance or reliability.

From 1983 to 2014, SOQUEM conducted multiple drill programs and several geophysical surveys (Mag survey, TBF, IP) as well as prospecting and trenching programs on the Philibert property. Several gold occurrences were discovered, with the following assay highlights: 5.62 g/t gold over 4.8 metres including 7.67 g/t gold over 2.8 metres for Zone 179; 2.45 g/t gold over 11.5 metres for Zone 182 (Desjardins and Gilbert, 1994); 4.45 g/t gold over 13.2 metres for Zone 37-2, 7.63 g/t gold over 6.0 metres for Zone Ai (Gagnon et al., 2013); 2.36 g/t gold over 25.8 metres for Zone 106 (hole 981-14-297); and 6.42 g/t gold over 3.5 metres for Zone 37-1 (Gagnon, 2014). After the 2014 program, SOQUEM recommended that a mineral resource estimate be generated (Gagnon, 2014).

In March 2019, Royal Fox Gold entered in an agreement with SOQUEM to acquire 75% up to 100% of the Philibert project and focused on the assessment of the open-pit potential on the current identified historical mineral resources and on the main structural corridor underexplored.

In November 2022, Northern Superior announced the successful completion of its acquisition of all of the issued and outstanding common shares of Royal Fox Gold resulting in the acquisition of the right to acquire the Philibert gold project (see Northern Superior press release, November 4, 2022). Since then Northern Superior has reported positive drilling results from the ongoing drilling program on the Arctic Fox Zone (see Northern Superior press release, November 15, 2022 and January 11, 2023),

## 14.5 Joe Mann

The Joe Mann property hosts the former Joe Mann mine and consists of four non-contiguous blocks totalling 75 claims, two mining concessions and one mining lease (for a total of 2,781 hectares). It is located northeast of the Nelligan Project.

CBAY Minerals Inc. owns 22 of these claims (767 ha) and the remaining mineral titles (2,014 ha) are under an option agreement with Doré Copper Mining (DCM). On January 2, 2020, DCM entered into an option agreement with Ressources Jessie (Jessie) and Legault Metals Inc. (Legault) to acquire a 100% interest in the 55 mineral titles including the majority of the former Joe Mann Mine (the Joe Mann Option Property). This agreement was amended in November 18 2022 and DCM has agreed to accelerate the final scheduled cash and share payments under the Option Agreement and the deadline for DCM to incur the remaining exploration expenditures on the Property, totaling approximately C\$830,000, has also been extended to February 28, 2023. DCM is the operator of the Joe Mann Option Property.

Several gold occurrences delineate the gold corridor that hosts the Joe Mann mine. The mine is located in the northeastern part of the property and was in underground operation from 1956 to 1959, 1974 to 1975, and 1987 to 2007. The production total was 4,754,375 tonnes at 8.26 g/t gold as of August 2007 (MERNQ, 2008) for 1,173,238 ounces of gold, 28.7 million pounds of copper, and about 607,000 ounces of silver (Doré Copper Mining website). The mine has a historical mineral reserve of 1,525,838 tonnes at 11.0 g/t gold and 0.28% copper as of December 31, 1987 (Dion and Guha, 1988). A recent Mineral Resource estimate was completed in September 2021 with an effective date as July 21, 2021, Inferred Mineral Resources are estimated to total 608,000 tonnes at a gold grade of 6.78 g/t Au, copper grade of 0.24% Cu and containing 133,000 ounces Au and 3,281,000 pounds Cu. A supporting NI 43-101 Technical Report was filed on SEDAR.

The remaining part of the historical Joe Mann property is owned by Jessie (65%) and SOQUEM Inc (35%) and includes the Meston Lake gold occurrence is located to the west of the Joe Mann mine. and the Meston Lake occurrence has a historical mineral resource estimate of 1.235 million tonnes at 6.25 g/t gold (Northern Miner, March 28, 1974). This "resource" is historical in nature and should not be relied upon. It is unlikely they conform to current NI 43-101 requirements or follow CIM Definition Standards, and it has not been verified to determine its relevance or reliability. It is included in this section for illustrative purposes only and should not be disclosed out of context.

SOQUEM re-sampled historical boreholes and re-interpreted geophysical surveys (resistivity and PP surveys) between 2014 and 2016, yielding new anomalies (Malo Lalonde, 2016; Schmitt, 2015).

#### **14.6 Monster Lake Property**

The Monster Lake property is owned 100% by IAMGOLD. The property is characterized by gold mineralization associated with NE and NW shear zones cutting mafic volcanic and intrusive rocks. The Monster Lake project consists of 1.1 million tonnes of Inferred resources grading 12.14 g/t gold for 433,300 ounces, assuming an underground mining scenario (see IAMGOLD news releases dated March 28, 2018, and February 23, 2022). A supporting NI 43-101 Technical Report was filed on SEDAR on May 10, 2018.

#### **14.7 Chevrier Property**

The Chevrier property consists of 455 mining claims (22,959.27 hectares), owned by Northern Superior Resources Inc. (Northern Superior). Northern Superior completed the acquisition of Genesis Metals (Genesis) in July of 2022 including the Chevrier Main, South and East deposits. The project consists of 574 contiguous mining claims covering 29,380.29 hectares.

The Chevrier Main Zone consists of gold bearing quartz-carbonate veins and disseminated pyrite mostly associated with melanocratic gabbro dykes. The mineralization at the Chevrier South Zone is of the "Disseminated Type", with pyritized zones of up to 30 meters wide with associated highly altered rocks (ankerite, sericite and pyrite) with minor ankerite veins.

Using a 0.30 g/t gold cut-off for open pit resources and 1.0 g/t gold for underground resources, the total Indicated Mineral Resources at Chevrier Main as of October 20, 2021, is 6.4 million tonnes at 1.26 g/t gold (260,000 oz gold) and the total Inferred Mineral Resource is 15.7 million tonnes at 1.30 g/t gold (652,000 oz gold) (see news release of Genesis Metals dated January 24, 2022). A supporting NI 43-101 report was filed on SEDAR on October 7, 2022.

#### **14.8 Muus, Muus East and Nisk Properties**

The Muus property is located to the northwest of the Nelligan Project, the Muus East property is located to the northeast and the Nisk property is adjacent to the south. These properties consist of four blocks of 855 claims (47,377 hectares) and are wholly owned by Blue Thunder Mining Corporation (Blue Thunder). One block of one claim (51 hectares) on the Nisk property is owned 50% by Blue Thunder and 50% by Rafael Moncayo.

Several historical gold occurrences are present on these properties. The Lac des Vents showing is characterized by mineralization composed of 1% to 5% cubic pyrite in quartz clusters. A grab sample returned a gold value of 2.56 g/t gold (Bernier, 1990). The Welb (Rrk) outcrop, characterized by mineralization composed of 1% to 2% disseminated pyrite and traces of chalcopyrite contained in a smoky quartz veins stockwork, returned several gold values including a grab sample of 1-metre grading 8 g/t gold (Morasse, 1989). In 2019, ground sampling and airborne Mag surveys were completed on the Muus property followed by several prospecting, mapping and ground geophysical surveys from 2019 to 2022. Blue Thunder has carried out a few drilling programs with the most recent one in fall 2022 with 5 holes (for a total of 1,251m) testing two target areas. Results are pending (see new release of December 15, 2022).

## **15 Other Relevant Data and Information**

There are no other relevant data available for the Nelligan Project.

## 16 Interpretation and Conclusions

The Nelligan Project is a Mineral Resource stage gold project, located in Quebec, Canada. It is located in Nord-du-Québec administrative region, south of the towns of Chibougamau and Chapais, in the Province of Quebec.

The main alteration types on the Project are silicification, carbonatization, potassic-alteration, and occasionally albitization and hematization. The best gold intervals correspond to intense, pervasive silicification that locally obliterates the protolith. At present, the categorization of the Nelligan deposit model is based on two major components. An early-stage hydrothermal event that could be intrusion-related and a secondary post-intrusion event related to orogenic mineralization processes, well-constrained to the latest phases of deformation and cross cutting earlier phases of hydrothermalism.

Between 2014 and 2022, IAMGOLD completed multi-staged exploration programs on the Nelligan Project including prospecting, geological mapping, soil and till geochemical surveys, geophysical surveys, thin section and hyperspectral analyses, metallurgical studies, and extensive core drilling. The exploration procedures adopted by IAMGOLD for the Nelligan Project are sufficiently reliable and conform to industry best practices. SRK, however, noted that the low core recovery during drilling presents a risk that the assay intervals are less reliable with low RQD. IAMGOLD continues to investigate further methods to improve core recovery and reduce cross-contamination of material both during extraction and core handling.

In the opinion of SRK, the sampling preparation, security and analytical procedures used by IAMGOLD are consistent with generally accepted industry best practices and are therefore adequate. IAMGOLD has demonstrated an ongoing commitment to following quality control protocols appropriate for this stage of deposit to ensure the adequacy of results. Analytical quality control data produced by IAMGOLD are sufficiently reliable for the purpose of Mineral Resource estimation. SRK recommends continued diligence in monitoring the performance of standard reference materials and implementing corrective action as required.

Although the insertion rates for standard reference materials submitted during the Historical and Vanstar periods are either non-existent or low according to best practices, this data represents approximately only 8% of the total drilling database (based on assay counts). Further, this data is not in the vicinity of the main mineralized domains of Renard, Footwall and 36 zones.

SRK is not aware of any significant risks and uncertainties that could be expected to affect the reliability or confidence in the exploration information discussed herein.

## 17 Recommendations

The geological setting, character of the gold mineralization delineated, and exploration results to date are of sufficient merit to justify additional exploration expenditures. SRK recommends that IAMGOLD continues exploring the Nelligan Project. More specifically, a work program including infill and expansion drilling, mineralogical, metallurgical, and engineering studies aimed at completing the characterization of the Nelligan Project to allow examining at a conceptual level the economic viability of a mining project. IAMGOLD is encouraged to reduce mineral resource uncertainty with conditional simulation and drill hole spacing studies.

The proposed work program is presented in two phases, and includes:

- Infill and expansion core drilling.
- Geological and mineralogical studies to advance the understanding of controls of gold mineralization and to refine understanding of chemical processes and applications to metallurgy.
- Metallurgical testwork to characterize the metallurgical variability of the gold mineralization and define appropriate processing and extraction methodology.

Additional expansion and infill drilling is aimed to be completed within the resource area and immediate vicinity, with the aim to upgrade Inferred resources to Indicated category. SRK supports IAMGOLD's proposed core drilling program, which includes approximately 35,000 metres of drilling with the following objectives:

- Infill drilling within the resource area to better delineate mineralization and upgrade classification from Inferred to Indicated categories.
- Expansion drilling focused on the extension of mineral resources laterally and at depth.

All proposed core drilling is planned from surface. The total cost of the recommended work program is estimated at C\$14,597,000 (Table 17-1).

**Table 17-1: Estimated Cost for the Phased Exploration Program Proposed for the Nelligan Project**

<b>Description</b>	<b>Units</b>	<b>Total Cost (C\$)</b>
<b>Phase 1</b>		
Diamond drilling (infill and expansion, all inclusive)	15,000 m	\$ 4,500,000
<b>Subtotal</b>		<b>\$ 4,500,000</b>
Geological studies		\$ 300,000
<b>Subtotal</b>		<b>\$ 300,000</b>
Metallurgical testing		\$ 250,000
Mineralogy studies		\$ 120,000
<b>Subtotal</b>		<b>\$ 370,000</b>
<b>Phase 1 Total</b>		<b>\$ 5,170,000</b>
<b>Phase 2</b>		
Diamond drilling (infill and expansion, all inclusive)	20,000 m	\$ 6,000,000
<b>Subtotal</b>		<b>\$ 6,000,000</b>
Geological Studies		\$ 400,000
<b>Subtotal</b>		<b>\$ 400,000</b>
Update resource model		\$ 150,000
Additional metallurgical testing		\$ 250,000
Geotechnical studies		\$ 500,000
Scoping study		\$ 800,000
<b>Subtotal</b>		<b>\$ 1,700,000</b>
<b>Phase 2 Total</b>		<b>\$ 8,100,000</b>
<b>Total Phases 1 &amp; 2</b>		<b>\$ 13,270,000</b>
Contingency (10%)		\$ 1,327,000
<b>Grand Total</b>		<b>\$ 14,597,000</b>

SRK is unaware of any other significant factors and risks that may affect access, title, or the right or ability to perform the exploration work recommended for the Nelligan Project.

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# APPENDIX A

## Mineral Tenure Information

**Mineral Tenure Information for the Nelligan Project**

Claim Title	Name	Status	Company	Record Date	Expiry Date	Area (ha)
2442435	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442436	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442437	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442438	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442439	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442440	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442441	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442442	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442443	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442444	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442445	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442446	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442447	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442448	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442449	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.05
2442450	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.04
2442451	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.04
2442452	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.04
2442453	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.04
2442454	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.04
2442455	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/20/2016	4/19/2025	56.04
2443588	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.02
2443589	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.02
2443590	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.02
2443591	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.02
2443592	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.02
2443593	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.02
2443594	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.02
2443595	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.01
2443596	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.01
2443597	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.01
2443598	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.01
2443599	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/28/2016	4/27/2025	56.01
2449613	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.03
2449614	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.03
2449615	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.03
2449616	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.03

Claim Title	Name	Status	Company	Record Date	Expiry Date	Area (ha)
2449617	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.03
2449618	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.03
2449619	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.03
2449620	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.01
2449621	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/17/2016	6/16/2023	56.01
2420806	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/30/2014	12/29/2023	56.04
2420807	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/30/2014	12/29/2023	56.04
2420835	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/30/2014	12/29/2023	56.04
2420836	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/30/2014	12/29/2023	56.04
2420837	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/30/2014	12/29/2023	56.04
2393584	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.04
2393585	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.03
2393586	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.03
2393587	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.03
2393588	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.03
2393589	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.03
2393590	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.02
2393591	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.02
2393592	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.02
2393593	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.02
2393594	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.01
2393595	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.01
2393596	Émile	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/31/2013	10/30/2024	56.01
2470420	IMG	Active	IAMGOLD Corporation 100%	12/1/2016	11/30/2023	56.06
2470421	IMG	Active	IAMGOLD Corporation 100%	12/1/2016	11/30/2023	56.06
2520070	IMG	Active	IAMGOLD Corporation 100%	6/28/2018	6/27/2023	56.06
2520071	IMG	Active	IAMGOLD Corporation 100%	6/28/2018	6/27/2023	56.06
2520072	IMG	Active	IAMGOLD Corporation 100%	6/28/2018	6/27/2023	56.06
2520073	IMG	Active	IAMGOLD Corporation 100%	6/28/2018	6/27/2023	56.06
2520074	IMG	Active	IAMGOLD Corporation 100%	6/28/2018	6/27/2023	56.06
2520079	IMG	Active	IAMGOLD Corporation 100%	6/28/2018	6/27/2023	56.11
2520080	IMG	Active	IAMGOLD Corporation 100%	6/28/2018	6/27/2023	56.11
2426076	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/9/2015	4/8/2024	56.04
2426077	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/9/2015	4/8/2024	56.04
2426078	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/9/2015	4/8/2024	56.03
2426079	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/9/2015	4/8/2024	56.02
2426080	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/9/2015	4/8/2024	56.02
2426085	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/9/2015	4/8/2024	56.04
2491937	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	5/9/2017	5/8/2024	56.03
2491938	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	5/9/2017	5/8/2024	56.03

Claim Title	Name	Status	Company	Record Date	Expiry Date	Area (ha)
2491939	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	5/9/2017	5/8/2024	56.03
2491940	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	5/9/2017	5/8/2024	56.02
2482191	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	3/1/2017	2/28/2024	56.04
2482192	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	3/1/2017	2/28/2024	56.02
2482193	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	3/1/2017	2/28/2024	56.02
2468024	Miron	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/7/2016	11/6/2023	56.02
2120693	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/11/2007	4/13/2025	55.99
2120695	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/11/2007	4/13/2025	55.99
2215499	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/19/2010	4/13/2025	56.00
2215500	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/19/2010	4/13/2025	56.00
2215501	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/19/2010	4/13/2025	56.00
2215502	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/19/2010	4/13/2025	56.00
2215503	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/19/2010	4/13/2025	55.99
2215504	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	4/19/2010	4/13/2025	55.99
2248358	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.02
2248359	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.02
2248360	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.01
2248361	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.01
2248362	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.01
2248363	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.01
2248364	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.00
2248365	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.00
2248366	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	56.00
2248370	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.99
2248371	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.99
2248372	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.99
2248373	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.99
2248374	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.99
2248375	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.99
2248385	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.98
2248386	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.98
2248387	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.98
2248388	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.98
2248389	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.98
2248390	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.98
2248391	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.98
2248392	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/1/2010	4/13/2025	55.98
2248642	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/3/2010	4/13/2025	56.03
2248643	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/3/2010	4/13/2025	56.03
2248644	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/3/2010	4/13/2025	56.03

Claim Title	Name	Status	Company	Record Date	Expiry Date	Area (ha)
2248645	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/3/2010	4/13/2025	56.03
2248646	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	9/3/2010	4/13/2025	56.03
2372518	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/10/2012	12/9/2023	56.03
2372519	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/10/2012	12/9/2023	56.03
2372520	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/10/2012	12/9/2023	56.03
2372521	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/10/2012	12/9/2023	56.03
2372522	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/10/2012	12/9/2023	56.03
2372526	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/10/2012	12/9/2023	56.02
2372527	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/10/2012	12/9/2023	56.02
2372528	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/10/2012	12/9/2023	56.02
2353537	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	7/3/2012	7/2/2023	56.03
2353538	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	7/3/2012	7/2/2023	56.03
2353540	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	7/3/2012	7/2/2023	56.02
2370084	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/8/2012	11/7/2023	55.98
2389235	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.03
2389236	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.03
2389237	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.02
2389238	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.02
2389239	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.01
2389240	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.01
2389241	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.01
2389242	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.01
2389243	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.01
2389244	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.00
2389245	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2013	8/20/2024	56.00
2396140	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/16/2013	12/15/2024	56.05
2396141	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/16/2013	12/15/2024	56.05
2396142	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/16/2013	12/15/2024	56.05
2396143	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/16/2013	12/15/2024	56.05
2396144	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/16/2013	12/15/2024	56.05
2396145	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	12/16/2013	12/15/2024	56.05
2386455	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	6/12/2013	6/11/2024	56.01
2391263	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/2/2013	10/1/2024	56.04
2391264	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/2/2013	10/1/2024	56.04
2391265	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/2/2013	10/1/2024	56.04
2391266	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/2/2013	10/1/2024	56.04
2391267	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/2/2013	10/1/2024	56.04
2391268	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	10/2/2013	10/1/2024	56.04
2394524	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/22/2013	11/21/2024	56.04
2394525	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/22/2013	11/21/2024	56.04

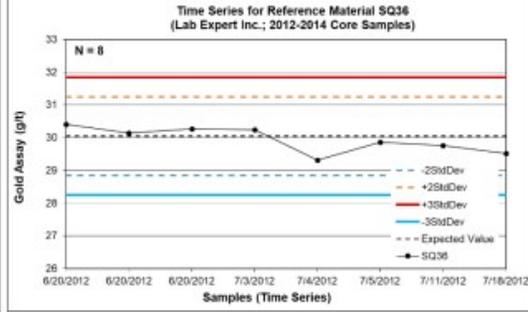
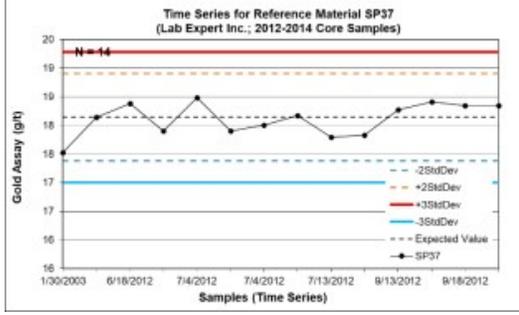
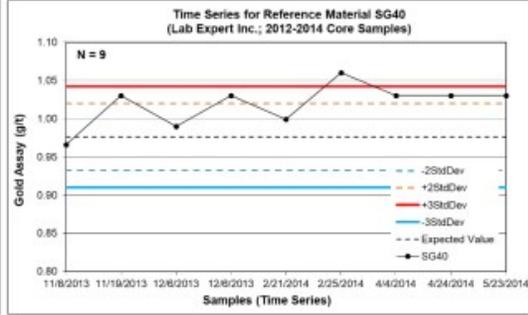
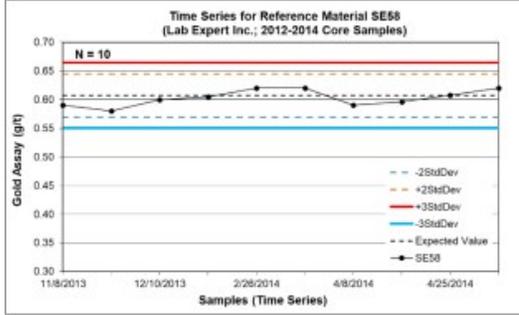
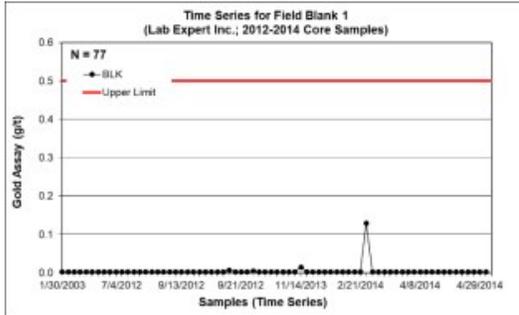
Claim Title	Name	Status	Company	Record Date	Expiry Date	Area (ha)
2394526	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/22/2013	11/21/2024	56.04
2394527	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/22/2013	11/21/2024	56.04
2394528	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/22/2013	11/21/2024	56.04
2394529	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/22/2013	11/21/2024	56.04
2394615	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/25/2013	11/24/2024	56.04
2394616	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/25/2013	11/24/2024	56.04
2394617	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/25/2013	11/24/2024	56.04
2394618	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/25/2013	11/24/2024	56.03
2394619	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	11/25/2013	11/24/2024	56.03
2409718	Nelligan	Active	Ressources Minières Vanstar inc. 25%; IAMGOLD Corporation 75%	8/21/2014	8/20/2023	56.04
<b>Total</b>						<b>9,356.37</b>

## **APPENDIX B**

### **Analytical Quality Control Data and Relative Precision Charts**

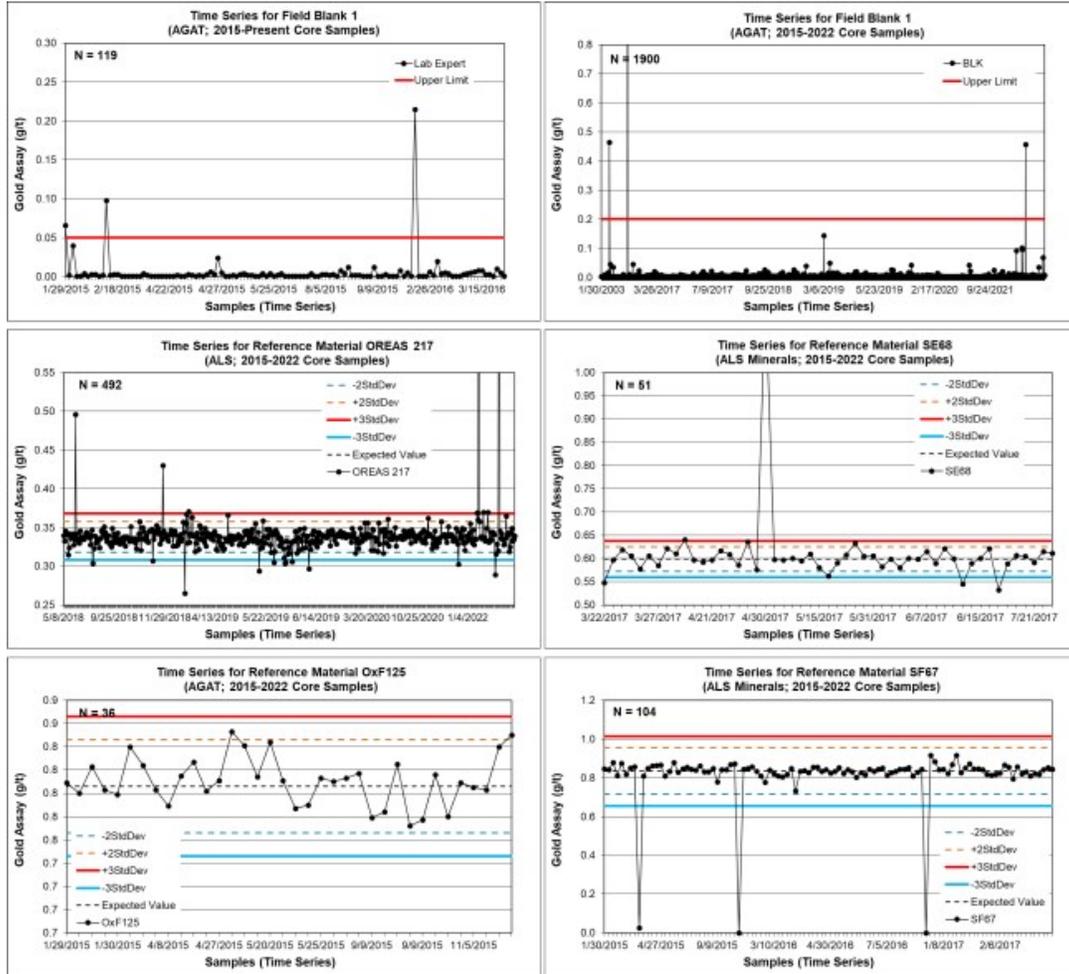
Time Series Plots for Blank and Certified Reference Material Samples Assayed by Laboratoire Expert during 2012-2014

		Statistics					
		BLK	SE58	SG40	SP37	SQ36	
<b>Project</b>	Nelligan	<b>Sample Count</b>	77	10	9	14	8
<b>Data Series</b>	2012-2014 Vanstar	<b>Expected Value</b>	0.050	0.61	0.98	18.14	30.04
<b>Data Type</b>	Core Samples	<b>Standard Deviation</b>	-	0.02	0.02	0.38	0.60
<b>Commodity</b>	Au in g/t	<b>Data Mean</b>	0.005	0.60	1.02	18.11	0.00
<b>Laboratory</b>	Lab Expert Inc.	<b>Outside 3StdDev/UL</b>	0%	0%	11%	0%	0%
<b>Analytical Method</b>	Fire assay	<b>Below 3StdDev</b>	-	0	0	0	0
<b>Detection Limit</b>	0.05 g/t Au	<b>Above 3StdDev</b>	-	0	1	0	0



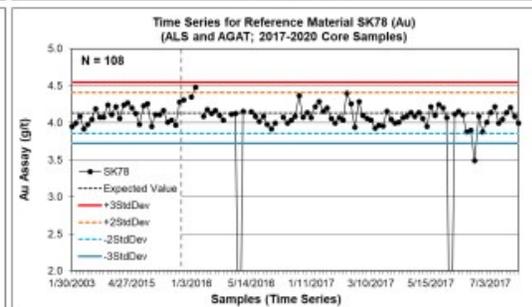
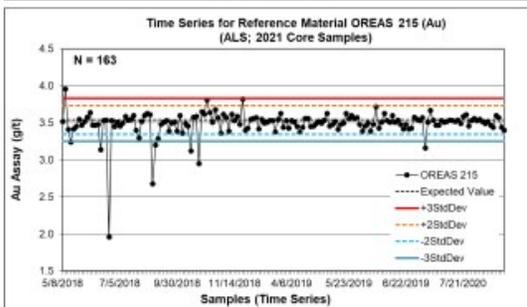
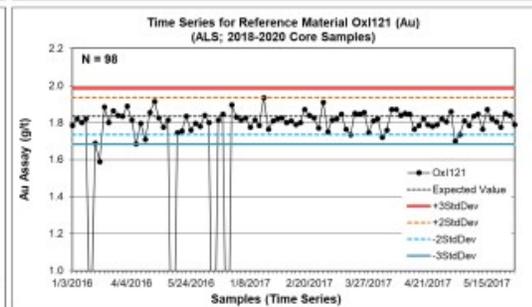
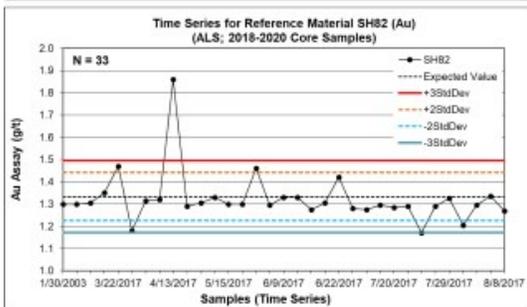
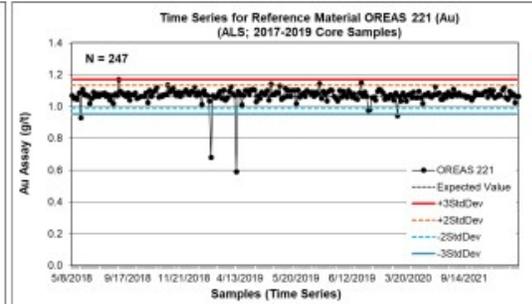
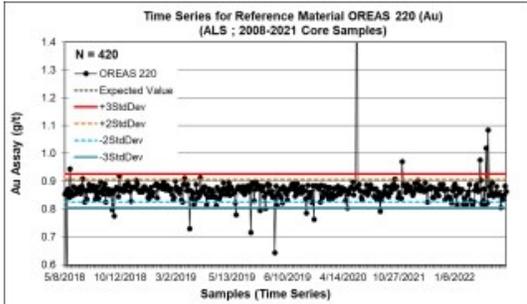
Time Series Plots for Blank and Certified Reference Material Samples Assayed by ALS and AGAT during 2014-2022

srk consulting		Statistics						
Project	Nelligan	BLK	BLK\S 217	SE68 xF125	SF67			
Data Series	2015-2022	Sample Count	119	1,900	492	51	36	104
Data Type	Core Samples	Expected Value	0.005	0.020	0.34	0.80	0.81	0.84
Commodity	Au in g/t	Standard Deviation	-	-	0.01	0.01	0.02	0.06
Laboratory	ALS and AGAT	Data Mean	0.006	0.007	0.34	0.81	0.81	0.00
Analytical Method	Fire assay - AAS finish	Outside 3StdDev/UL	3%	0%	4%	10%	0%	0%
Detection Limit	0.005 g/t Au	Below 3StdDev	-	-	0	3	0	0
		Above 3StdDev	-	-	157	2	0	0



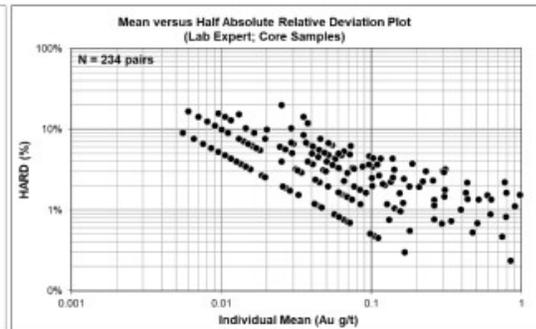
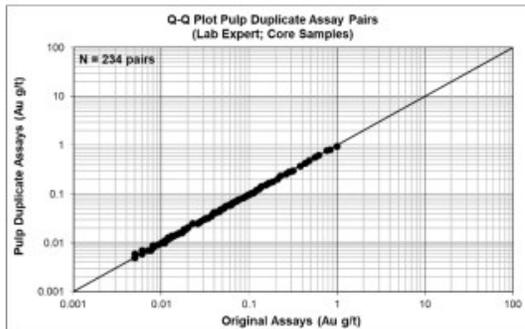
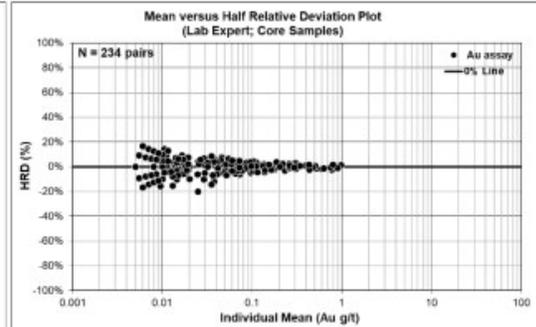
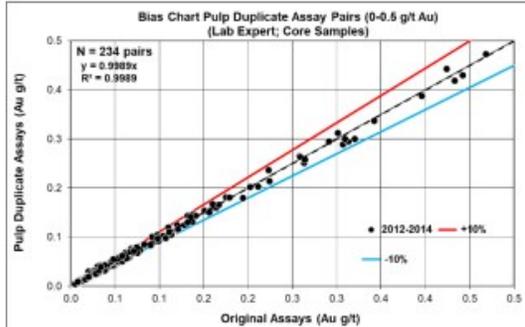
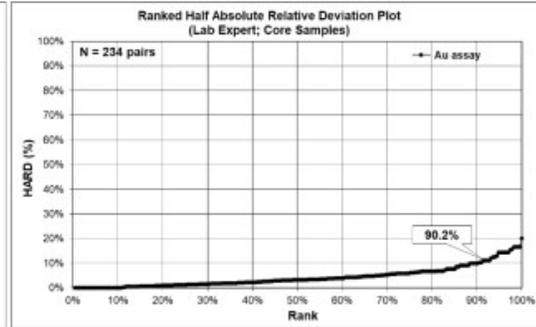
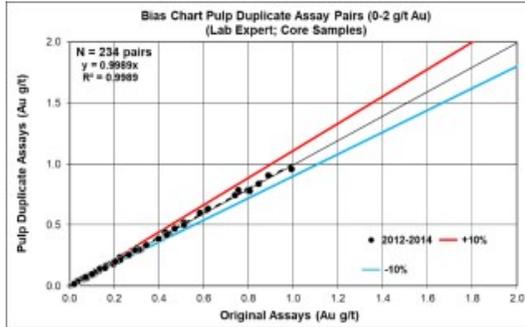
Time Series Plots for Certified Reference Material Samples Assayed by ALS and AGAT during 2014-2022

		<b>Statistics</b>						
		OREAS 220	OREAS 221	SH82	Ox1121	OREAS 215	SK78	
<b>Project</b>	Nelligan	<b>Sample Count</b>	420	247	33	98	163	108
<b>Data Series</b>	2015-2022	<b>Expected Value</b>	1	1	1	2	4	4
<b>Data Type</b>	Core Samples	<b>Standard Deviation</b>	0.0	0.0	0.1	0.1	0.1	0.1
<b>Commodity</b>	Gold (g/t)	<b>Data Mean</b>	1	1	1	2	3	4
<b>Laboratory</b>	ALS and AGAT	<b>Outside 3StdDev</b>	5%	2%	6%	5%	6%	3%
<b>Analytical Method</b>	Fire assay - AAS finish	<b>Below 3StdDev</b>	13	4	1	5	8	3
<b>Detection Limit</b>	0.005 g/t	<b>Above 3StdDev</b>	6	1	1	0	1	0



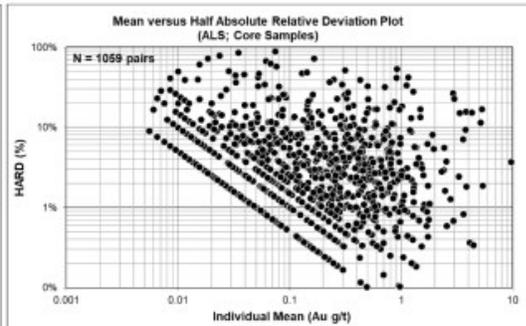
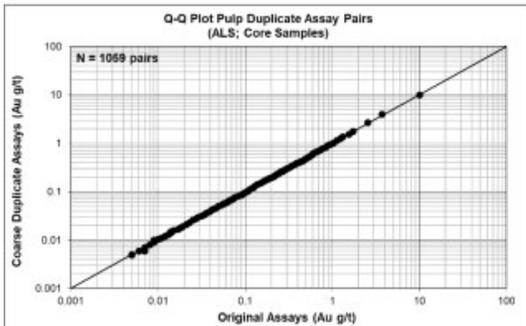
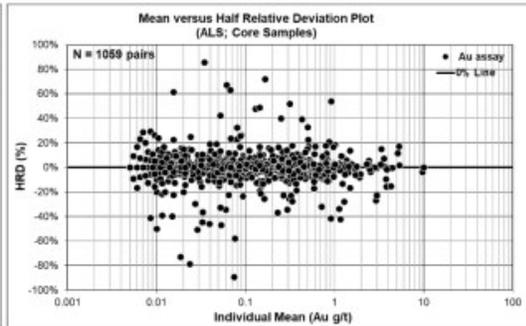
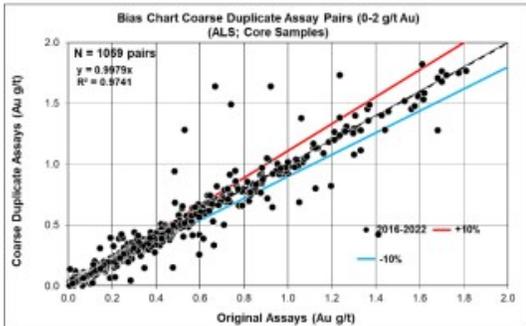
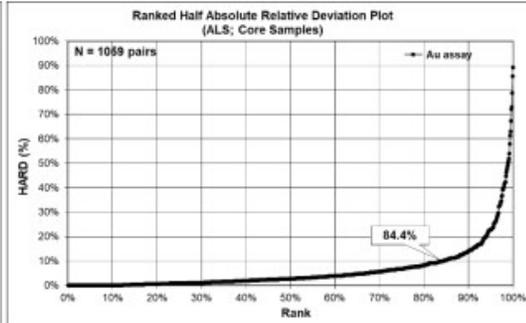
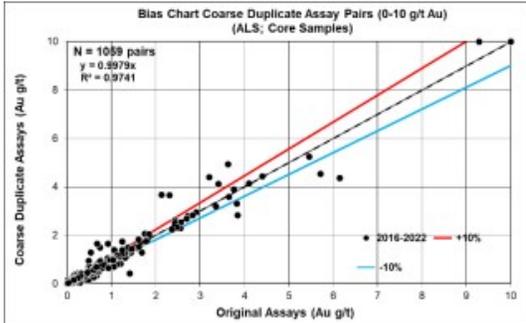
Bias Charts and Precision Plots for Vanstar Pulp Duplicate Data (Lab Expert samples)

		Statistics	
		Original	Field Duplicate
Project	Nelligan	Sample Count	234
Data Series	2012-2014	Minimum Value	0.005 0.005
Data Type	Core Samples	Maximum Value	0.99 0.96
Commodity	Au in g/t	Mean	0.103 0.103
Analytical Method	FA-AAS	Median	0.040 0.042
Detection Limit	0.005 g/t Au	Standard Error	0.011 0.011
Original Dataset	Original Assays	Standard Deviation	0.172 0.172
Paired Dataset	Pulp Duplicate Assays	Correlation Coefficient	0.9993
		Pairs ≤ 10% HARD	90.2%



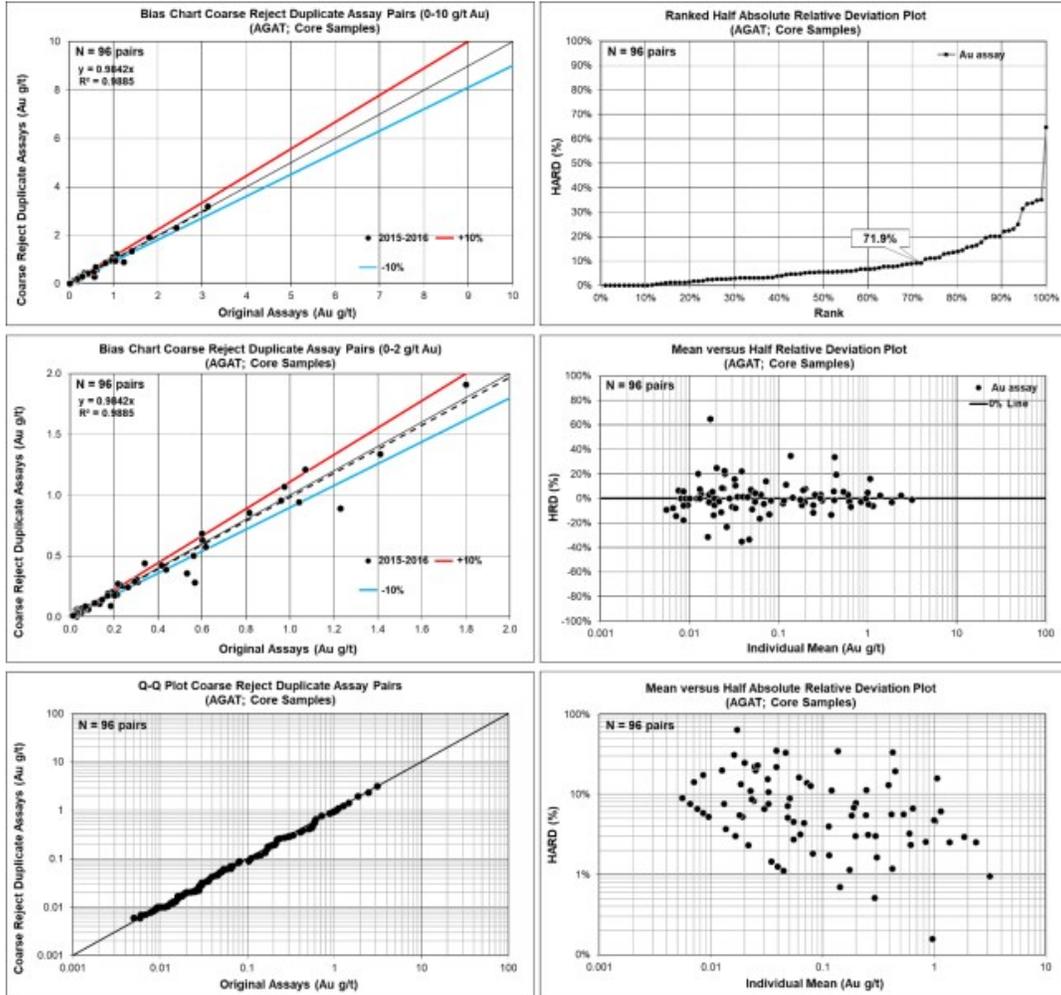
Bias Charts and Precision Plots for IAMGOLD Coarse Duplicate Data (ALS samples)

		Statistics	
		Original	Field Duplicate
Project	Nelligan	Sample Count	1,059
Data Series	2016-2022	Minimum Value	0.005
Data Type	Core Samples	Maximum Value	10.00
Commodity	Au in g/t	Mean	0.370
Analytical Method	FA-AAS	Median	0.128
Detection Limit	0.005 g/t Au	Standard Error	0.024
Original Dataset	Original Assays	Standard Deviation	0.790
Paired Dataset	Coarse Duplicate Assays	Correlation Coefficient	0.9842
		Pairs ≤ 10% HARD	84.4%



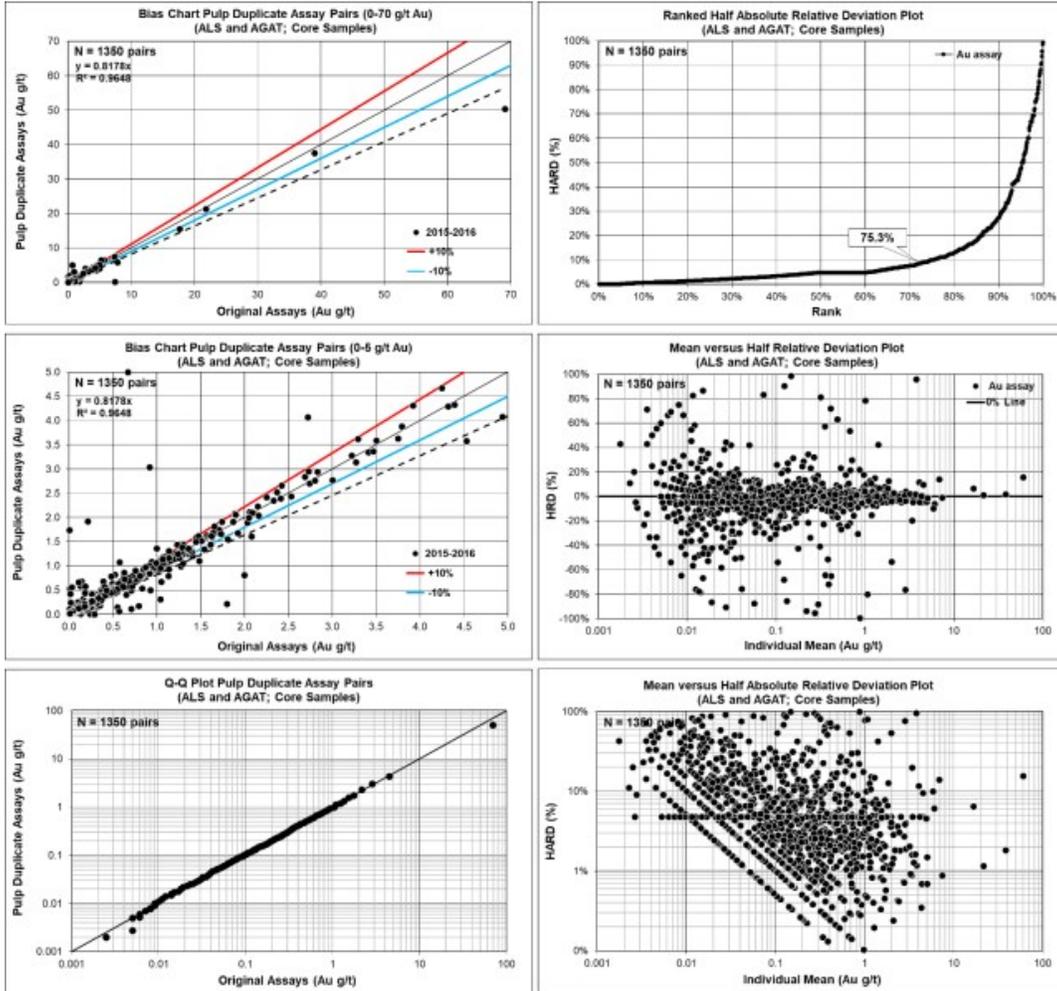
Bias Charts and Precision Plots for IAMGOLD Coarse Duplicate Data (AGAT samples)

		Statistics	
		Original	Field Duplicate
Project	Nelligan	Sample Count	96
Data Series	2015-2016	Minimum Value	0.005      0.006
Data Type	Core Samples	Maximum Value	3.12      3.18
Commodity	Au in g/t	Mean	0.256      0.250
Analytical Method	FA-AAS	Median	0.046      0.046
Detection Limit	0.005 g/t Au	Standard Error	0.051      0.051
Original Dataset	Original Assays	Standard Deviation	0.504      0.501
Paired Dataset	Coarse Reject Duplicate Assays	Correlation Coefficient	0.9928
		Pairs ≤ 10% HARD	71.9%



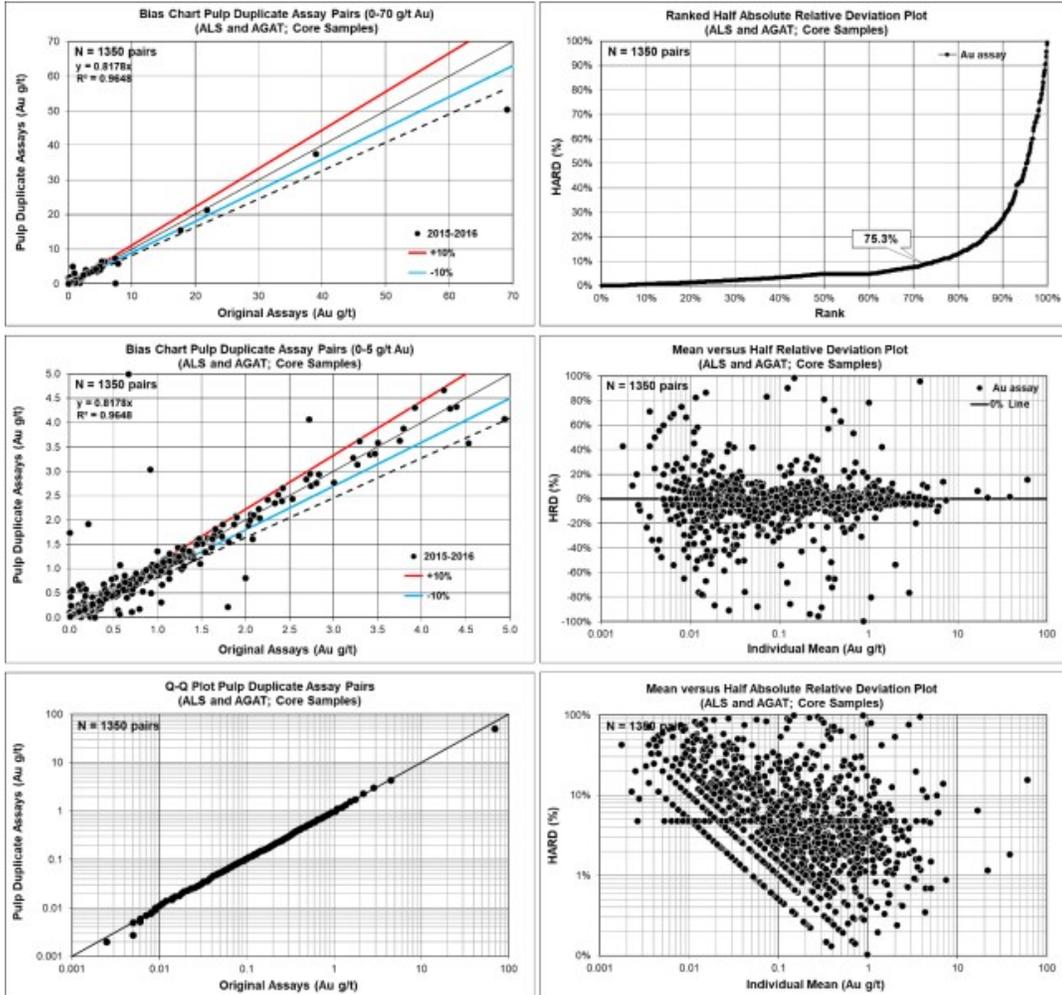
Bias Charts and Precision Plots for IAMGOLD Umpire Coarse Duplicate Data (ALS versus AGAT samples)

		Statistics	
		Original	Field Duplicate
Project	Nelligan	Sample Count	1,350
Data Series	2015-2016	Minimum Value	0.003
Data Type	Core Samples	Maximum Value	69.10
Commodity	Au in g/t	Mean	0.468
Analytical Method	FA-AAS	Median	0.115
Detection Limit	0.005 g/t Au	Standard Error	0.065
Original Dataset	Original Assays	Standard Deviation	2.385
Paired Dataset	Pulp Duplicate Assays	Correlation Coefficient	0.9820
		Pairs ≤ 10% HARD	75.3%



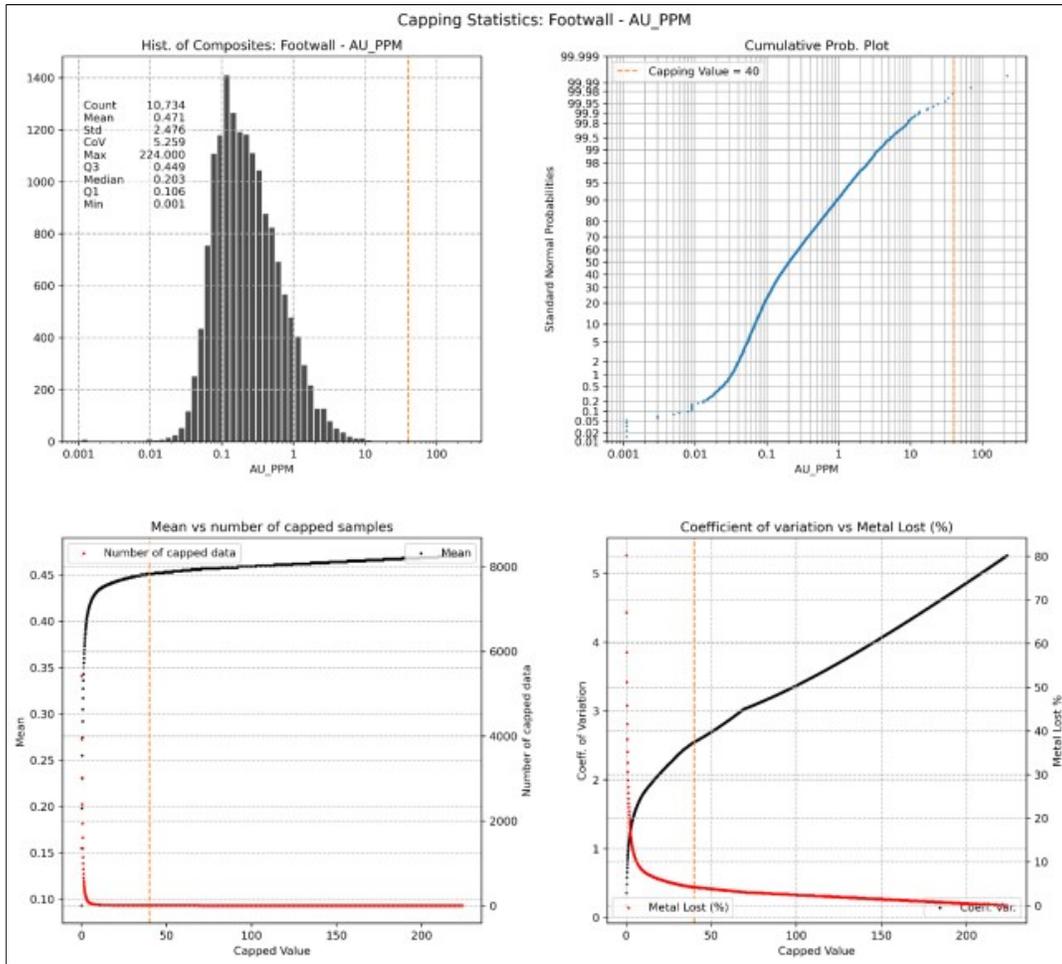
Bias Charts and Precision Plots for IAMGOLD Umpire Pulp Duplicate Data (ALS versus AGAT samples)

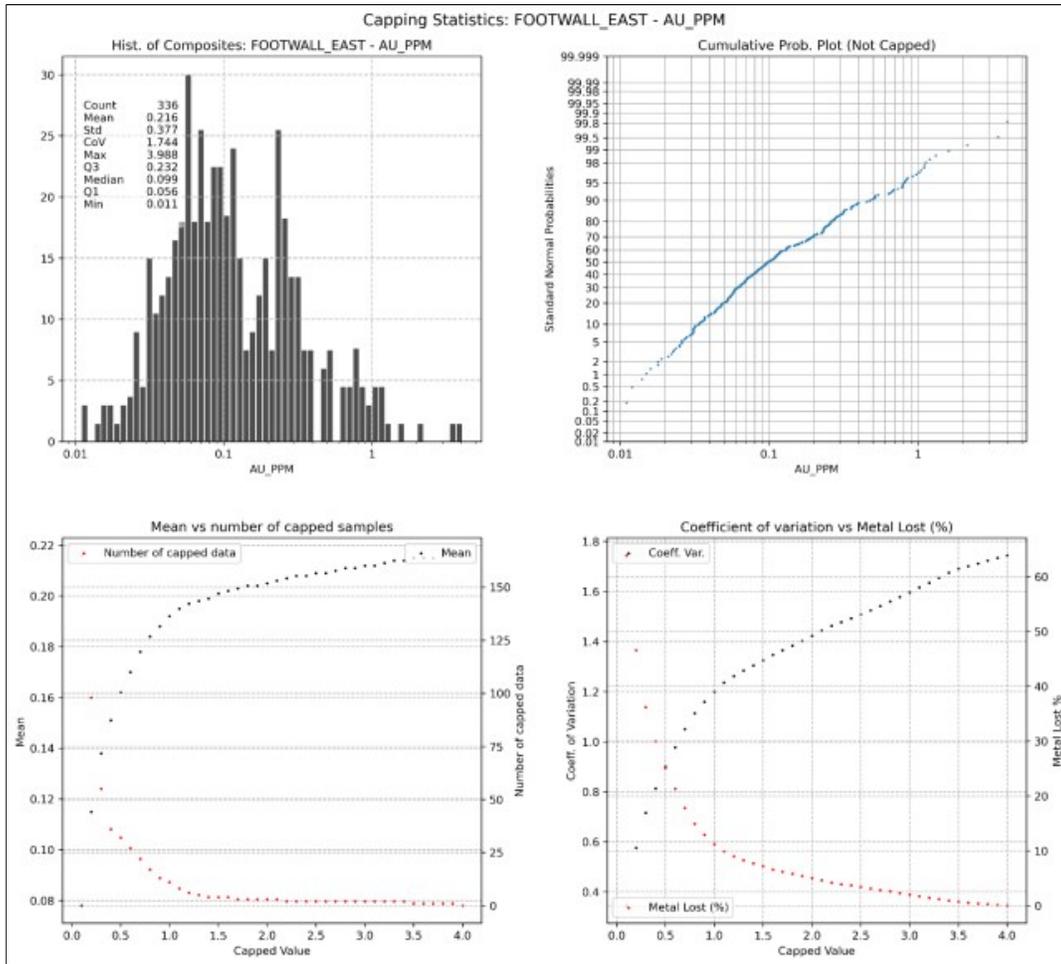
		Statistics	
		Original	Field Duplicate
Project	Nelligan	Sample Count	1,350
Data Series	2015-2016	Minimum Value	0.003
Data Type	Core Samples	Maximum Value	69.10
Commodity	Au in g/t	Mean	0.468
Analytical Method	FA-AAS	Median	0.115
Detection Limit	0.005 g/t Au	Standard Error	0.065
Original Dataset	Original Assays	Standard Deviation	2.385
Paired Dataset	Pulp Duplicate Assays	Correlation Coefficient	0.9820
		Pairs ≤ 10% HARD	75.3%

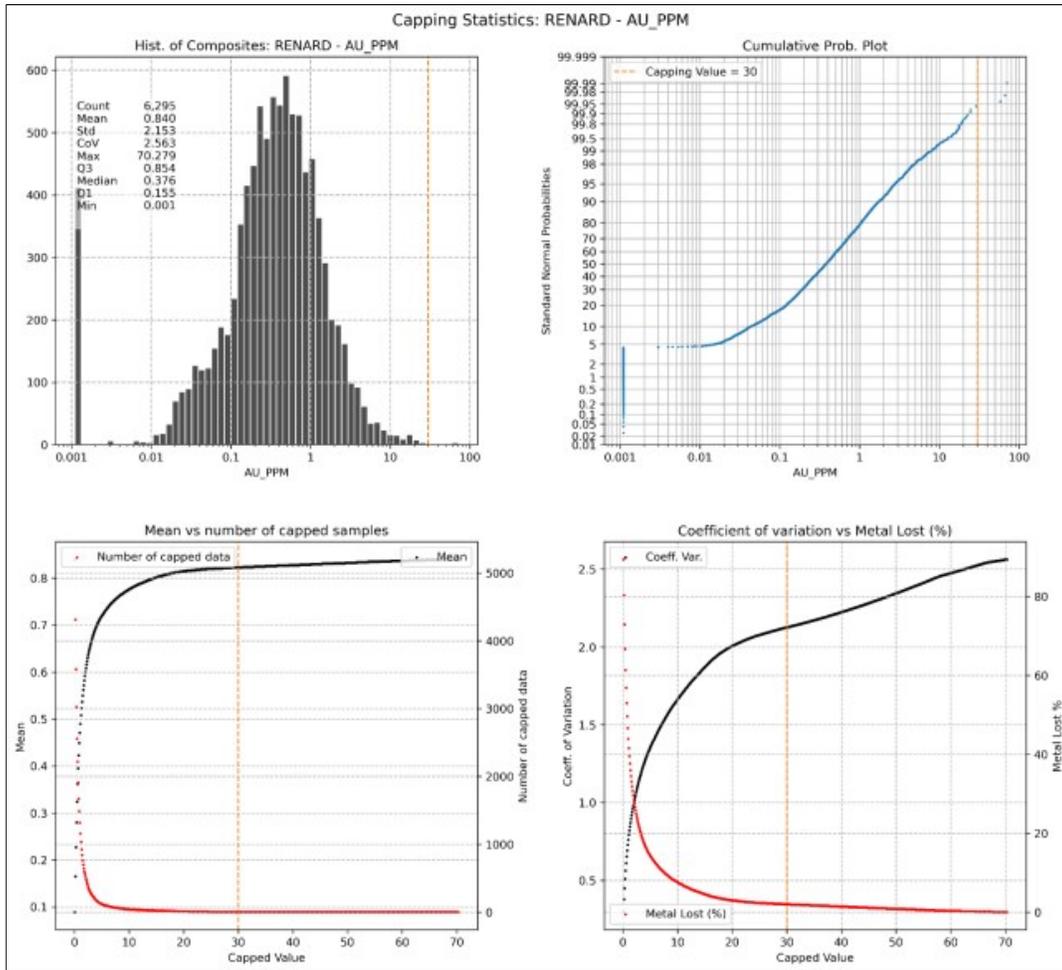


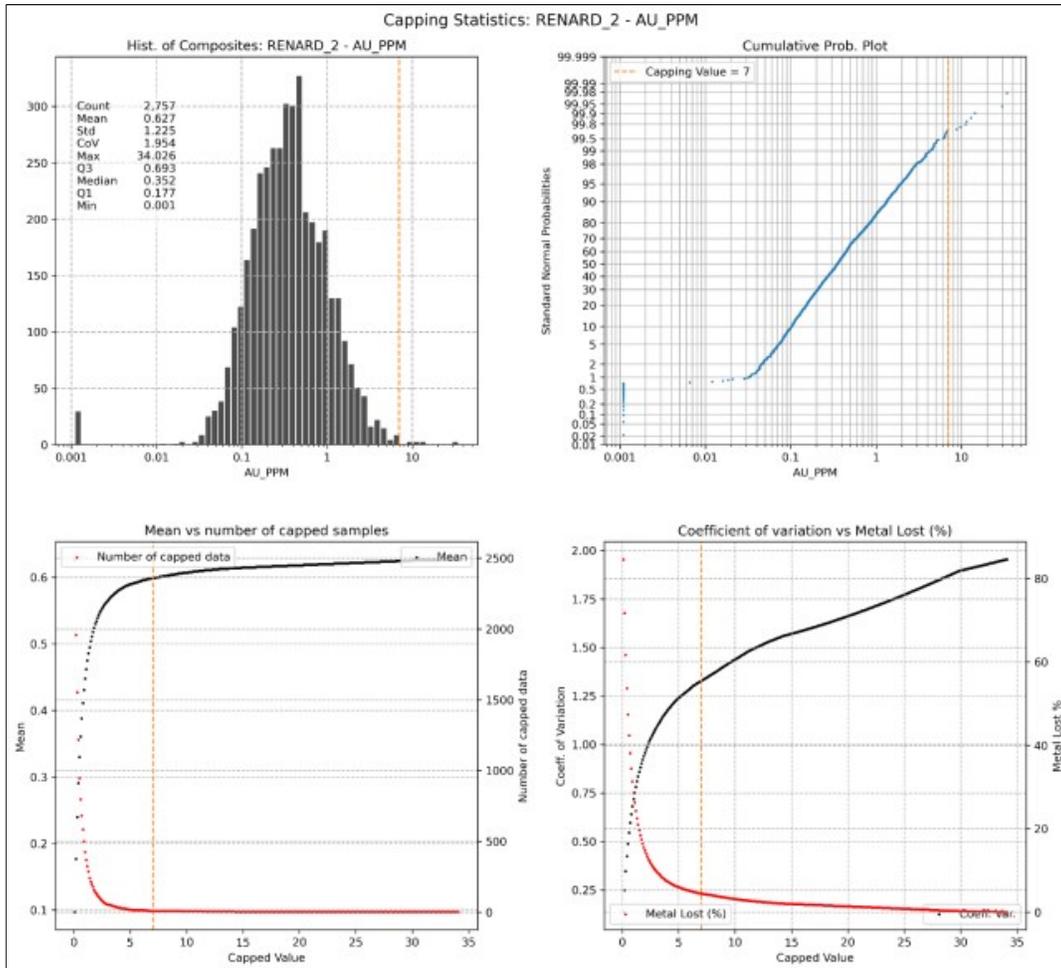
## **APPENDIX C**

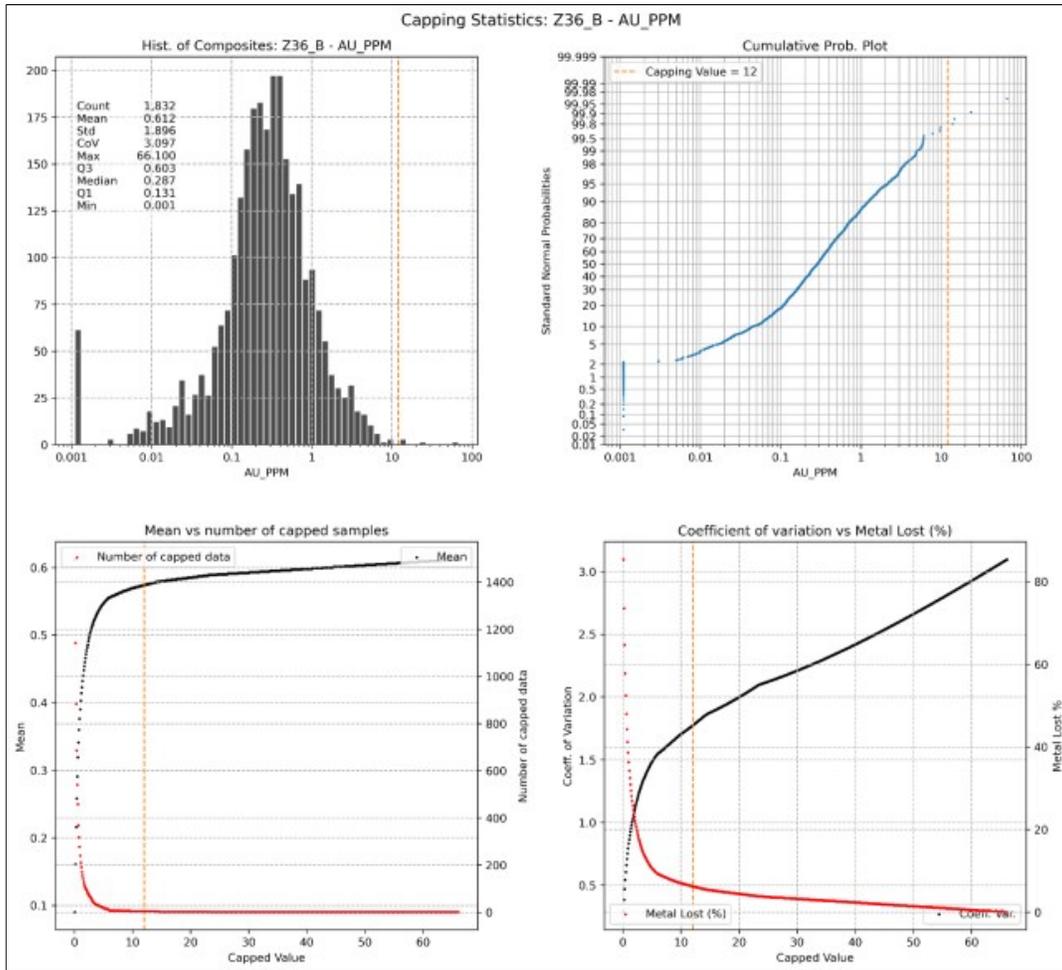
### **Gold Grade Capping Plots**

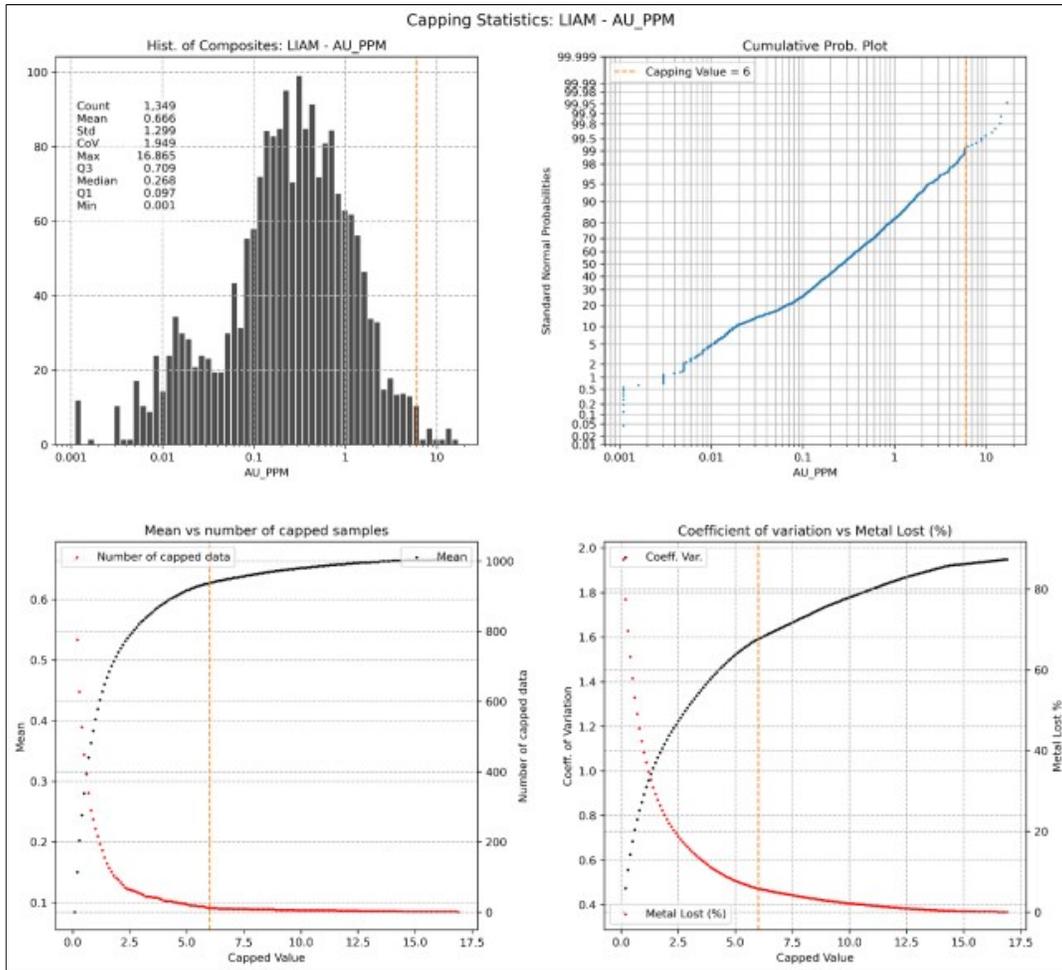


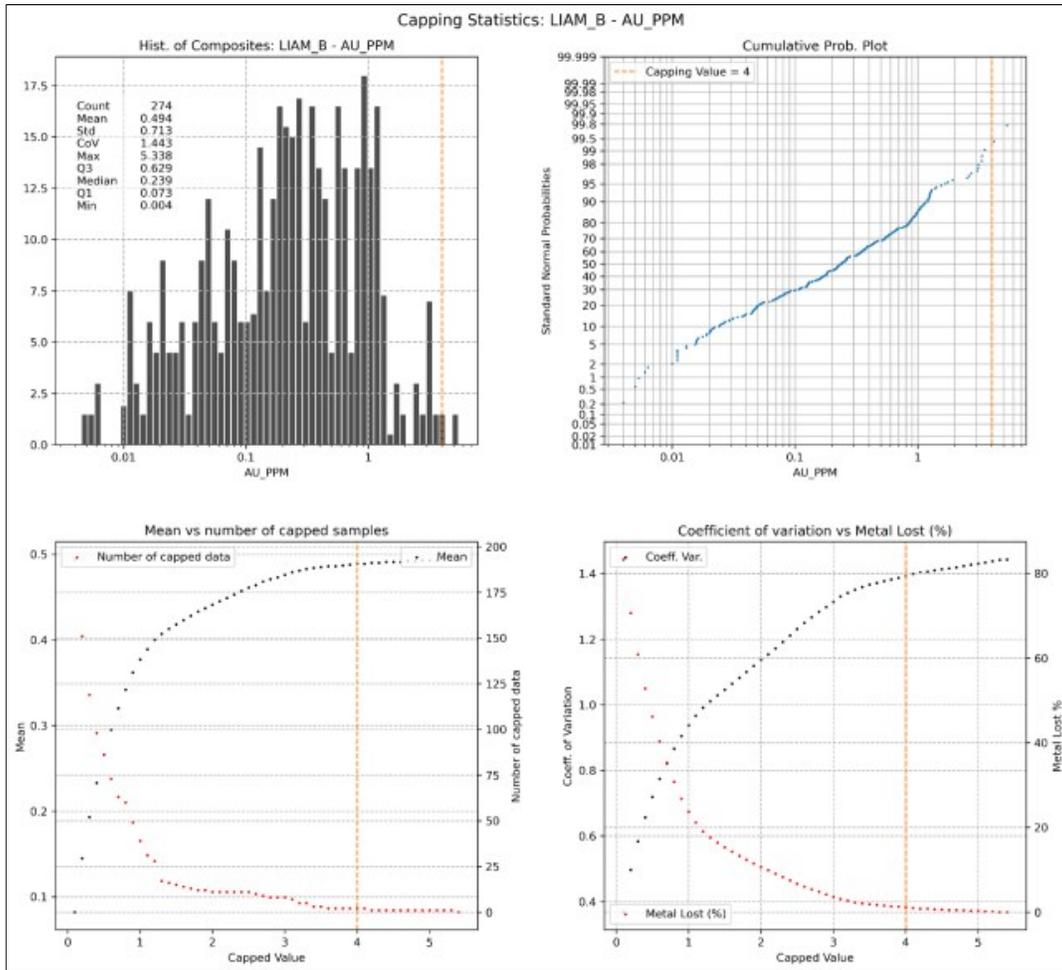


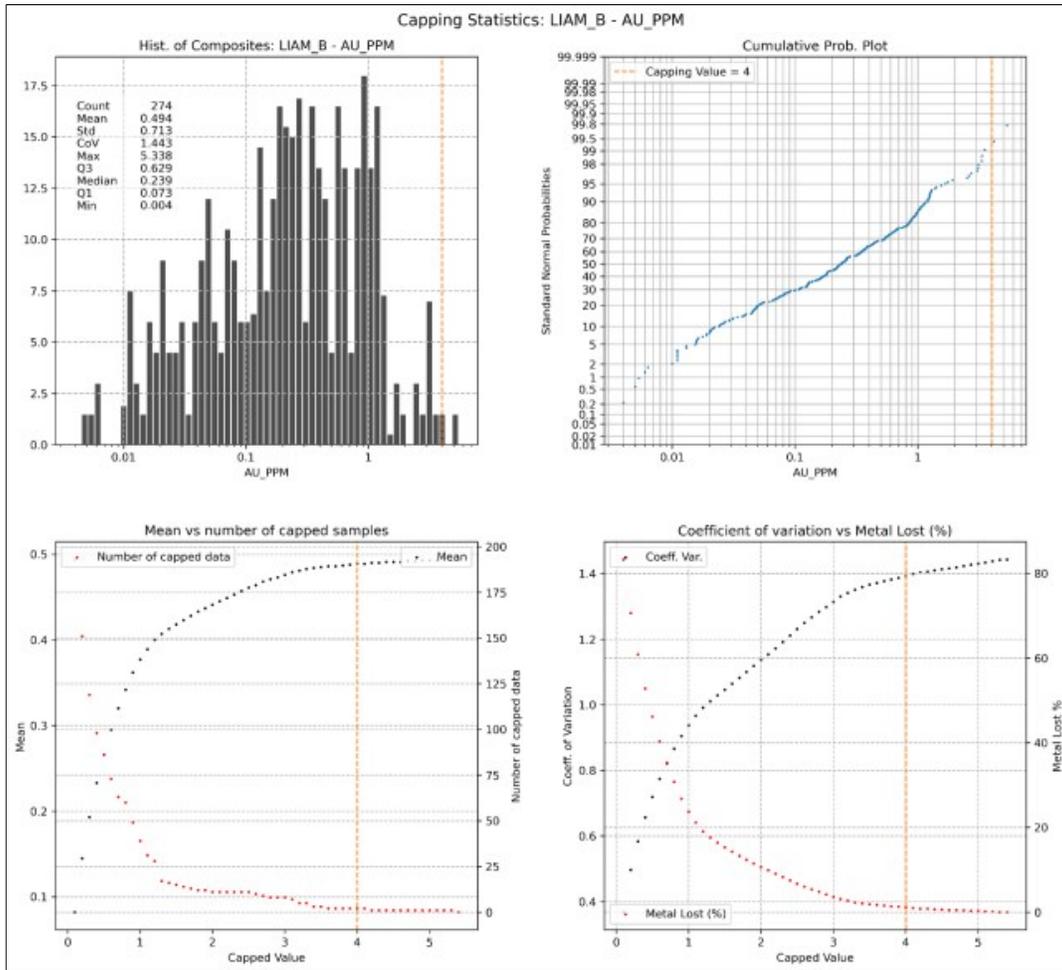


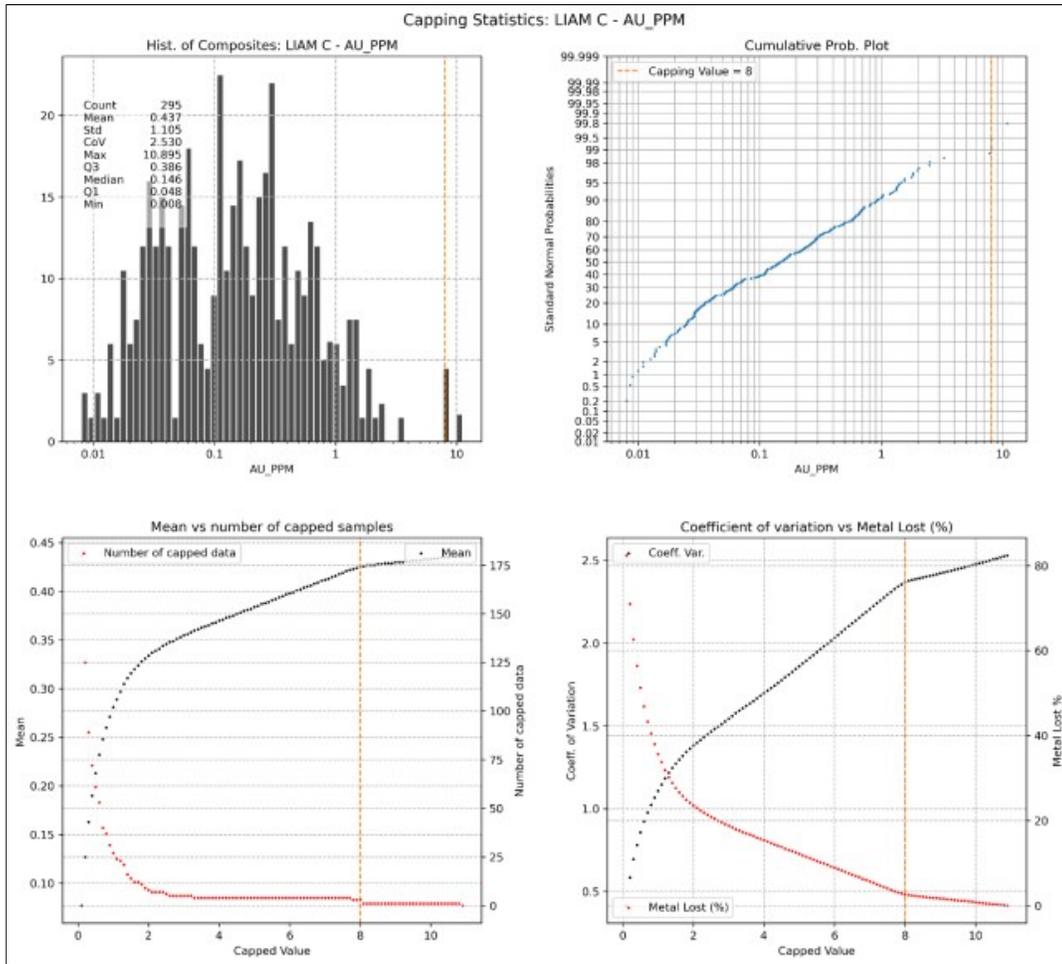


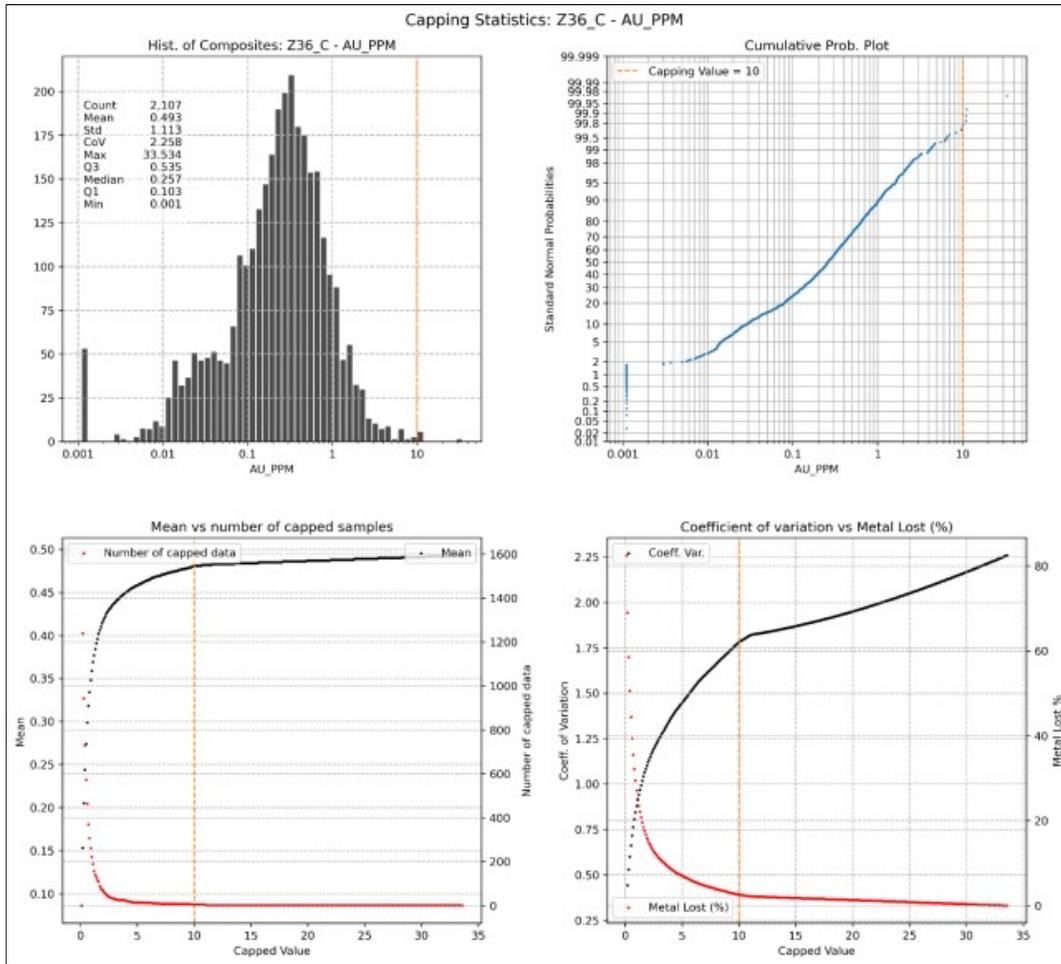


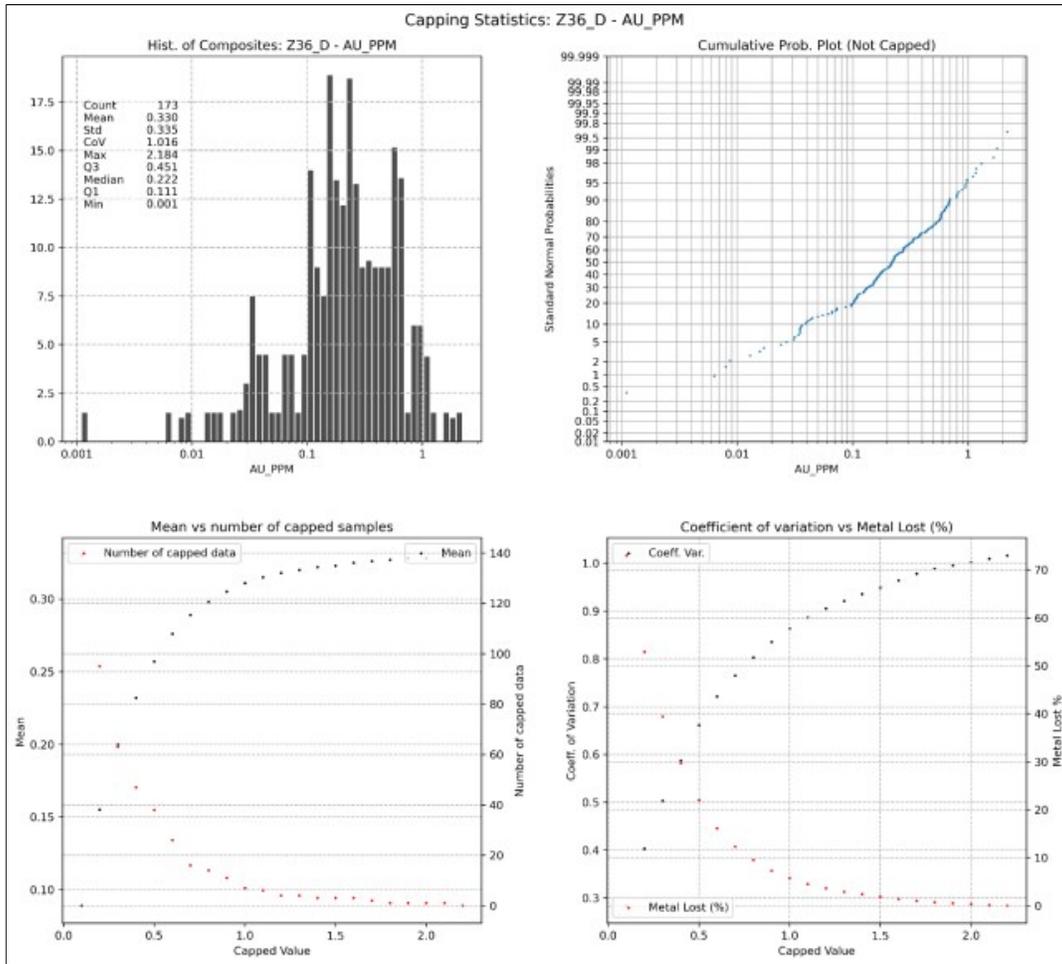


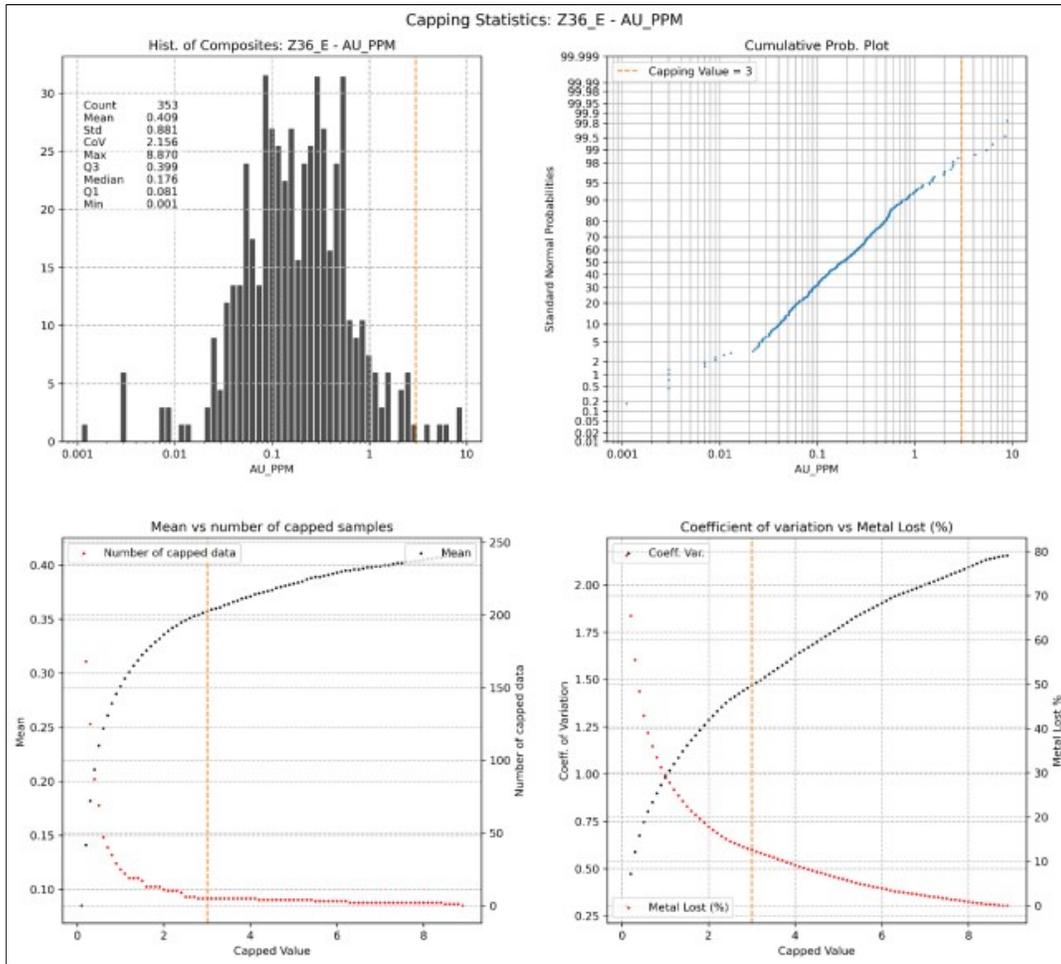


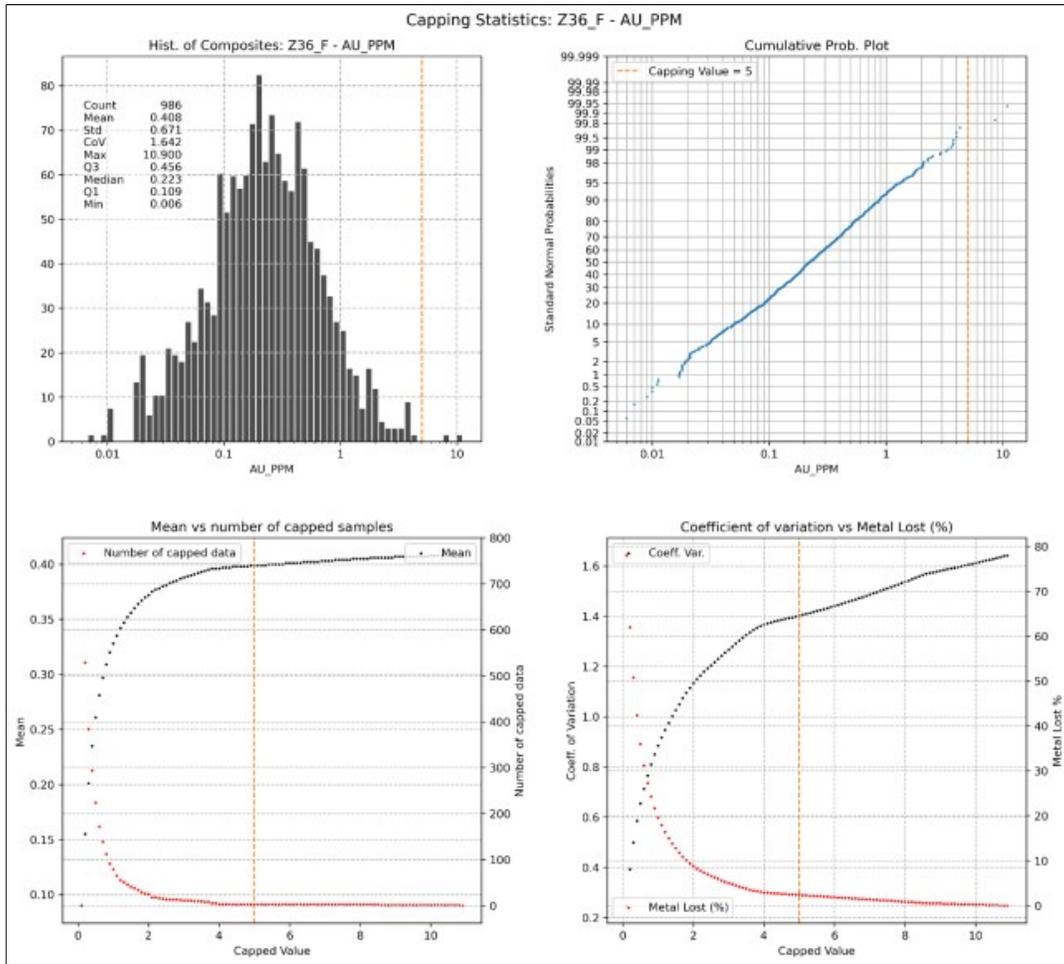


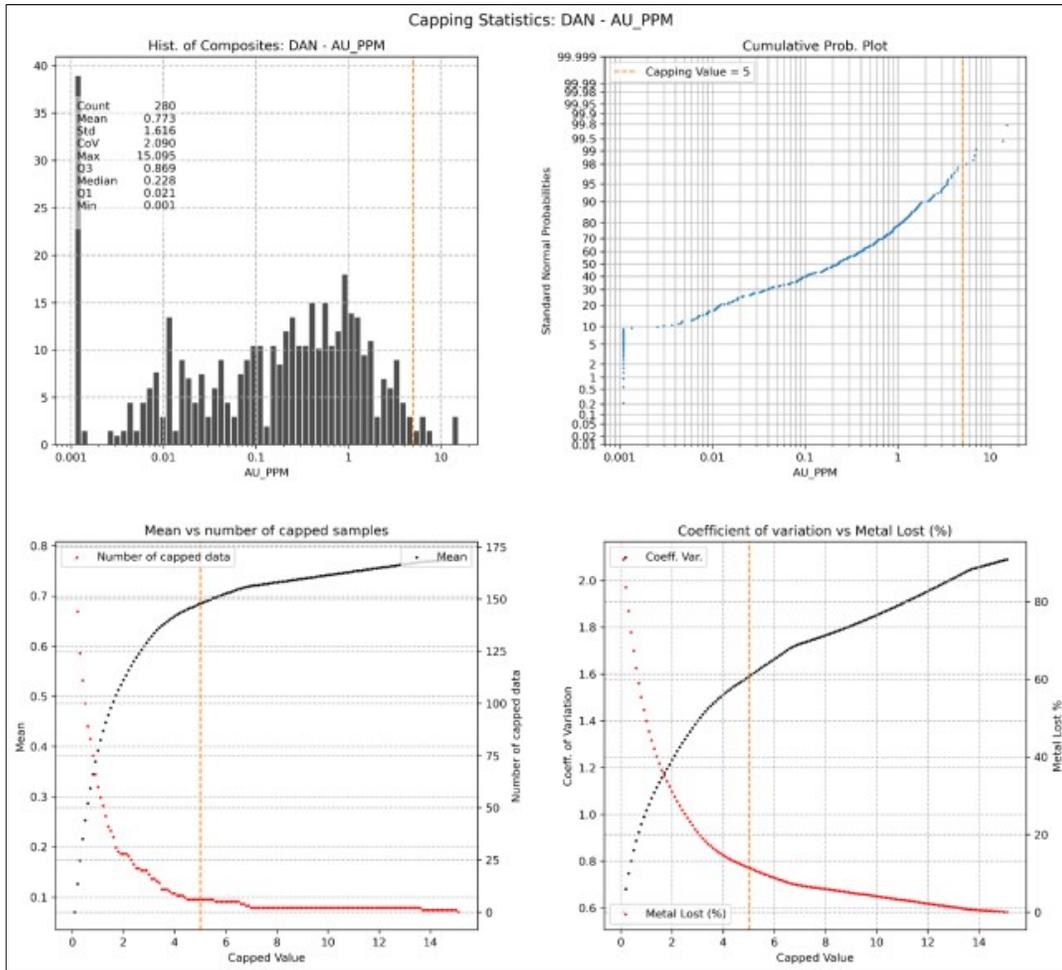


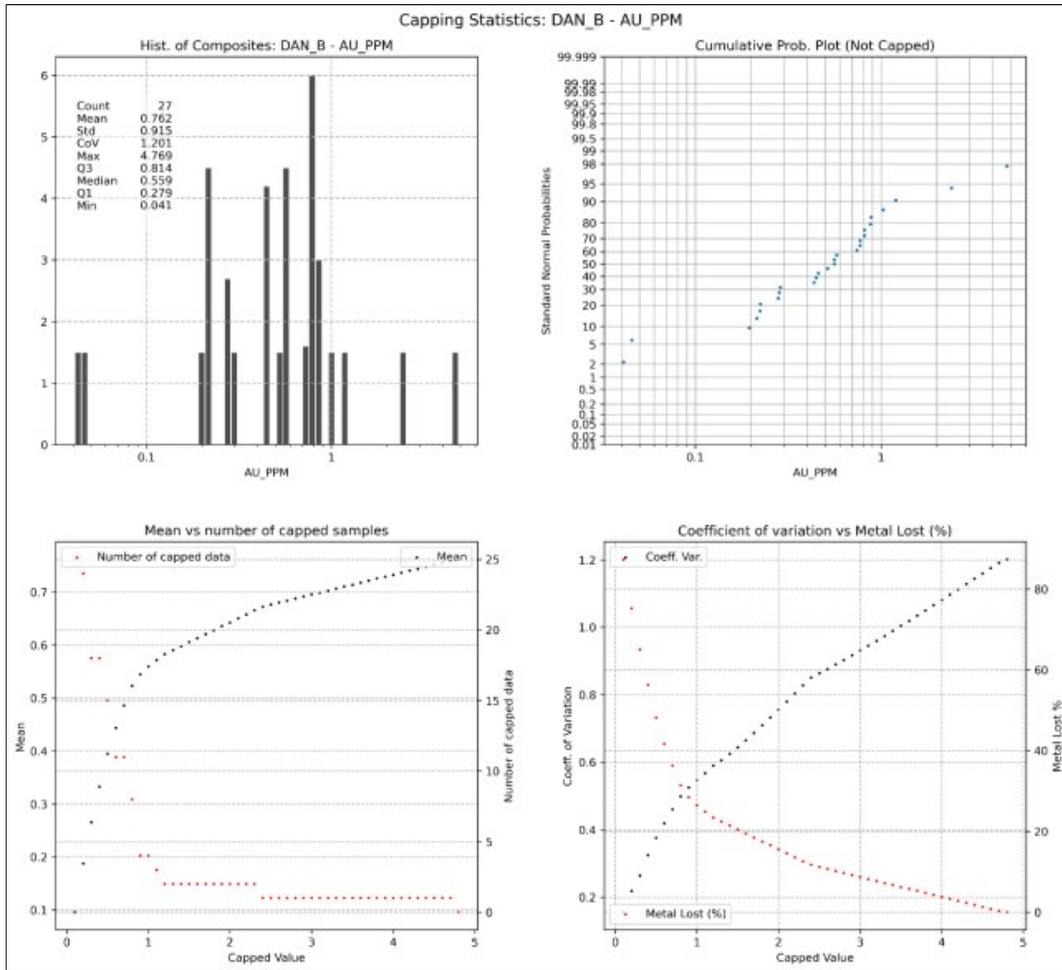


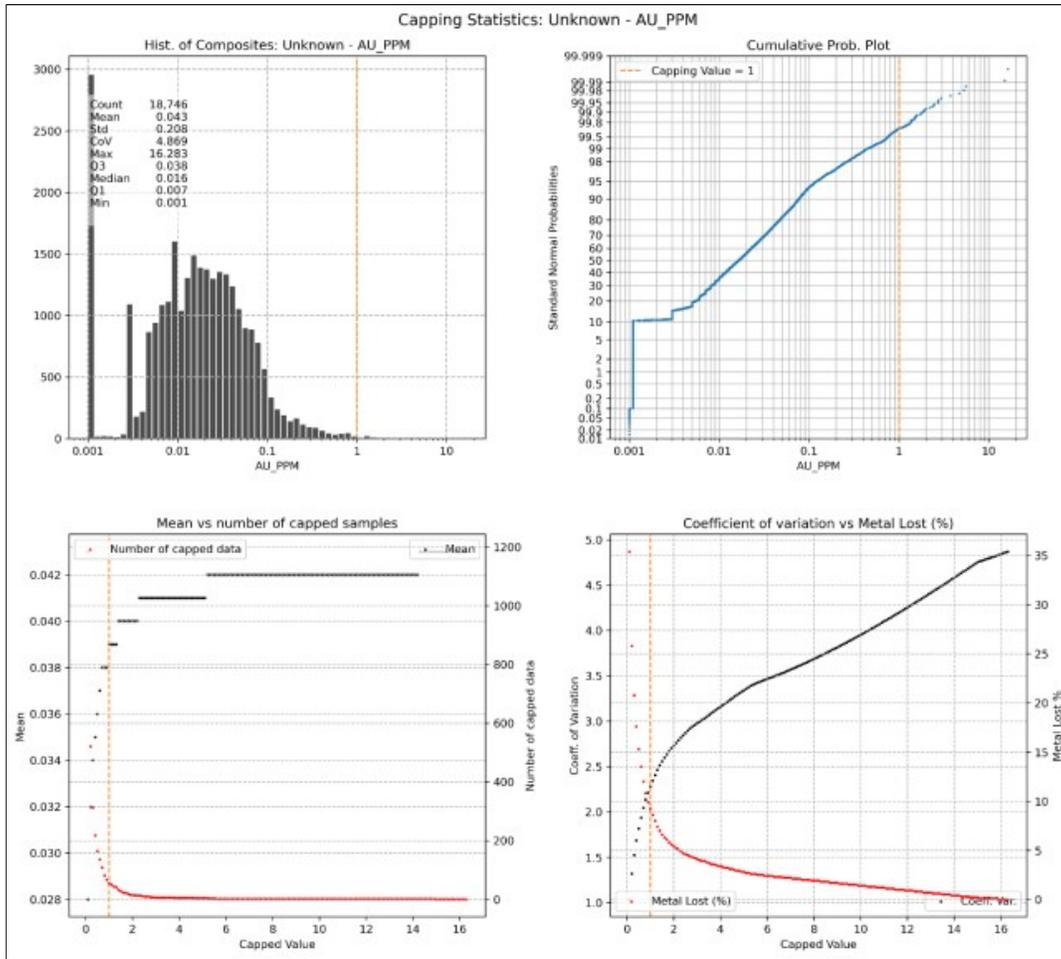








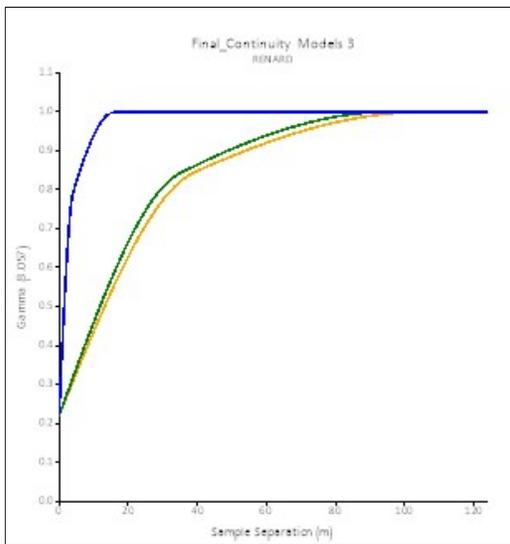
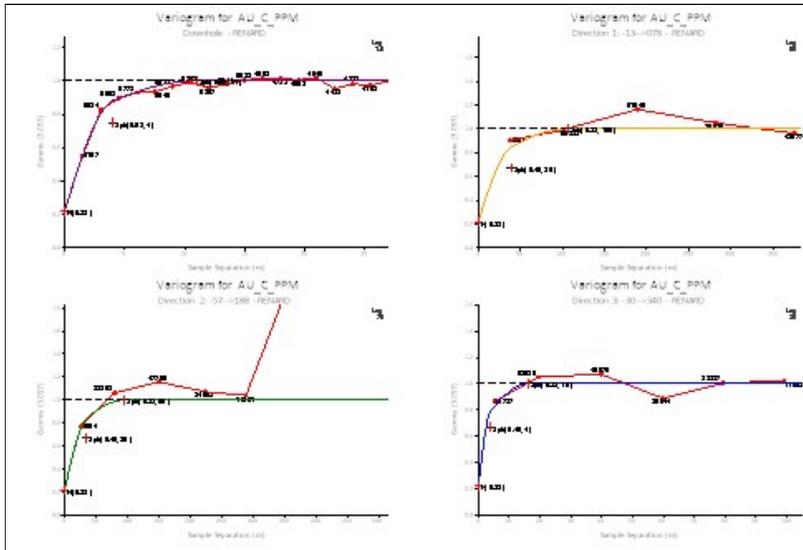




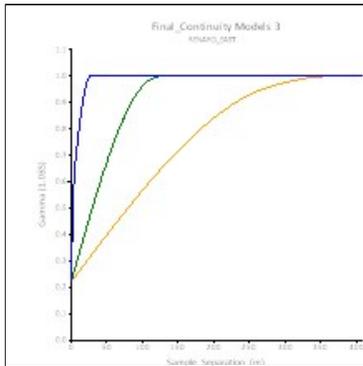
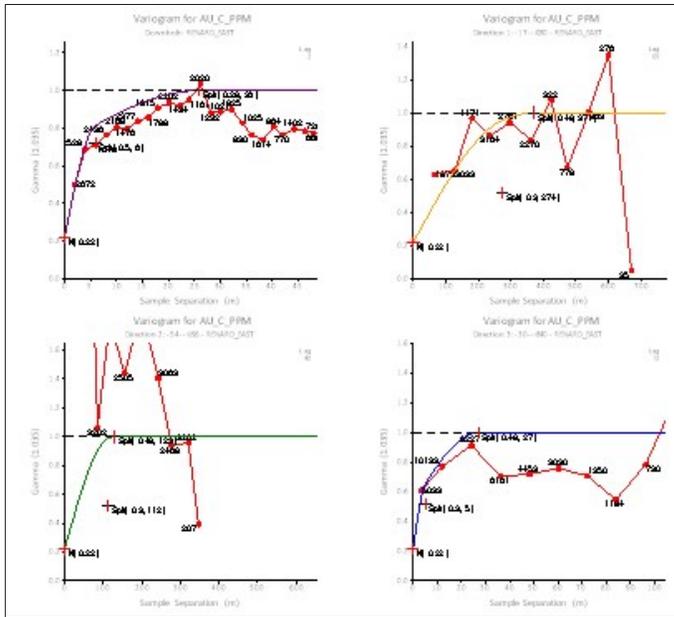
# APPENDIX D

## Gold Variograms

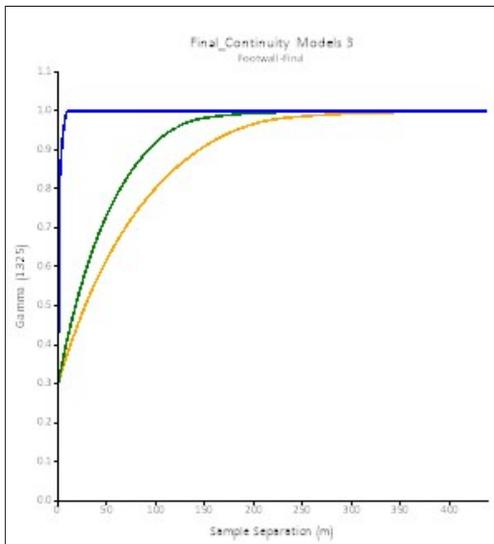
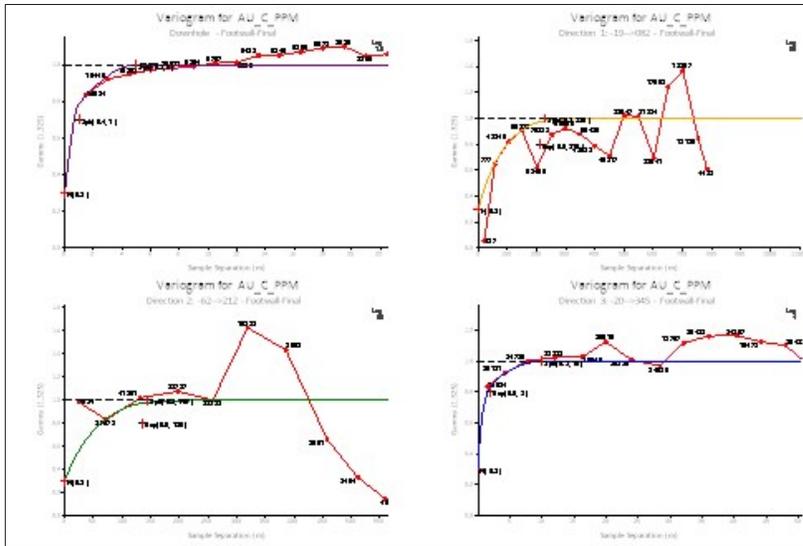
Renard Zone Variograms



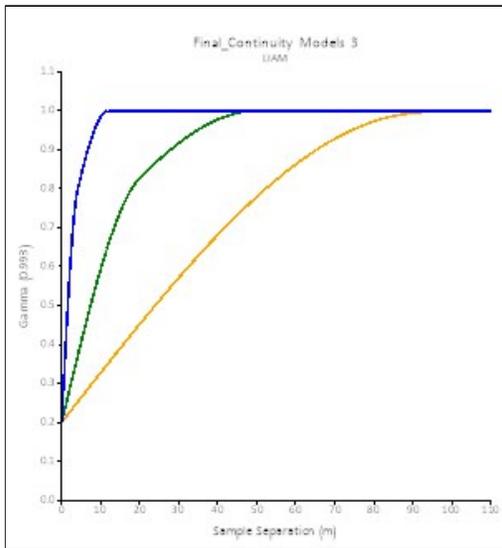
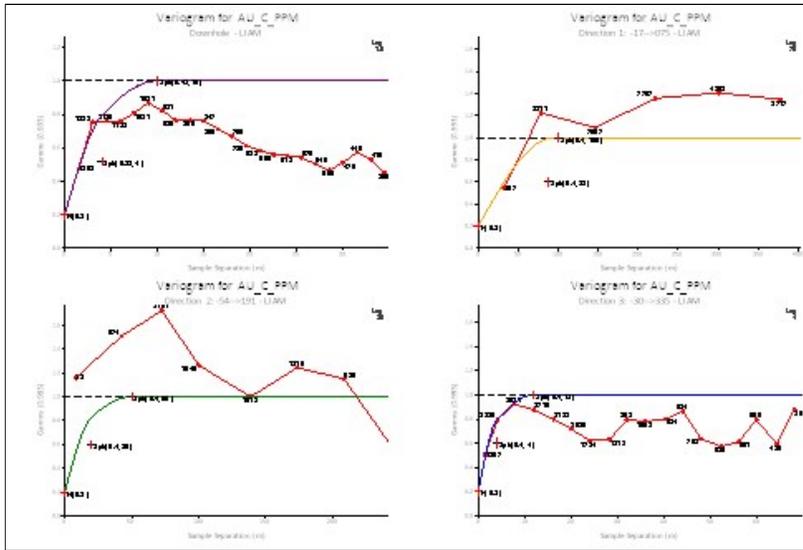
Renard East Zone Variograms



Footwall Zone Variograms



Liam Zone Variograms



Zone Z36 Variograms

