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NI 43-101 TECHNICAL REPORT AND UPDATED MINERAL RESOURCE ESTIMATE FOR THE ORENADA ZONES 2 AND 4 PROJECT, ORENADA GROUP PROPERTIES

Prepared for:

Alexandria Minerals Corporation
1 Toronto Street, Suite 201
Toronto ON M5C 2V6

Project Location:
Latitude 48º 03' North and Longitude 77º 42' West
Province of Québec, Canada

Prepared by:

Claude Savard, B.Sc., P.Geo. (OGQ No. 1057)

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

Gustavo Durieux, M.A.Sc., P.Geo. (OGQ No. 1148)

Effective Date: July 6, 2018
Signature Date: July 20, 2018

SIGNATURE PAGE – INNOVEXPLO

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Prepared for
Alexandria Minerals Corporation
1 Toronto Street, Suite 201
Toronto ON M5C 2V6
Canada

(Original signed and sealed)
Claude Savard, B.Sc., P.Geo.

Signed at Val-d'Or, on July 20, 2018

(Original signed and sealed)
Alain Carrier, M.Sc., P.Geo.

Signed at Val-d'Or, on July 20, 2018

(Original signed and sealed)
Gustavo Durieux, M.A.Sc., P.Geo.

Signed in Longueuil, on July 20, 2018

InnovExplo Inc.
560, 3e Avenue, Val-d'Or,
Québec, Canada, J9P 1S4

CERTIFICATE OF AUTHOR – CLAUDE SAVARD

I, Claude Savard, B.Sc., P.Geo., do hereby certify that:

1. I am employed as a senior consulting geologist with InnovExplo Inc. at 560 3e Avenue, Val-d’Or, Québec, Canada, J9P 1S4.
2. This certificate applies to the report entitled “NI 43-101 Technical Report and Updated Mineral Resource Estimate for the Orenada Zones 2 and 4 Project, Orenada Group Properties” (the “Technical Report”) with an effective date of July 6, 2018 and a signature date of July 20, 2018. The Technical Report was prepared for Alexandria Minerals Corporation (the “issuer”).
3. I graduated with a Bachelor’s degree in Geology (B.Sc.) from Université of Québec à Chicoutimi (Chicoutimi, Québec) in 1996.
4. I am a member of the Ordre des Géologues du Québec (OGQ No. 1057).
5. I have worked as a senior consulting geologist for InnovExplo since June 2016 (2 years). Since graduating from university, I have accumulated over 22 years of experience as a geologist in mining and exploration programs with Inmet Mining Corporation, Aur Resources Inc. (Louvicourt mine), McWatters Inc. (Sigma Lamaque Complex), Alexis Minerals Corporation, QMX-Gold Corporation (Lac Herbin mine), and Metanor Resources Inc.
6. I have read the definition of a qualified person (“QP”) set out in National Instrument 43-101/Regulation 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for purposes of NI 43-101.
7. I visited the property on November 8, 2017 and multiple times from December 13, 2016 to March 5, 2017 for purposes of the Technical Report.
8. I am author of items 4 to 6, 9 to 13 and 23, and co-author of items 1, 2, 3, 14, 25, 26 and 27 of the Technical Report.
9. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. I have read NI 43-101 and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
12. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed this 20th day of July 2018 in Val-d’Or, Québec.

Claude Savard (Original signed and sealed)

Claude Savard, P.Geo. (OGQ No. 1057)
InnovExplo Inc.

CERTIFICATE OF AUTHOR – ALAIN CARRIER

I, Alain Carrier, M.Sc., P.Geo., do hereby certify that:

1. I am employed by InnovExplo Inc. at 560 3e Avenue, Val-d'Or, Québec, Canada, J9P 1S4.
2. This certificate applies to the report entitled "NI 43-101 Technical Report and Updated Mineral Resource Estimate for the Orenada Zones 2 and 4 Project, Orenada Group Properties" (the "Technical Report") with an effective date of July 6, 2018 and a signature date of July 20, 2018. The Technical Report was prepared for Alexandria Minerals Corporation (the "issuer").
3. I graduated with a mining technician degree in geology (1989) from Cégep de l'Abitibi-Témiscamingue, and a Bachelor's degree in Geology (1992; B.Sc.) and a Master's degree in Earth Sciences (1994; M.Sc.) from Université du Québec à Montréal (Montréal, Québec). I initiated a PhD in geology at INRS-Géoressources (Sainte-Foy, Québec) for which I completed the course program but not the thesis.
4. I am a member of the Ordre des Géologues du Québec (OGQ No. 281), the Association of Professional Geoscientists of Ontario (APGO No. 1719), the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (NAPEG No. L2701), the Canadian Institute of Mines, Metallurgy and Petroleum (CIM No. 91323), and the Society of Economic Geologists (SEG No. 132243).
5. I am co-president, founder and consulting geologist for InnovExplo since October 2003 (15 years). Since graduating from university, I have accumulated over 26 years of experience as a geologist, with InnovExplo in the supervision and execution of multiple mandates (from exploration to mineral resource estimate, 43-101 technical report, audit, etc.), and before founding InnovExplo in mining and exploration (Cambior Exploration, Silidor mine, Bouchard-Hébert mine, Sigma-Lamaque mine, South-Malartic Exploration, McWatters Exploration). Before that period, I was also involved in the mining industry as a geological technician (Francoeur mine, Ministère des Ressources naturelles, Cambior Exploration).
6. I have read the definition of a qualified person ("QP") set out in National Instrument 43-101/Regulation 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for purposes of NI 43-101.
7. I visited the property multiple times from in 2016, 2017 and 2018 for purposes of InnovExplo's mandates and for the Technical Report.
8. I am responsible for the overall supervision of the Technical Report and I am co-author of and share responsibility for items 1, 2, 3, 14, 25, 26 and 27.
9. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. I have read NI 43-101 and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
12. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed this 20th day of July 2018 in Val-d'Or, Québec.

Alain Carrier (Original signed and sealed)

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

CERTIFICATE OF AUTHOR – GUSTAVO DURIEUX

I, Gustavo Durieux, M.A.Sc., P.Geo., do hereby certify that:

1. I am employed as a consulting geologist by InnovExplo Inc. at 560 3e Avenue, Val-d'Or, Québec, Canada, J9P 1S4.
2. This certificate applies to the report entitled "NI 43-101 Technical Report and Updated Mineral Resource Estimate for the Orenada Zones 2 and 4 Project, Orenada Group Properties" (the "Technical Report") with an effective date of July 6, 2018 and a signature date of July 20, 2018. The Technical Report was prepared for Alexandria Minerals Corporation (the "issuer").
3. I graduated with a Bachelor's degree in Geology (B.Sc.) from Université de Montréal (Montréal, Québec) in 1996 and a Master`s degree in Economic Geology (M.A.Sc.) from École Polytechnique (Montréal, Québec) in 2000.
4. I am a member of the Ordre des Géologues du Québec (OGQ No. 1148).
5. I have worked as a consulting geologist for InnovExplo since April 2018 (4 months). Since graduating from university, I have accumulated over 18 years of experience as a geologist in mining and exploration programs with Paramount Ventures and Finances Inc. (Salta, Argentina), Hecla Mining Company (La Libertad, Peru; Maricunga, Chile), Falconbridge Ltd (Raglan mine), Hecla Mining Company (El Callao, Venezuela), Aur Resources Inc. (Michoacan, Mexico; Macuchi, Ecuador), Anglo American plc (Utah; Alaska; Québec), Osisko Mining Corp. (North America), Mine Canadian Malartic (Malartic, Québec), Yamana Gold Inc. (Québec), Niobay Metals Inc. (Ontario) and Eastmain Resources Inc. (Québec).
6. I have read the definition of a qualified person ("QP") set out in National Instrument 43-101/Regulation 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for purposes of NI 43-101.
7. I have not visited the property.
8. I am the author of items 7 and 8.
9. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. I have read NI 43-101 and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
12. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed this 20th day of July 2018 in Longueuil, Québec.

Gustavo Durieux (Original signed and sealed)
Gustavo Durieux, M.A.Sc., P.Geo. (OGQ No.1148)
InnovExplo Inc.

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1. SUMMARY

1.1 Introduction

InnovExplo Inc. (“InnovExplo”) was retained by Alexandria Minerals Corporation (“Alexandria” or the “issuer”) to prepare a mineral resource estimate update for the Orenada Zones 2 and 4 Project (the “Project”) and a supporting Technical Report on the Orenada Group Properties (the “Properties”) in accordance with Canadian Securities Administrators’ National Instrument 43-101 Respecting Standards of Disclosure for Mineral Projects (“NI 43-101” or “43-101”) and its related Form 43-101F1. The mandate was assigned by Mr. Philippe Berthelot, Vice-President Exploration for Alexandria.

InnovExplo is a mining and exploration consulting firm based in Val-d’Or (Québec). InnovExplo is considered independent of the issuer for the purposes of section 1.5 of NI 43-101.

The 2018 MRE was prepared by authors Alain Carrier, M.Sc., P.Geo., Claude Savard, B.Sc., P.Geo. and Gustavo Durieux, M.A.Sc., P.Geo.

By virtue of their technical review of the Project, the QPs affirm that the recommended work program herein is appropriate for the Project’s current level of advancement and conforms to NI 43-101 requirements and CIM Definition Standards for Mineral Resources and Mineral Reserves (“CIM Definition Standards”).

1.2 Property Description and Ownership

The Properties are located in the Abitibi region, Bourlamaque Township, approximately 8 km southeast of the city of Val-d’Or in the province of Québec, Canada.

The Properties consists of 118 contiguous mining claims (CDC) covering an area of 3,891.5 ha.

On April 30, 2017, Alexandria and Golden Valley Mines Ltd (“Golden Valley”) reached an Option Agreement on six (6) claims. The agreement granted Alexandria an option to acquire an 80% interest in the Centremaque Property by issuing treasury shares of Alexandria to Golden Valley with a total value of $250,000 over a 4-year period, and by conducting exploration activities totalling $4,000,000 over the same 4-year period. According to the agreement, upon completing the 80% earn-in, the two companies would form a joint venture to further explore and, if warranted, develop the property. Once Alexandria’s 80% interest is vested, Golden Valley will have a 20% free-carried interest and retain a 1.5% NSR royalty, of which 0.5% (a third) may be purchased by Alexandria for $1,000,000.

1.3 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Properties are located in the Val-d’Or municipality of the Abitibi-Témiscamingue administrative region in the Province of Québec, Canada. It is easily accessed via all-season public paved roads, public gravel roads, all-terrain vehicle trails, and bush roads. Provincial highway 117 passes 5.7 km to the north of the Properties, and the gravel road “Chemin de la Forêt Boréale” crosses the Properties. Another gravel road passing to the north of the Properties is used as a service road by the staff of the Goldex mine for pipeline maintenance, and it reaches the Barvue-Manitou tailings.

The region is under the influence of a typical continental-style climate marked by cold, dry winters and warm, humid summers. Climate data from the weather station (Amos) nearest to the town of Val-d'Or during the 1981-2010 period indicate an average temperature of +17.4°C in July, and -17.2°C in January. The mean annual temperature is +1.5°C, slightly above freezing. The lowest recorded temperature was -52.8°C and the highest was +37.2°C. In this area, the temperature drops below freezing 203.2 days per year on average. Snow accumulates from October to May, with a peak from December to March, and freeze-up usually occurs in late December with break-up in March. Average annual precipitation indicates a mean rainfall of 929 mm, with the highest level of precipitation occurring in September (107.3 mm).

1.4 Geological Setting and Mineralization

The Properties are hosted by the southeastern Abitibi Greenstone Belt of the Archean Superior Province in the Canadian Shield. The Properties are located at the boundary between the Abitibi Subprovince and the Pontiac Subprovince which is marked by the Cadillac-Larder Lake Fault zone (CLLFZ). The CLLFZ is a regional-scale strike fault and/or shear zone and is one of the most important structural controls on gold mineralization in the Abitibi Greenstone Belt. The CLLFZ is important not only for its metallogenic wealth, but also for its geodynamic significance and for the juxtaposition of varied lithologic assemblages along its subsidiary faults. The E-W and WNW striking sections of the fault reflect a deep asymmetry in the Abitibi Subprovince, a feature that influenced the styles and episodes of gold mineralization.

At the property scale the Piché and Cadillac Groups mark the contact of the Abitibi Subprovince with the Pontiac Subprovince. The CLLFZ is coincident with the Piché Group, but also straddles the Cadillac Group. The CLLFZ strikes at 110° and dips 70-80° to the north. The rocks within the deformation zone are characterized by a generally E-W penetrative foliation (S1). At the deposit scale (Orenada Zones 4 and 2), F2 asymmetric Z-shaped folds are superimposed on S1. The F2 folds form lenticular domains of more complex internal folding that plunges slightly to the east and are the locus for gold mineralization. Two main sets of mineralized veins and veinlets are recognized in relation to the deformation events: sets V1 and V2. Veins of the V1 set are auriferous quartz-tourmaline-albite-carbonate-arsenopyrite veins, they are generally parallel to S1 ("concordant veins") and have been interpreted to predate the F2 folding episode. Veins of the V2 set are mineralogically similar to the V1 set but are subhorizontal and cut across the V1 veins ("discordant veins") and have been interpreted to post-date the F2 folding. Two types of hydrothermal alteration can be distinguished, regional pervasive carbonatization overprinted by vein-scale arsenoypyrite-tourmaline halos affecting both sets of veins. Gold is intimately associated with arsenopyrite.

Gold mineralization in Orenada Zones 2 and 4 share many geological attributes with other vein-type gold deposits of the Val-d'Or district and with lode gold deposits in general in terms of host rock composition, mineralogy and hydrothermal alteration, also known as orogenic gold deposits. The gold mineralized zones at Orenada are interpreted to represent a deformed greenstone-hosted quartz-carbonate vein-type gold deposit.

1.5 Drilling, Sampling Method, Approach and Analysis

Since the last technical report published in 2009, Alexandria has conducted 15 diamond drilling campaigns from surface on the Properties.

From 2015 to 2018, the drilling on the Project was performed by Spektra Drilling Canada Inc., Forages Rouillier, Forage Dami-Or and Forages Val-d'Or Inc. All holes were drilled from surface with NQ core caliber (47.6 mm core diameter), and the longest hole was 525.5 m.

From March 2015 to the end of October 2017, Alexandria drilled 171 surface diamond drill holes (including two extension holes) on the Project corresponding to 46,413.1 m of exploration and delineation drilling.

At the drill rigs, the drill core is boxed, covered and sealed. In the core shack, Alexandria employees remove the tape and place the boxes on the logging tables. The technicians rotate the core so that all piece's slant the same way, showing a cross-sectional view, at about a 45° angle. The core is logged and sampled by Alexandria geologists/engineers or under their supervision. All geologists/engineers in the issuer's employ are members in good standing of the OGQ or the OIQ. Core samples consist of half-split core with lengths ranging from 0.5 to 1.5 m. Geologists or engineers mark the core to indicate sample intervals and place a tag at the end of the sample interval.

Since resuming drilling on the Project in 2015, Alexandria used five different independent commercial laboratories to analyze their samples; AGAT Laboratories Ltd, Activation Laboratories Ltd (Actlabs) / Techni-Lab S.G.B Abitibi Inc., ALS Global Ltd (ALS Global), Bureau Veritas and SGS. All these laboratories have ISO 9001:2008 certification and ISO/IEC 17025:2005 accreditation through the SCC.

From the first hole drilled on the Project in 2015 to drill hole OAX-17-123 of the 2017 drilling program, every unmineralized sample was analyzed by fire assay (FA) with AAS, gravimetry (GRAV) or ICP-OES finish. For mineralized samples with visible gold, a metallic screen procedure was used.

Since 2017, three assay methods have been used depending on the nature of the samples:

- For core samples positioned between mineralized intersections that are assumed to be barren or very low grade, one pulp sample (50 g) is analyzed by FA with AAS or GRAV finish.
- For mineralized intervals with no visible gold, the entire core sample is crushed in accordance with the laboratory protocol and a split of 1 kg of crushed material is then pulverized. Two pulp samples, 50 g each, are analyzed by FA with AAS finish. Samples assaying >10.0 g/t Au are re-analyzed with a GRAV finish on two 50-g charges for each sample. The final gold content corresponds to the mean of these assays.
- For mineralized intervals with visible gold, a metallic screen procedure was used.

A total of 27,752 samples (including 4,391 QA/QC samples) were submitted to the laboratories during the 2015 to 2017 drilling programs. Quality control procedures included routine insertion of standards, blanks and pulp duplicates. The issuer's QA/QC program for drill core includes the insertion of blanks and standards in the flow stream of core samples. For each group of 20 samples, the issuer inserted one blank and one standard.

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

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

1.6 Data Verification

InnovExplo's data verification included several visits to the Project. Authors Claude Savard and Alain Carrier visited the core logging and storage facilities in Val-d'Or on multiple occasions in 2017 and 2018. The site visits included a review and independent resampling of selected core intervals as well as a review of assays, QA/QC protocols, downhole survey methodologies, and the descriptions of lithologies, alteration, mineralization, veins and structures.

Approximately 5% of the drill hole locations recorded in the database were compared to the data on the original certificates provided by the surveyor company.

The database is of good overall quality. Some discrepancies were noted during the validation process, but these have no material impact on the 2018 MRE. The database is of sufficient quality to be used for a resource estimate.

1.7 Mineral Resource Estimates

The 2018 MRE was prepared under the direct supervision of Alain Carrier, M.Sc., P.Geo. (InnovExplo), assisted by Claude Savard, B.Sc., P.Geo. (InnovExplo). Both Carrier and Savard are "qualified persons" as defined by NI 43-101, and both are considered "independent" of the issuer for the purposes of section 1.5 of NI 43-101. InnovExplo is also considered to be "independent" of the issuer for the purposes of section 1.5 of NI 43-101.

The main objective of the mandate assigned by the issuer was to prepare a 43-101 compliant mineral resource estimate for the Project (zones 2 and 4).

The resource area measures 2,095 m along strike, 605 m wide and 555 m deep. The estimate is based on a compilation of historical and recent diamond drill holes, and the wireframed mineralized zones constructed by InnovExplo.

The GEMS database provided by Alexandria contains 440 surface DDH and 139 underground DDH, for a total of 58,955 samples. The database corresponds to all holes completed on the Project at the database close-out dates of January 16, 2018 (Zone 2) and December 15, 2017 (Zone 4).

The geological model for the deposit was developed by InnovExplo using the geological description of the drill holes and the Televiewer data. In order to conduct accurate resource modelling of the deposit, InnovExplo based its mineralized-zone wireframe model on the drill hole database, the geological and structural model, 3D structural measurements along the drill hole (Televiewer), and the authors' knowledge of the geological and structural setting of the Project and of similar lode gold deposits in the Val-d'Or area.

Mineralized zones are subdivided into mineralized subdomains (i.e., V1 subvertical mineralized zones representing 5 solids in Zone 4 and 22 solids in Zone 2, and V2 mineralized subhorizontal subdomains defined in Zone 4 only for a total of 71 solids) included within a broader domain ("dilution envelope"). Therefore, InnovExplo created 98 distinct wireframes, including 22 wireframes in Zone 2 (coded 501 to 522) and 76 wireframes in Zone 4 (coded 201 to 305).

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

Table 1.1 presents the combined resources (in-pit and underground) by category for the Orenada deposit at the selected cut-off grade (0.4 g/t Au for the in-pit resources and 2.0 g/t Au for the underground resources).

Table 1.1 – Orenada Zone 2 and Zone 4 Project, Indicated and Inferred Mineral Resources by Area

ORENADA	Cut-off grade	Indicated Resources			Inferred Resources		
		Tonnes (t)	Grade (g/t Au)	Gold Ounces	Tonnes (t)	Grade (g/t Au)	Gold Ounces
Zone 4	In-Pit (>0.4 g/t Au)	3,563,000	1.54	176,085	865,000	1.39	38,755
	Underground (>2.0 g/t Au)	191,000	3.00	18,437	326,000	3.34	34,955
	Total	3,754,000	1.61	194,522	1,191,000	1.92	73,710
Zone 2	In-Pit (>0.4 g/t Au)	-	-	-	605,000	1.36	26,363
	Underground (>2.0 g/t Au)	-	-	-	283,000	2.88	26,186
	Total	-	-	-	888,000	1.84	52,549
TOTAL	In-Pit (>0.4 g/t Au)	3,563,000	1.54	176,085	1,470,000	1.38	65,118
	Underground (>2.0 g/t Au)	191,000	3.00	18,437	609,000	3.12	61,141
	TOTAL	**3,754,000**	**1.61**	**194,522**	**2,079,000**	**1.89**	**126,259**

Notes to accompany the Mineral Resource Estimate:

(1) *The mineral resource estimate was prepared by Alain Carrier, P.Geo., M.Sc. (InnovExplo) and Claude Savard, P.Geo. (InnovExplo), both "qualified persons" as defined by NI 43-101 and both considered to be "independent" of the issuer for the purpose of section 1.5 of NI 43-101. InnovExplo is also considered to be "independent" of the issuer under NI 43-101. The effective date of this mineral resource estimate is May 25, 2018.*

(2) *These mineral resources are not mineral reserves as they do not have demonstrated economic viability.*

(3) *Resources are presented undiluted and in situ for both open pit and underground potential scenarios and are considered to have reasonable prospects for economic extraction.*

(4) *The estimate encompasses two different zones (Orenada Zone 2 and Orenada Zone 4) subdivided into mineralized subdomains (i.e., V1 and V2 mineralized subdomains), each defined by individual wireframes with a minimum true thickness of 2 metres included within a broader domain (or dilution envelope).*

(5) *High-grade capping was done on raw assay data before compositing and established on a per zone basis: V1 domains of Zone 2 and Zone 4 at 20 g/t Au; V2 domains of Zone 4 at 35 g/t Au; and a broader domain ("dilution envelope") at 9 g/t Au.*

(6) *Bulk density values were applied on the following lithological basis (g/cm^3): Zone 4 = 2.87; Zone 2 = 2.84; mafic and ultramafic = 2.87.*

(7) *The grade model resource was estimated from drill hole data using an ordinary kriging interpolation method on a block model using a block size of 5 x 5 x 5 metres.*

(8) *The estimate is reported at a 0.4 g/t Au cut-off for the open pit potential and at a 2.0 g/t Au cut-off for the underground potential. The cut-off grades were calculated using a gold price of USD 1,300/oz, a CAD:USD exchange rate of 1.29 (1-year trailing average), and the following parameters: (a) Open pit scenario: mining cost per tonne = CAD 3.50; processing cost = CAD 15.00; G&A = CAD 4.00; pit slope of 50° used during Whittle optimization; (b) Underground scenario: mining cost = CAD 75.00; processing cost = CAD 15.00; G&A = CAD 8.00. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rate, mining cost, etc.).*

(9) *The estimate is categorized into Indicated and Inferred mineral resources. Indicated resources were limited to the Zone 4 area where drill spacing is 25 to 30 metres. Inferred resources were defined in Zone 2 and in the remaining areas of Zone 4 where drill spacing is less than 80 to 100 metres and there is reasonable geological and grade continuity.*

(10) *The estimate was prepared using GEOVIA GEMS 6.8. The estimate is based on 529 diamond drill holes. A minimum true thickness of 2.0 metres was applied, using the grade of the adjacent material when assayed, or a value of zero when not assayed.*

(11) *Calculations used metric units (metres, tonnes, gram per tonne). Metal contents are presented in troy ounces (tonne x grade / 31.10348).*

(12) *The number of metric tons was rounded to the nearest thousand. Any discrepancies in the totals are due to rounding errors.*

(13) *CIM Definition Standards have been followed.*

(14) *InnovExplo is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issue not reported in the Technical Report that could materially affect the mineral resource estimate.*

1.8 Interpretation and Conclusions

The main objective of InnovExplo's mandate was to produce a 43-101 compliant mineral resource estimate for the Orenada Zones 2 and 4 Project using validated previous results (pre-2009) and recent diamond drill hole results (2015 to 2017; database close-out dates of January 16, 2018 for Zone 2 and December 15, 2017 for Zone 4; final drill hole QAX-17-240). This Technical Report and the mineral resource estimate herein meet this objective.

After completing the MRE and a detailed review of all pertinent information, InnovExplo concluded the following:

- Indicated and Inferred Resources have been defined in Orenada Zone 4.
- Additional drilling and geological modelling are required on Orenada Zone 2 to potentially define Indicated Resources.
- It is likely that additional diamond drilling would upgrade some of the Inferred Resources to the Indicated category.

It is likely that additional diamond drilling would identify more resources down-plunge or in the vicinity of known ore shoots.

At this stage, it is reasonable to believe that somewhere between 1.5 and 2.0 million tonnes of mineralization at grades between 1.5 and 2.0 g/t Au may be added by drilling the extensions of the currently defined mineralized zones (Orenada Zones 2 and 4). This exploration target is not a mineral resource estimate and is conceptual in nature. There has been insufficient exploration to define this as a mineral resource, and it is uncertain if further exploration will result in the exploration target being designated as a mineral resource.

The basis for the 1.5 to 2.0 million tonnes at an average grade of 1.5 to 2.0 g/t Au for the exploration target includes the following:

- Two significant mineralized zones (Zones 2 and 4) have been identified on the Project and are the subject of the current mineral resource estimate. Collectively, these two zones are open at depth and have a sufficient footprint to potentially host additional mineralization.
- Drilling results from six (6) holes located west of Orenada Zone 4 and in the range of 300 to 400 m from surface potentially indicates the occurrence of a third mineralized trend.
- It is assumed that this third mineralized zones will have similar width and continuity in their western extensions. This is supported by the fact that the bulk of the current mineral resource estimate starts on surface and is within the first 250 m vertical with some drill holes encountering mineralization down to a vertical depth of 400 m.
- Drilling the gaps between some of the zones is also considered in this assumption.
- The grade range is considered reasonable based on the current mineral resource estimate.

At the effective date of this Technical Report (July 6, 2018), 1,008 assays were still pending. Assay results from 25 diamond drill holes (3,778 new assays) were received after the close-out dates of the 2018 MRE database. Of these, 14 were drilled west of Orenada Zone 4 and illustrate the extent of the gold mineralization outside the resource area. The other 11 were drilled within the resource block model and fall into mineralized zones and dilution envelopes as follows:

- Three (3) holes within the Zone 4 resource area generally confirm the interpretation (V1 and V2 zones) and the grade interpolation;
- Five (5) holes between Zone 2 and Zone 4 encountered gold mineralization;
- Three (3) holes within the Zone 2 resource area generally confirm the interpretation and grade interpolation.

1.9 Recommendations

Based on the results of the 2018 MRE, InnovExplo recommends additional drilling programs and further review of the geological interpretation to gain a better understanding of the Project before updating the current mineral resource estimate. This is particularly applicable to Orenada Zone 2 where more drilling and geological modelling are required to potentially define an Indicated Resource.

InnovExplo has prepared a cost estimate for the recommended exploration program. Items from Phase 2 of the proposed work plan are contingent upon the success of Phase 1. The estimated cost for Phase 1, which would include the consideration of the abovementioned technical recommendations, is approximately $3,076,250 (including 15% for contingencies). The estimated cost for Phase 2 is approximately $1,940,625 (including 15% for contingencies). The grand total is $5,016,875 (including 15% for contingencies).

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

2. INTRODUCTION

InnovExplo Inc. ("InnovExplo") was retained by Alexandria Minerals Corporation ("Alexandria" or the "issuer") to prepare a mineral resource estimate update for the Orenada Zones 2 and 4 Project (the "Project") and a supporting Technical Report on the Orenada Group Properties (the "Properties") in accordance with Canadian Securities Administrators' National Instrument 43-101 Respecting Standards of Disclosure for Mineral Projects ("NI 43-101" or "43-101") and its related Form 43-101F1. The mandate was assigned by Mr. Philippe Berthelot, Vice-President Exploration for Alexandria.

InnovExplo is a mining and exploration consulting firm based in Val-d'Or (Québec). InnovExplo is considered independent of the issuer for purposes of section 1.5 of NI 43-101.

This mineral resource estimate (the "2018 MRE") has an effective date of May 25, 2018.

2.1 Issuer

Alexandria Minerals Corporation is a Canadian gold exploration and development company with strategic properties located in the mining districts of Val-d'Or (Québec), Red Lake (Ontario) and Snow Lake/Flin Flon (Manitoba).

The corporate headquarters of the issuer are at 1 Toronto St., Suite 201, Box 10, Toronto, Ontario, M5C 2V6.

The issuer is a Toronto-based public company trading on the Toronto Stock Exchange (TSX) under the symbol of AZX, on the Frankfurt Stock Exchange under the symbol of A9D, and on the OTC Markets Group Inc. under the symbol ALXDF.

2.2 Terms of Reference

The Orenada Group Properties (the "Properties") are part of the vast Cadillac Break Property Group in Val-d'Or, which hosts significant near-surface gold resources along the gold-producing Cadillac-Larder Lake Fault Zone. The Properties comprise a single block of 118 active claims registered to Alexandria, with a combined surface area of 3,891.5 ha. The Properties are located in Bourlamaque Township.

The main objective of the mandate was to prepare an updated mineral resource estimate (the "2018 MRE") for zones 2 and 4 of the Orenada gold deposit. The previous estimate was completed in 2009 and published in a report entitled "NI 43-101 Technical Report on the Orenada Property", with a signature date of August 14, 2009 (Beauregard et al., 2009). The 2018 MRE uses historical and recent diamond drilling data obtained by the issuer and past operators, including the results from Alexandria's 2015 to 2017 programs, which were the only drilling programs on the Project since 2009.

2.3 Principal Sources of Information

The qualified persons ("QPs"), as defined by NI 43-101, have reviewed and appraised the information used to prepare the Technical Report, including the conclusions and recommendations. The QPs believe the information for the Technical Report is valid and appropriate considering the status of the project and the purpose for which the Technical Report is prepared.

This report is based primarily on information provided by the issuer over the course of the mandate and information collected by the QPs or other personnel during site visits. Other information was obtained from the public domain or sourced from the collection of reports listed in Item 27. The QPs have no reason to doubt the reliability of the information provided by the issuer.

The main sources of information can be summarized as follows:

- Discussions with Alexandria personnel;
- Due diligence of Alexandria's resampling program of historical DDH;
- Exploration and drilling data collected by Alexandria;
- Published and unpublished documentation supplied by Alexandria;
- Additional information from public domain sources (GESTIM, SIGEOM, SEDAR).

By virtue of their technical review of the Project, the QPs affirm that the recommended work program herein is appropriate for the Project's current level of advancement and conforms to NI 43-101 requirements and CIM Definition Standards for Mineral Resources and Mineral Reserves ("CIM Definition Standards").

None of the QPs involved in this Technical Report have or have previously had any material interest in the issuer or its related entities. The relationship with the issuer is solely a professional association between the issuer and the independent consultants. This Technical Report was prepared in return for fees based upon agreed commercial rates, and the payment of these fees is in no way contingent on the results of the Technical Report.

2.4 Qualified Persons

InnovExplo is responsible for this Technical Report and for the 2018 MRE.
The list below presents the QPs for the Technical Report and the sections for which each is responsible:

- Claude Savard, B.Sc., P.Geo. (OGQ No. 1057):
  - Author of items 4 to 6, 9 to 13 and 23;
  - Co-author of items 1, 2, 3, 14, 25, 26 and 27.

- Alain Carrier, M.Sc., P.Geo. (OGQ No. 281):
  - Overall supervision of the MRE and Technical Report;
  - Co-author of items 1, 2, 3, 14, 25, 26 and 27.

- Gustavo Durieux, M.A.Sc., P.Geo. (OGQ No. 1148):
  - Author of items 7 and 8.

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

- Karine Brousseau, P.Eng., Senior Engineer (OIQ No. 121871);
- Charlotte Athurion, P.Geo. (OGQ No. 1784);
- Laurent Roy, P.Eng. (OIQ No. 5046093);
- Christina Thouvenot, Jr. Eng. (OIQ No. 5081048);
- Stéphane Faure, P.Geo., Geoscience Expert (OGQ No. 306);
- Bruno Turcotte, P.Geo., Senior Geologist (OGQ No. 453);
- Daniel Turgeon, Technician;
- Martin Barrette, Senior Geological Mining Technician;
- Louise Charbonneau, Technician.

The 2018 MRE was prepared by Alain Carrier and Claude Savard, both of whom are professional geologists in good standing with the OGQ and QPs as defined by NI 43-101.

2.5 Site Visit

In 2003 and 2004, Alain Carrier and Claude Savard of InnovExplo were directly involved in the planning, execution and supervision of exploration and drilling programs on the Properties and other parts of the Cadillac Break Property Group.

During the course of the current mandate, InnovExplo personnel visited the Project site and/or reviewed the core preparation and sampling processes at the issuer's core facilities in Val-d'Or multiple times. Between December 13, 2016 and March 5, 2017, Savard visited the core shack on multiple occasions during the core resampling program. The purpose was to conduct due diligence on the resampling of historical holes on Orenada Zone 4. During the visits, Savard supervised the selection of core, validated the resampling procedure and held discussions with the issuer on assay results. On November 8, 2017, Savard and Karine Brousseau of InnovExplo visited the area of the former Orenada Zone 4 open pit as well as the outcrop and stripping areas of Orenada Zone 2. In March 2018, Savard and Carrier visited the logging and core storage facilities in Val-d'Or to examine selected core intervals and to review the corresponding assays and logs (including the descriptions of lithologies, alteration, mineralization, quartz-tourmaline veins and structures).

2.6 Effective Date

The close-out date of the drilling database is December 15, 2017 (Zone 4) and January 16, 2018 (Zone 2).

The effective date of the mineral resource statement is May 25, 2018.

The effective date of the Technical Report is July 6, 2018.

2.7 Abbreviations, Units and Currencies

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

Table 2.1 – List of abbreviations and symbols

Abbreviation or Symbol	Unit or Term
$	Canadian dollar
$/t	Dollars per metric ton
%	Percent
°	Angular degree
°C	Degree Celsius
µm	Micron (micrometre)
43-101	National Instrument 43-101 – Standards of Disclosure for Mineral Projects (*Regulation 43-101* in Québec)
a	Annum
AAS	Atomic absorption spectroscopy
AIF	Annual Information Form
As	Arsenopyrite
Au	Gold
Au-VMS	Gold-rich volcanogenic massive sulphide
Az	Azimuth
C$	Canadian dollar
CAD	Canadian dollar
CAD:USD	Canadian-American exchange rate
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CIM Definition Standards	CIM Definition Standards for Mineral Resources and Mineral Reserves
CL	Core length
CLLFZ	Cadillac–Larder Lake Fault Zone
CoG	Cut-off grade
CoG_{OP}	Open pit cut-off grade
CoG_{UG}	Underground cut-off grade
COV	Co-efficient of variation
CRM	Certified reference material
DDH	Diamond drill hole
Directive 019	Directive 019 sur l'industrie minière
EM	Electromagnetics
FA	Fire assay
ft, '	Foot (12 inches)
G	Billion
Ga	Billion years
GESTIM	Gestion des titres miniers (MERN's online claim management system)
GOR	Gross overriding receipts
GRAV	Gravimetry analysis
ha	Hectare
ICP-OES	Inductively coupled plasma optical emission spectroscopy
ID2	Inverse distance squared
IEC	International Electrotechnical Commission
IP	Induced polarization
ISO	International Organization for Standardization

Abbreviation or Symbol	Unit or Term
ISRM	International Society for Rock Mechanics
kg	Kilogram
km	Kilometre
M	Million
m	Metre
Ma	Million years
Mag	Magnetometer, magnetometric
masl	Metres above mean sea level
MD&A	Management’s Discussion and Analysis
MERN	Ministère de l’Énergie et des Ressources Naturelles du Québec (Ministry of Energy and Natural Resources of Québec)
mesh	US mesh
MFFP	Ministère des Forêts, de la Faune et des Parcs (Ministry of Forests, Wildlife and Parks of Québec)
mm	Millimetre
Moz	Million (troy) ounces
MRE	Mineral resource estimate
Mt	Million metric tons (tonnes)
NAD 83	North American Datum of 1983
NAG	Non-acid generating
NI 43-101	National Instrument 43-101 – Standards of Disclosure for Mineral Projects (*Regulation 43-101* in Québec)
NN	Nearest neighbour
NSR	Net smelter return
NTS	National Topographic System
OGQ	Ordre des géologues du Québec (Québec order of geologists)
OIQ	Ordre des ingénieurs du Québec (Québec order of engineer)
OK	Ordinary kriging
oz	Troy ounce
oz/t	Troy ounce per short ton (2,000 lbs)
PAG	Potentially acid generating
PDLFZ	Porcupine–Destor Lake Fault Zone
PEA	Preliminary economic assessment
P.Eng.	Professional engineer
pers. comm.	Personal communication
PFS	Prefeasibility study
P.Geo.	Professional geologist
ppm	Parts per million
py	Pyrite
QA	Quality assurance
QA/QC	Quality assurance/quality control
QC	Quality control
QP	Qualified person (as defined in National Instrument 43-101)
qz	Quartz
RC	Reverse circulation (drilling)
Regulation 43-101	Québec version of National Instrument 43-101
RQD	Rock quality designation
SCC	Standards Council of Canada
SD	Standard deviation
SEDAR	System for Electronic Document Analysis and Retrieval
SIGEOM	Système d'information géominière (MERN’s online spatial reference geomining information system)
t	Metric ton (“tonne”) (1,000 kilograms)
TDEM	Time domain electromagnetic
tm	Tourmaline

Abbreviation or Symbol	Unit or Term
ton	Short ton (2,000 pounds)
tpd	Metric tons per day
US$	American dollar
USD	American dollar
UTM	Universal Transverse Mercator (coordinate system)
VMS	Volcanogenic massive sulphide
VTEM	Versatile time-domain electromagnetic

Table 2.2 – Conversion factors for measurements

Imperial Unit	Multiplied by	Metric Unit
1 inch	25.4	mm
1 foot	0.305	m
1 acre	0.405	ha
1 ounce (troy)	31.103	g
1 pound (avdp)	0.454	kg
1 ton (short)	0.907	t
1 ounce (troy) / ton (short)	34.286	g/t

3. RELIANCE ON OTHER EXPERTS

InnovExplo relied on the issuer for information concerning mining titles, option agreements, royalty agreements, environmental liabilities and permits. InnovExplo has not performed an independent verification of land titles and tenures, nor did it verify the legality of any underlying agreements that may exist concerning the permits or other agreements between third parties. Neither the QPs nor InnovExplo are qualified to express any legal opinion with respect to property titles or current ownership and possible litigation. This disclaimer applies to sections 4.3 to 4.6 of this report.

The authors relied on the following people for other aspects of the Technical Report:

- Patrick Frenette, P.Eng. and Josiane Caron, P Eng. (InnovExplo) supplied the cut-off grade parameters and Whittle optimization in support of the open pit potential for the 2018 MRE.
- Venetia Bodycomb, M.Sc. (Vee Geoservices), provided critical and linguistic editing services for a draft version of the Technical Report.

Finally, a number of Alexandria employees provided critical support and collaboration for this assignment, particularly Philippe Berthelot (Vice-President Exploration), Pierre-Étienne Mercier (Geologist), Denys Vermette (Senior Geologist) and Karl Gibbs (GIT) for information on the geological and structural setting of the Orenada Zones 2 and 4 Project.

4. PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Orenada Group Properties (the “Properties”) are located in the Abitibi region, Bourlamaque Township, approximately 8 km southeast of the city of Val-d’Or in the province of Québec, Canada (Figure 4.1). The Properties lie within NTS map sheet 32C/04. The coordinates for the approximate geographic centre of the Properties are 77°42'36"W and 48°03'01"N (NAD 83 / UTM Zone 18 coordinates: 298,040E and 5,325,430N).

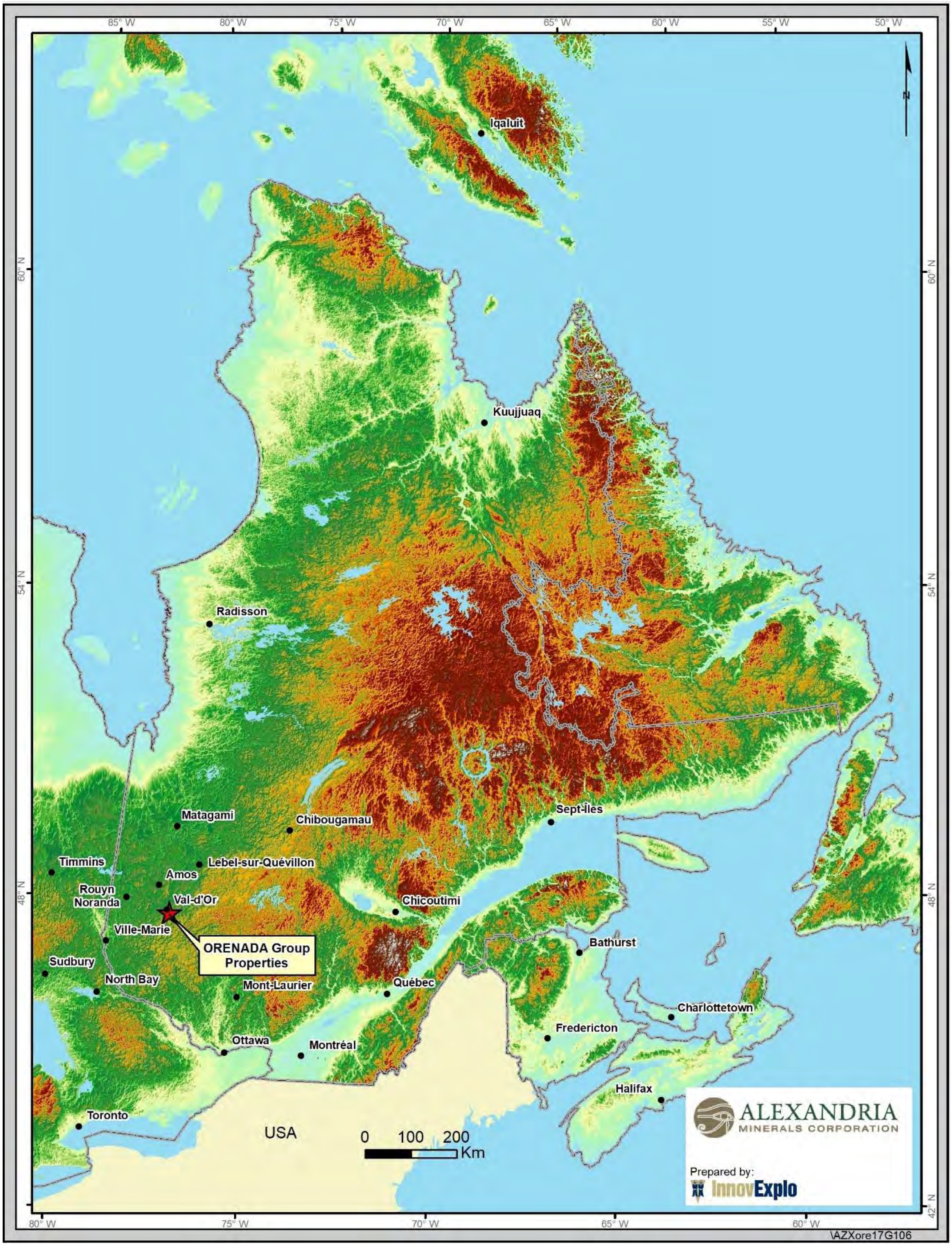

Figure 4.1 – Location of the Orenada Group Properties in the province of Québec

4.2 Mining Rights in the Province of Québec

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

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

4.2.1 The Claim

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

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

Additionally, it requires a claim holder to submit to the Minister, on each claim registration anniversary date, a report of the work performed on the claim in the previous year. Moreover, the amount to be paid in order to obtain renewal of a claim at the end of its term when the minimum prescribed work has not been carried out now corresponds to twice the amount of the work required. Any excess amount spent on work during the term of a claim can only be applied to the six subsequent renewal periods (12 years in total). Holders of a mining lease or a mining concession are no longer able to apply work that is carried out in respect of a mining lease or a mining concession to renewal of claims.

4.2.2 The Mining Lease

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

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

4.2.3 The Mining Concession

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

Mining concessions were issued prior to January 1, 1966. After that date, grants of mining concessions were replaced by grants of mining leases. Although similar in certain respects to mining leases, mining concessions granted broader surface and mining rights and are not limited in time. A grantee of a mining concession must commence mining operations within five years from December 10, 2013. As is the case for a holder of a mining lease, a grantee may be required by the government, on reasonable grounds, to maximize the economic spinoffs within Québec of mining the mineral resources authorized under the concession. The grantee must also, within three years of commencing mining operations and every 20 years thereafter, send the Minister a scoping and market study as regards to processing in Québec.

4.2.4 Other Information

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

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

4.3 Mining Title Status

The Orenada Group Properties consists of 118 contiguous mining claims (CDC) covering an area of 3,891.5 ha. Mining title and royalty status was supplied by Philippe Berthelot, Vice-President Exploration of Alexandria.

Figure 4.2 and Figure 4.3 show the location of the claims and royalties of the Properties. NSR royalty status is uncertain for five (5) claims as they were reconfigured after the implementation of the royalty agreement.

Mining title status was verified using GESTIM, the government's online claim management system available at the following website address: https://gestim.mines.gouv.qc.ca. All claims composing the Orenada Group Properties are held by Alexandria. None of the mining titles have remaining payments or work commitments. A detailed list of the mining titles, ownership and royalties is provided in Appendix I.

The former Orenada Property included a mining lease that expired in 2014. The mining lease was not renewed and was converted back into claims.

4.4 Agreements and Mineral Royalties

On September 29, 2006, Alexandria signed an option agreement with Aur Resources Inc. ("Aur Resources") for ten (10) properties in the Val d'Or mining camp, including Orenada, Ducros, Oramaque, Airport and Mid-Canada (Figure 4.3). Aur Resources was amalgamated with Teck-Cominco Ltd ("Teck") at the end of 2007 and a new agreement, which amended the original agreement between Aur Resources and Alexandria, was signed on April 8, 2008. These properties are subject to 2.5% NSR royalty, of which 40% may be purchased by Alexandria for $1,000,000 (SEDAR Website).

On October 19, 2015, Osisko Gold Royalties Ltd ("Osisko Gold") announced an agreement to acquire a portfolio of 31 Canadian royalty interests held by Teck in exchange for a cash consideration of $28 million, with an additional $2.5 million to be paid on confirmation of certain rights (Osisko Gold Royalties AIF, December 31, 2017). According to the terms of this agreement, Teck's 2.5% NSR royalty has been transferred to Osisko Gold (pers. comm. with P. Berthelot, July 2018).

On February 16, 2007, an Option Agreement was reached between Alexandria and Jean Robert, Pauline Charron and Diane Audet (“the Vendors”) concerning the nineteen (19) Robert Property claims totalling 295.21 ha. Alexandria owns 100% of the mineral rights to this ground as a result of an agreement involving a consideration of $15,000 cash and, 200,000 common shares of Alexandria paid to the Vendors, subject to a 2% NSR royalty on metals extracted (“Robert” NSR on Figure 4.3) and a 2% GOR royalty on all diamonds extracted (technical report on the Cadillac Break Property Group, February 25, 2008).

On April 30, 2017, Alexandria and Golden Valley Mines Ltd (“Golden Valley”) reached an Option Agreement on six (6) claims. The agreement granted Alexandria an option to acquire an 80% interest in the Centremaque Property by issuing treasury shares of Alexandria to Golden Valley with a total value of $250,000 over a 4-year period, and by conducting exploration activities totalling $4,000,000 over the same 4-year period. According to the agreement, upon completing the 80% earn-in, the two companies would form a joint venture to further explore and, if warranted, develop the property. Once Alexandria’s 80% interest is vested, Golden Valley will have a 20% free-carried interest and retain a 1.5% NSR royalty, of which 0.5% (a third) may be purchased by Alexandria for $1,000,000 (SEDAR Website).

Other than those discussed above, no other liens or charges are known to be registered against the Orenada Group Properties.

4.5 Required Exploration Permits

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

Alexandria has received the required MFFP permits to execute the drilling and stripping programs.

4.6 Environmental Liabilities

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

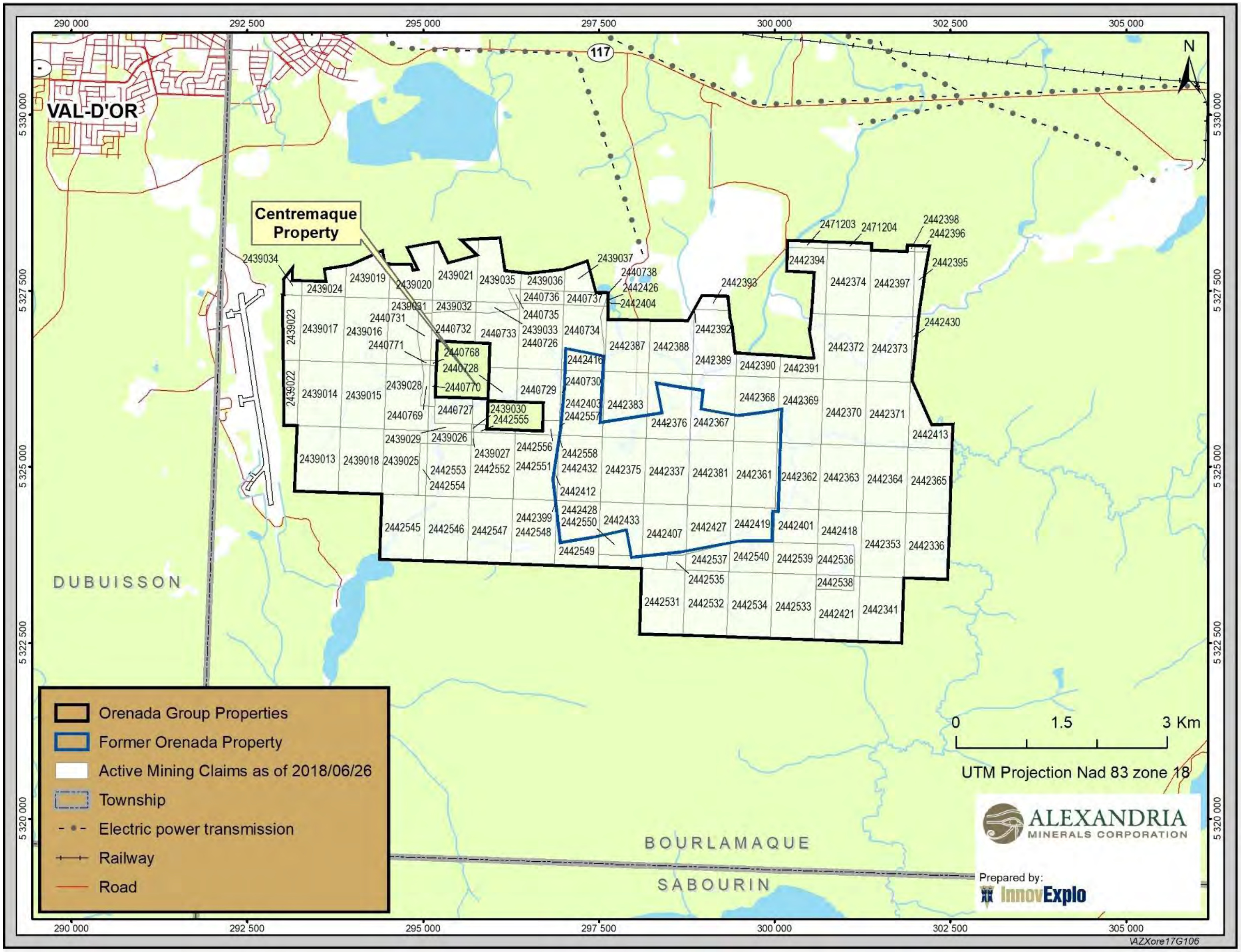

Figure 4.2 – Orenada Group Properties claim map

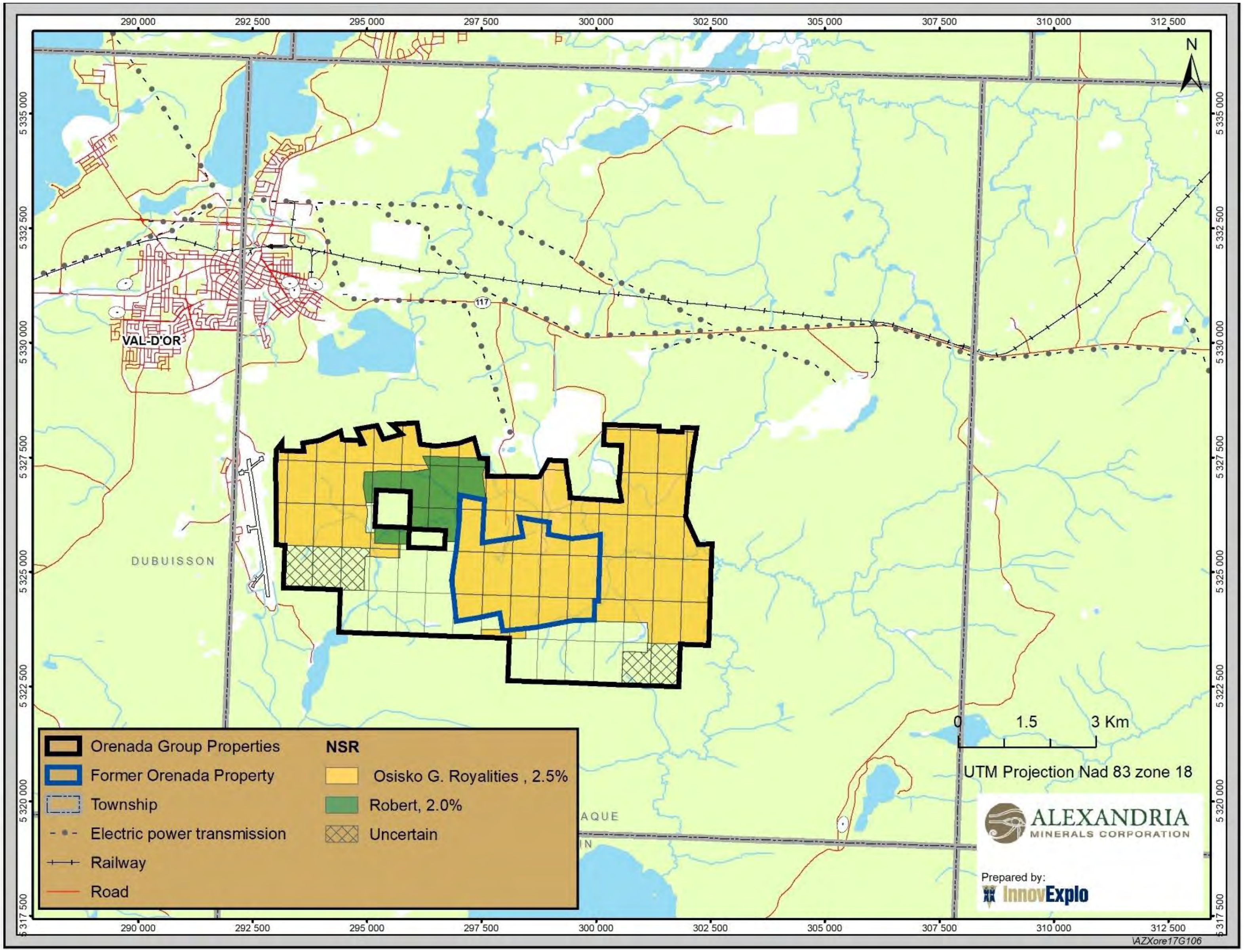

Figure 4.3 – Map showing NSR royalties applicable to claims of the Orenada Group Properties

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Orenada Group Properties (the "Properties") is located in the Val-d'Or municipality, Abitibi-Témiscamingue administrative region, Province of Québec (Canada) (Figure 5.1). It is easily accessed via all-season public paved roads, public gravel roads, all-terrain vehicle (ATV) trails, and bush roads. Provincial Highway 117 passes 5.7 km north of the Properties, and the gravel road "Chemin de la Forêt Boréale" crosses the Properties. Another gravel road passing to the north of the Properties is used as a service road by the staff of the Goldex mine (Agnico Eagle) for pipeline maintenance, and it reaches the Barvue-Manitou tailings.

The Val-d'Or airport is located west of the Properties and has regularly scheduled flights to and from Montréal. Val-d'Or is a six-hour drive north of Montréal, and there is daily bus service between Montréal and other cities in the Abitibi region. Val-d'Or is also serviced several times a day by various regional airlines based out of Montréal's airports. Canadian National Railroad (CN) operates a feeder line that runs through Senneterre and Amos, connecting to the North American rail system eastward through Montréal and westward through the Ontario Northland Railway. A CN branch line runs through Val-d'Or.

5.2 Climate

The region is under the influence of a typical continental-style climate marked by cold, dry winters and warm, humid summers. According to Environment Canada's climate data for Val-d'Or's nearest weather station (Amos) for the 1981-2010 period (climate.weather.gc.ca/climate_normals), the average temperatures are +17.4°C in July and -17.2°C in January. The mean annual temperature is +1.5°C, slightly above freezing. The lowest recorded temperature was -52.8°C and the highest was +37.2°C. In this area, the temperature drops below freezing 203.2 days per year on average. Snow accumulates from October to May, with a peak from December to March, and freeze-up usually occurs in late December with break-up in March. Average annual precipitation indicates a mean rainfall of 929 mm, with the highest level of precipitation occurring in September (107.3 mm).

5.3 Local Resources and Infrastructure

Val-d'Or is a city with a population of approximately 33,800 persons in 2016 (Statistics Canada) which has a long and rich mining heritage. All requirements, including a quality supply of hydro-electric power to support a mining operation, are available in Val-d'Or. There is also a local skilled labour force with experienced mining and technical personnel, including contractors (diamond drilling, geophysics), consulting firms (geologists, mining engineers). Many industrial suppliers (explosive, mechanics, engines, electronics, tires) and manufacturers in the mining industry are based in Val-d'Or.

Water is readily available from the many creeks and lakes found on the Properties. The Bourlamaque River crosses the northern part. Water quality is good in its upstream portion.

The Properties contain an old sealed exploration shaft (Orenada Zone 4), an inactive ramp (Mid Canada), and the Orenada Zone 4 flooded open pit.

5.4 Physiography

The Abitibi region has a typical Canadian Shield-type terrain characterized by low local relief with occasional hills and abundant lakes. The average topographic elevation is approximately 300 masl and generally varies less than 100 m. Large areas are dominated by swamps and ponds. Local flora in the area are predominantly spruce, pine, fir and larch, with a much smaller percentage of deciduous trees, such as birch and poplar.

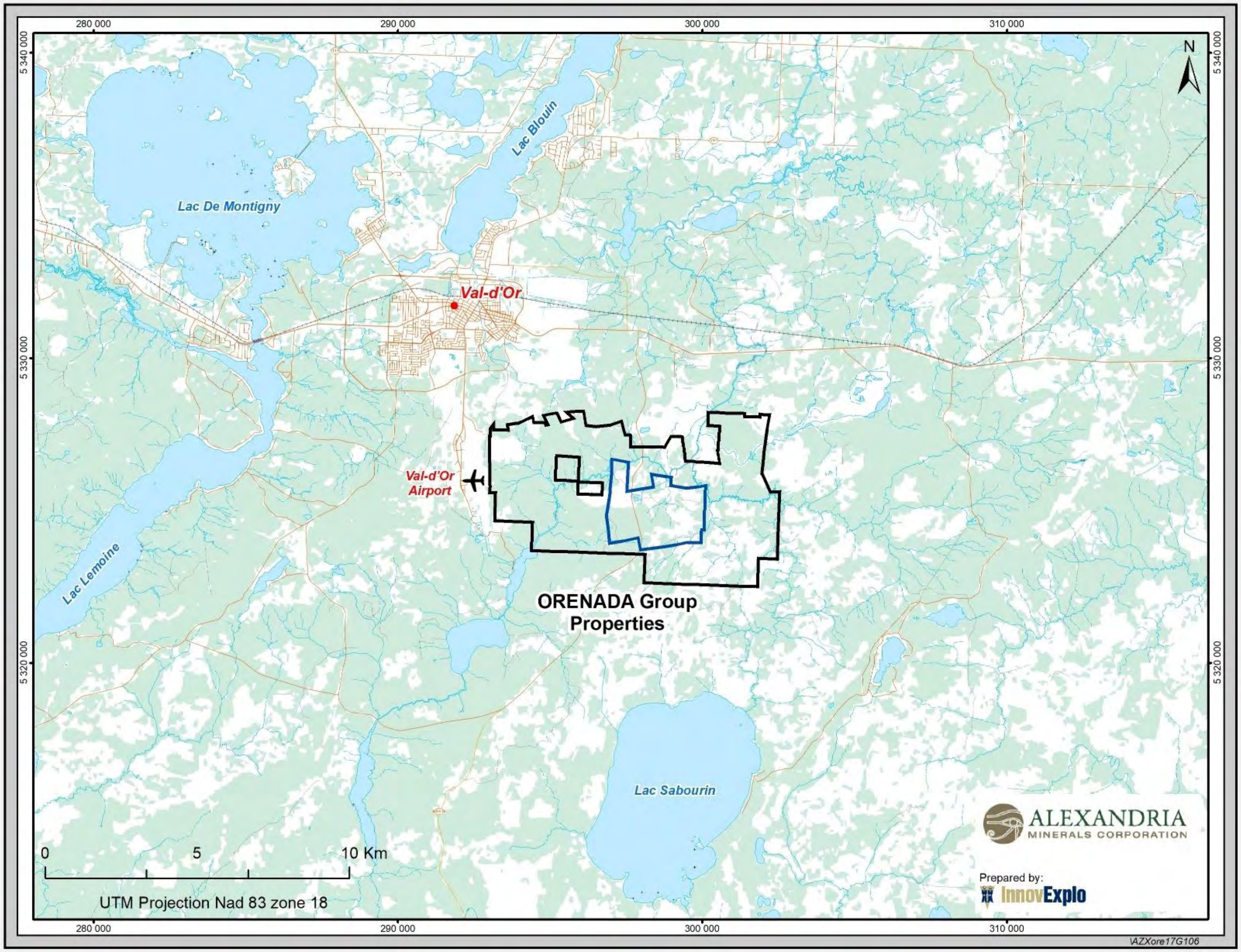

Figure 5.1 – Topography and accessibility of the Orenada Group Properties

6. HISTORY

The Orenada Group Properties are part of the Cadillac Break Property Group of Alexandria. The current configuration represents the amalgamation of the former Orenada, Orenada-Extension, Airport, Airport-Extension, Ducros, Mid-Canada, Oramaque, Robert and Robert-Extension properties (Figure 6.1).

This review summarizes all work and activities completed prior to August 14, 2009, the date of the last 43-101 Technical Report (Beauregard et al., 2009). The following information was largely taken from that technical report, from Beauregard and Gaudreault (2008), and from assessment reports in the MERN's SIGEOM database.

To facilitate the description of exploration activities on the Properties, this section was divided into the former subdivisions, focusing first on the Orenada Zones 2 and 4 Project (former Orenada Property), and then on the other properties that were annexed to form the Orenada Group Properties.

Because no technical reports have been published since August 2009, any information for the period from August 2009 to February 2018 will be considered as "current" and therefore presented in items 9 and 10 of this Technical Report.

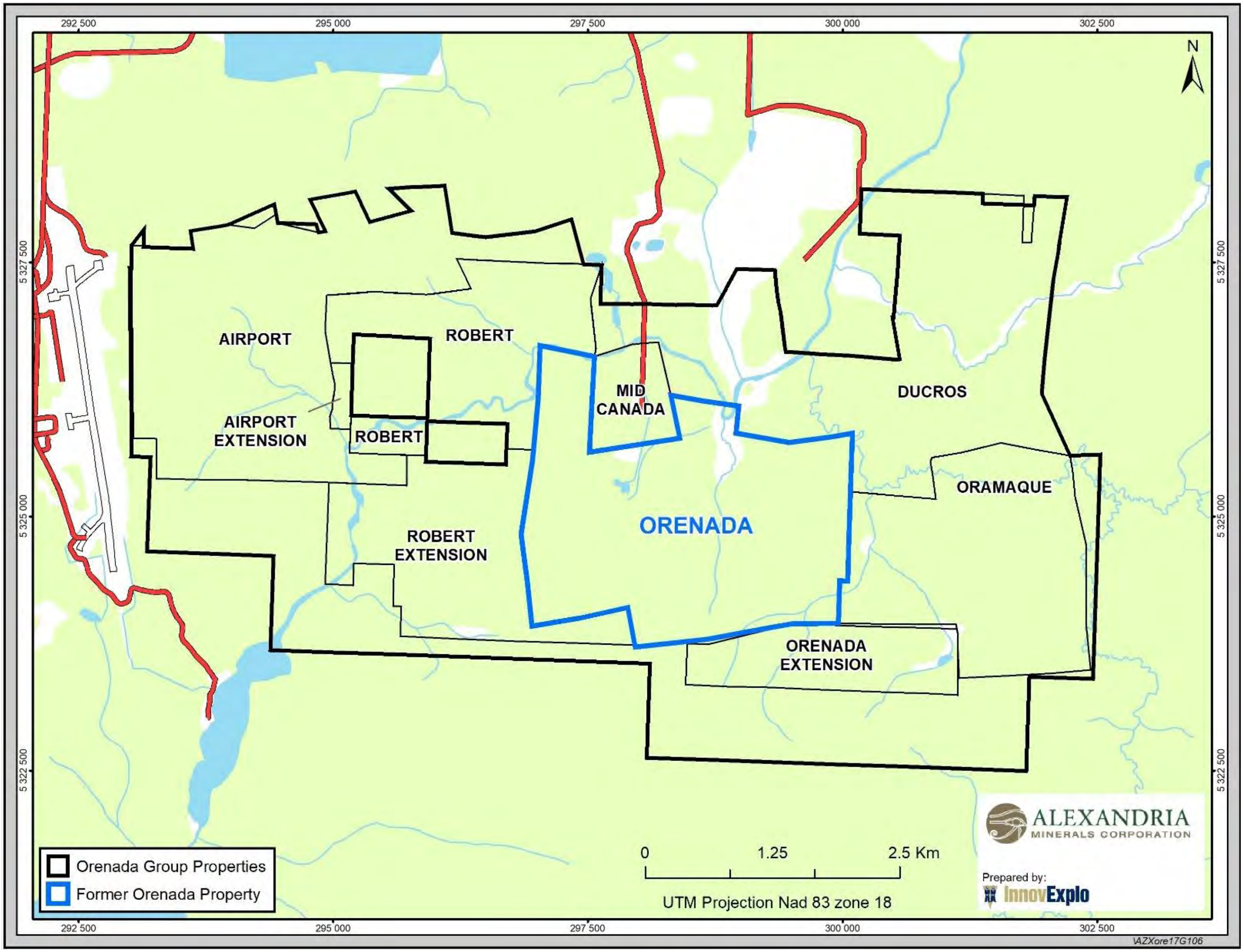

Figure 6.1 – Map showing the former properties combined to form the Orenada Group Properties

6.1 Orenada

The former Orenada Property comprised twenty-eight (28) mining claims (before the claim conversions). Several exploration programs have been carried out, including prospecting, geological mapping, geophysical surveys, diamond drilling campaigns (more than 30,480 m and 200 DDH), metallurgical testwork, 3-compartment shaft sinking, a small open pit (Zone 4) and underground drilling (over 16,390 m, 139 DDH) (Beauregard and Gaudreault, 2008).

Historical work on this property is summarized in Table 6.2.

Historical Mineral Resource Estimate

In August 2009, Alexandria mandated a 43-101 compliant mineral resource estimate from Geologica Groupe-Conseil Inc. (Beauregard et al., 2009; the "2009 MRE"). The supporting technical report is available from SEDAR (www.sedar.com).

The 2009 MRE yielded measured, indicated and inferred resources. The results are presented in Table 6.1.

Table 6.1 – Historical Mineral Resource Estimate (2009) – Orenada Zones 2 and 4 Project (cut-of grade of 1 g/t Au) – prepared by Geologica Groupe-Conseil

Mineral Resources	Tonnes (t)	Grade Au (g/t)	Ounces Au
Measured	2,592,133	1.81	150,478
Indicated	2,006,202	1.83	118,050
Total Measured & Indicated	4,598,334	1.82	268,528
Inferred	2,478,674	1.56	124,248

Notes: [unmodified from Beauregard et al., 2009]

(1) CIM definitions were followed for mineral resources.

(2) Mineral resources which are not mineral reserves do not have economic viability.

(3) Results are presented undiluted and in situ. The estimate includes 5 gold-bearing zones ("no. Z4M", "no. Z2M", "no. Z2A", "no. Z2U" and "no. Z2U1) and covers the Orenada Zones 4 and 2 respectively. A minimum of 1.5 m horizontal width was applied, using the grade of the adjacent material when assayed, or a value of zero when not assayed.

(4) Fixed densities of 2.83 t/m^3 for Zone 4 and 2.78 t/m^3 for Zone 2 was used.

(5) Capping was done on composites and set at 31.5 g/t Au on Zone 4 and on raw data the assays are cut at 63.0 g/t Au on Zone 4.

(6) Drill hole compositing was done on 1.5-m length interval. Resources were evaluated from drill hole results using a block model approach constrained within five (5) individual 3D wireframes. Interpolation results used a minimum of 1 octant with a maximum of 12 points per octant. For each mineralized drill hole intersection with lab duplicates and reassays, the average grade was calculated from results of reassays and original assay rather than using the highest assay results.

(7) Measured Resources were obtained using 1/3 of the range of the search ellipse and a minimum of 13 points (i.e. 3 holes). Indicated Resources were obtained using 2/3 of the range of the search ellipse and a minimum of 7 points (i.e. 2 holes). Inferred Resources were obtained using the full range of the search ellipse and a minimum of 2 points.

(8) Calculations used metric units (meter, tonnes and g/t Au) and results were rounded to reflect their "estimate" nature.

(9) The company is not aware of any known environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues that could materially affect the Mineral Resource estimates.

(10) Measured and indicated mineral resources are reported to a depth of 250 meters and at a cut off grade of 1.0 g/t Au. Inferred mineral resources are related to a depth of 250 meters at a cut off grade of 1.0 g/t Au.

(11) Historical production of 20,418 tonnes at 0.054 oz/t Au was mined from a small open pit at the surface of Zone 4. Gold recovery of 78.5% was obtained. In 1994, Aur Resources has milled 72,195 tonnes at 1.72 g/t Au on Zone 4. These productions were subtracted from indicated and measured resources.

Table 6.2 – Historical work on the Orenada Property (modified from Beauregard and Gaudreault, 2008)

ORENADA				
Date	**Company / Individual**	**Work**	**Results**	**Reference**
1933-1935	• Quebec Gold Belt	• Trenching • Mapping • Drilling: 11 DDH (1,098 m)	• Discovery of Orenada Zone 2, gold showing	GM 62414 GM 60355
1935-1963	• Orenada Gold Mines Ltd	• Trenching • Mag and EM Surveys • Drilling: 79 DDH (1@13, 16-17, 19-20, 23@43, 47, 49) (15,118 m) (Zones 2, 3, 4 and 5) • Cyanidation Testwork	• Discovery of Orenada Zone 4 (1939) • Discovery of Orenada Zone 5 (1949)	GM 62414 GM 60355 GM 58131 GM 14718 GM 14717-B GM 14717-A GM 13021 GM 12802 GM 06928 GM 00859 GM 00286 GM 00285
1964	• Sullico Option	• Compilation • Geological, EM and Mag Surveys (Zone 4)		GM 62414 GM 60355 GM 14728 GM 14713
1965-1975	• First Orenada Mines Ltd	• Geological, Mag, EM, IP, INPUT, VHEM and Turam Surveys • Drilling: 31 DDH (4,927 m) (Zones 2, 4 and 5, Zone Ducros-1) • Drilling: 28 DDH (382 m) (Pionjar) • Metallurgical Testwork (Zone 4) • Reserve Calculations (18 DDH)	• Reserves [(1)] (1973): 56,000 t @ 0.137 oz Au/t • Reserves [(1)] (1974-1975): 166,385 t @ 0.077 oz Au/t	GM 62414 GM 60355 GM 58132 GM 29162 GM 30858 GM 30784 GM 30682 GM 30508 GM 30507 GM 30045 GM 29960 GM 28714 GM 28357 GM 27953 GM 26251 GM 26186 GM 25935 GM 25750 GM 24709
1972	• MRNF	• Regional Overburden Drilling		GM 50355

ORENADA				
Date	**Company / Individual**	**Work**	**Results**	**Reference**
1976-1984	• Brominco Inc.	• Mag, IP, MaxMin, VLF-EM, HEM and Seismic Refraction Surveys • Humus Sampling • Drilling: 70 DDH (9,526 m) • Metallurgical Testwork • Open Pit • Preliminary Feasibility Study • Reserve Calculations (Zones A and D) (1980) (based on structural interpretation)	• Open Pit Mining: 20,418 t @ 0.054 oz Au/t (78.5% recovery) • Drilling [1]: 740,000 t @ 0.163oz Au/t • Reserves [1]: 357,295 t @ 0.092 oz Au/t	GM 62414 GM 42867 GM 42866 GM 38247 GM 37835
1985		• Amalgamation with Aur Resources (partnership with SOQUEM and Noranda) • Geological Compilation • Line Cutting • Mag and IP Surveys • Mapping • Stripping • Humus Geochemistry • RC Drilling: 17 holes (219 m) • Drilling: 42 DDH (11,082 m)	• Anomalies detected	GM 62414 GM 60355 GM 42377 GM 42889
1986	• Aur Resources Inc.	• Metallurgical Testwork (Zone 4) • Shaft Sinking (276 m) • Underground Drilling: 16,048 m • Drilling: 18 DDH (2,317 m) (Zone 4) • Channel Sampling: (52 samples) (Zone 2)	• Channel Sampling: 0.054 oz Au/t over 0.76 m	GM 62414 GM 60355
1987		• Drilling: 8 DDH (1,434 m) (Zone 5) • Structural Study (underground) (C.J. Hodgson) • Structural Mapping (F. Robert) • Preliminary Resources (Zone 4)	• Resources [1]: 3.5 Mt @ 1.65 g/t Au	GM 62414 GM 60355
1989-1991		• Column Leach Tests • Report on Orenada Zone No. 4 Reserves (Y. Buro, 1991)	• Cyanidation: 66.9% gold recovery • U/G Reserves [1]: 2,188,000 t @ 0.046 oz Au/t	GM 62414 GM 60355 GM 42889
2002		• Surface Deep-EM Surveys (In-Loop) and Pulse EM in drill holes (407-96@-97, -99@-100) Drilling: 5 DDH (1,950.7 m) • Lithogeochem Sampling • Airborne MEGATEM Survey	• Confirmed Cu-Au skarn-type mineralization	GM 62414 GM 60355

ORENADA				
Date	**Company / Individual**	**Work**	**Results**	**Reference**
2003-2005		• Drilling: 4 DDH (17407-01@-04) (1,294.0 m) • PEM Surveys (DDH AMCD-12@-13) • IP survey • Drilling: 10 DDH (AMCD-01@-13) (2,539.5 m) • Lithogeochem Sampling	• Discovery of Cu-Au-Ag breccia system associated with metamorphism of the East-Sullivan pluton	GM 62414 GM 62121 GM 60355 GM 59994
2007-2008	• Alexandria Minerals Corp. • Geologica Groupe-Conseil Inc. • Laboratoire d'analyse Bourlamaque Ltd • Quantec Geoscience •Modelaur Enr.	• Drilling: 56 DDH (AAX-07-10@-12, -22@-25, OAX-07-1@-39, OAX-08-40@52) (20,515 m) • 5-line Titan 24 Survey over Orenada Zones 2 and 4. • Petrographic Study on 24 Samples (Zone 2 and Zone 4)	• Known mineralization enlarged 2 or 3 times the original size • 21.37 g/t Au over 4.05 m • 0.76 g/t Au over 40.40 m • 3.18 g/t Au over 6.60 m • 11.44 g/t Au over 8.15 m • 2.65 g/t Au over 13.65 m • 3.22 g/t Au over 3.90 m • 4.07g/t Au over 8.65 m • 10.42 g/t Au over 1.00 m • 4.39 g/t Au over 6.00 m	GM 64482
2008	• Laboratoire LTM Inc. • Geologica Group-Conseil	• Metallurgical Testwork (milling-Cyanidation on Samples from Zones 2 and 4) • 43-101 Technical Report	• Recoveries of 95% (Zone 4), 75% (Zone 2)	Beauregard and Gaudreault (2008)
2009	• Geologica Group-Conseil	• 43-101 MRE		Beauregard et al., 2009

(1) These "resources" and "reserves" are historical in nature and should not be relied upon. It is unlikely they comply with NI 43-101 requirements or follow CIM Definition Standards, and they have not been verified to determine their relevance or reliability. They are included in this section for illustrative purposes only and should not be disclosed out of context. InnovExplo did not review the databases, key assumptions, parameters or methods used for these estimates.

6.2 Orenada Extension

The former Orenada Extension Property comprised twenty-nine (29) mining claims for 454.00 ha. This property has attracted attention from prospectors and mining companies since 1940 (Beauregard and Gaudreault, 2008). Historical exploration work on this property is summarized in Table 6.3 .

Table 6.3 – Historical work on the Orenada Extension Property (modified from Beauregard and Gaudreault, 2008)

ORENADA EXTENSION				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1940	• James Sullivan Mines Ltd	• Report (W.O. Barrett)		GM 58093 GM 00232
1946	• South Centremaque Gold Mines Ltd	• Mag Survey		GM 06965
1950-1951	• Candoo Gold Mines Ltd	• Mag Survey • Drilling: 3 DDH (1@3)		GM 00946 GM 00978-A GM 00978-B
1951	• Kabour Mines Ltd	• Drilling: 1 DDH (#3)	• Extensive pyrite and minor chalcopyrite	GM 01860
1969	• MRN	• Airborne Geophysical Survey	• Number of weak magnetic anomalies	GM 58093 GM 00232
1982	• GGRT Exploration Ltd	• Mag and VLF Surveys (eastern part)	• 3 VLF anomalies	GM 38529 GM 58093
1983	• MRN	• Seismic Refraction Survey		GM 41404 GM 40372
1984	• Ressources St-Pierre	• Geoscientific Compilation		GM 41404 GM 40372
1985	• Minerais Lac Ltd	• Mag and VLF Surveys		GM 42116
1991	• Claims Audet	• Mag Survey		GM 50678
1997-1998	• Randon Ferderber	• Line Cutting (31.7 km) • Mag and VLF Surveys • IP Survey (5 km) • Compilation (M. Fekete) • Soil Geochemical Survey • Trenching	• 2 Mag features with anomalous gold-in-soil values	GM 58093 GM 55895
2007	• EarthMetrix Technologies Inc.	• Structural and Lithogeochem Study		
2008	• Geologica Groupe-Conseil	• 43-101 Technical Report		Beauregard and Gaudreault (2008)

6.3 Airport

The former Airport Property consisted of thirty-nine (39) mining claims totalling 601.2 ha. It has been intermittently explored for gold and base metal deposits since 1936 (Beauregard and Gaudreault, 2008). Historical exploration work on this property is summarized in Table 6.4.

Table 6.4 – Historical work on the Airport Property (modified from Beauregard and Gaudreault, 2008)

AIRPORT				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1936-1984	• Bourlamaque Central Mines Ltd • Claims Johnson • Claims Merrel • Teck Hugues Gold Mines	• Prospecting • Geophysical Surveys • Drilling: 39 DDH (7,315 m) • Drilling: 5 DDH (1938)	• Bourlamaque Central Showing	GM 62126 GM 14569 GM 06817
1939-1945	• Sullivan Bourlamaque	• Drilling: 4 DDH • Geological Report		GM 11086 GM 10005 GM 06977 GM 01007 GM 06976-A GM 06976-B
1946	• Bourlamaque Central Mines Ltd • Claims Johnson • Claims Merrel • Teck Hugues Gold Mines	• Mag Survey • Drilling: 16 DDH		GM 01078-A GM 01078-B GM 58138 GM 14568
1954	• East Sullivan Mines Ltd	• Mag Survey		GM 03050
1956		• Drilling: 2 DDH (BA-1@-2)		GM 03990-A GM 03050
1956-1961	• Sullivan Bourlamaque	• Drilling: 1 DDH (#6) • Mag Survey		GM 04913 GM 11034
1967	• Bourlamaque Central Mines Ltd • Sullico Mines Ltd	• Exploration Work • Drilling: 2 DDH		GM 20909 GM 20908
1976-1982	• Brominco Inc.	• IP, Mag, EM Survey • Interpretation Report		GM 32588 GM 39257 GM 39220 GM 33815 GM 33541 GM 33353 GM 33114 GM 33064 GM 20910
1985	• Brominco Inc. (merged with) • Aur Resources Inc.	• Mag, IP, PPL Surveys • Overburden Drilling: 26 holes	• Highly anomalous gold grain counts in basal tills	GM 62126 GM 43367 GM 43110 GM 42293
1986		• Drilling: 14 DDH (3,091.3 m)		GM 62126 GM 50650 GM 54773 GM 56487

AIRPORT				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1987		• Drilling: 24 DDH (5,997.9 m) • Overburden Drilling: 12 holes	• 6.86 g/t Au over 0.8 m (CL) • 449 ppb Au over 0.6 m (CL)	GM 50650
1990		• Drilling: 1 DDH (531.6 m)		GM 54773
1996		• Drilling: 1 DDH (248.1 m)		
1999		• Drilling: 1 DDH (401-41) (407.0 m)		GM 62126 GM 56487
2001		• IP Survey		GM 58690
2004	• Alexis Minerals Corp.	• Drilling: 3 DDH (AMCD-14@-16) (672.3 m) • Lithogeochem Sampling		GM 62126
2007	• EarthMetrix Technologies Inc. • Abitibi Geophysics	• Structural and Lithogeochem Study • Regional Compilation of IP Data (350 line-km)	• Au-Cu targets	
2007-2008	• Alexandria Minerals Corp. • Geologica Groupe-Conseil Inc. • Laboratoire d'analyse Bourlamaque Ltd	• Mapping and Prospecting • Drilling: 4 DDH (AAX-07-16@-19) (1,216 m)	• 0.83 g/t Au over 8.15 m (CL)	GM 64419
2008	• Geologica Groupe-Conseil	• 43-101 Technical Report		Beauregard and Gaudreault (2008)

6.4 Ducros

The former Ducros Property consisted of forty-two (42) mining claims totalling 637.6 ha. This property has been explored by numerous mining companies since 1940 (Beauregard and Gaudreault, 2008). Historical work on this property is summarized in

Table 6.5.

Table 6.5 – Historical work on the Ducros Property (modified from Beauregard and Gaudreault, 2008)

DUCROS				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1940	• P.E. Auger • MRN	• Geological Mapping		GM 61764
1940-1944	• Central Mining Corp.	• Trenching • Prospecting • Mag Survey • Drilling: 4 DDH • Drilling: 5 DDH (1944)		GM 61764 GM 58140 GM 06926-B GM06822
1945	• D'Aragon Mines Ltd	• Mag Survey • Plans, Sections, Surface Drilling	• Discovery of the D'Aragon Cuivre showing	GM 31879 GM 06855
1952	• East Sullivan	• Drilling: 3 DDH • Drilling: 21 DDH	• Copper-silver mineralization	GM 61764 GM 01843-C
1954-1960	*Unknown*	• Drilling: 52 DDH (13,973.86 m)		GM 61764
1960-1976	• Group Minier Brossard • Naganta Mining & Dev Co. Ltd • Nemrod Mining Co. Ltd • Timrod Mining Co. Ltd • Ducros Mines Ltd • Dumont Nickel Corp. D'Aragon Mines Ltd	• Geological Mapping • Mag, EM, INPUT, IP Surveys • Basal Till Surveys • Drilling: 6 DDH (1,349.35 m)	• East Porphyry Zone (Ducros-1) • West Porphyry Zone (Ducros-2)	GM 61764 GM 31998 GM 31936 GM 31212 GM 31113 GM 31112 GM 30682 GM 30413 GM 29960 GM 29290 GM 28951 GM 28913 GM 28776 GM 28357 GM 28234 GM 27814 GM 27334 GM 27248 GM 26984 GM 26251 GM 26029 GM 23874 GM 22857 GM 13446
1962	• Latulippe • MRN	• Compilation		GM 61764
1981-1982	• Brominco Inc.	• Mag and VLF Surveys • Line Cutting		GM 38389
1984-1987	*INACTIVE*			GM 61764
1988-1989	---	• Compilation • Technical Evaluation • Mapping		GM 61764

DUCROS				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1990-1996	*INACTIVE*			GM 61764
2003-2004	• Alexis Resources • Aur Resources	• Lithological Sampling • Drilling: 3 DDH (AMCD-28@-30)		GM 61764
2006-2009	• Alexandria Minerals Corp. • EarthMetrix Technologies Inc.	• Mapping, Rock Sampling • Drilling: 1 DDH (AAX-07-13) (374.4 m) • IP Survey (2008) • Compilation of Structural Data	• Potential for shear zone hosted gold mineralization in the Centre Post Pluton • Drilling: 0.21 g/t Au over 1.50 m (CL)	GM 63655 GM 63613 Beauregard and Gaudreault (2008)
2008	• Geologica Groupe-Conseil	• 43-101 Technical Report		Beauregard and Gaudreault (2008)

6.5 Mid-Canada

The former Mid-Canada Property comprised one (1) mining claim totalling 73.96 ha. Work on this property started in 1930 with the discovery of copper on the Hugues Claims Property (Beauregard and Gaudreault, 2008). Historical work on this property is summarized in Table 6.6.

Table 6.6 – Historical work on the Mid-Canada Property (modified from Beauregard and Gaudreault, 2008)

MID-CANADA				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1926-1930	• Mid-Canada Gold & Copper Mine Ltd • (Claims Hugues)	• Prospecting	• Discovery of copper on the south shore of Bourlamaque River (1926)	GM 43337 GM 62425
1930-1940			• Report	GM 43337 GM 62425 GM 00285
1945-1946	• Orenada Gold Mines Ltd	• Drilling: 12 DDH (3,374 m) • Drilling: 2 DDH • Mag Survey		GM 43337 GM 62425 GM 14717-B GM 00286
1949-1964		• Agreement with Sullivan Mines • Drilling: 13 DDH (2,267 m) • Mag and EM Surveys	• Reports with assay results	GM 43337 GM 62425 GM 14728 GM 14713 GM 14717-B GM 13021 GM 00859
1969	• Dumont Nickel Corp.	• Acquisition • Mag Survey • Drilling: 44 DDH (7,384 m)	• Discovery of two Au-Cu zones: • South Zone: 70,579 t @ 7.4 g/t Au [(1)]	GM 43337 GM 62425 GM 25791 GM 24740

MID-CANADA				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
			• Zone 1 (North): 103,403 t @ 4.0 g/t Au + 1.02 %Cu (1)	GM 24341 GM 49911
1973		• Drilling: 12 DDH (T-30@-41) (1,265 m)		GM 62425 GM 29586 GM 49911
1979		• Study on 1973 Drilling Campaign • Reserve Estimate • Feasibility Study	• Discovery of gold zone at depth of 76 m • Reserve estimate (1): 171,000 t @ 4.8 g/t Au (dilution of 15%)	GM 43337 GM 62425 GM 36784 GM 49911
1980	• Mid-Canada Gold & Copper Mines Ltd	• Production • Reports, Plans		GM 43337 GM 62425 GM 36963 GM 36785 GM 49911
1981-1982		• End of Production • Exploration Work	• Plans of levels, ramp, surface, longitudinal sections, localization • Production: 72,000 t @ 3.33 g/t Au + 1.7 g/t Ag (1981)	GM 43337 GM 62425 GM 39740 GM 39245 GM 49911 DV 85-08
1985		• Line Cutting • Drilling: 3 DDH (MD85-1@-3) (1,032 m)		GM 62425 GM 49911 GM 43337
1986		• Mag Survey on 31.65 km		GM 62425 GM 49911
1986-1988		• Drilling: 26 DDH (MD86-1@-26A) (5,871 m on South Zone) • 3 DDH (MD85-1@-3) • Drilling: 2 DDH (PR88-1@-2)		GM 62425 GM 48274 GM 43337 GM 49911
2002		• Surface Deep-EM (In-Loop) Surveys		GM 62425 GM 49911 GM 43337
2003	• Alexis Minerals Corp.	• Drilling: 3 DDH (AMCD-09@-11) (617.0 m on North Zone) • PEM Surveys on DDH		GM 62425
2004-2005		• Stripping: (4,760 m²) • Mapping • Trench Sampling: 86 Trenches • Line Cutting • IP Surveys • PEM Surveys on DDH • Lithogeochem Sampling	• Mapping: 3 structural systems • 19.80 g/t Au on 0.3 m • 1.12% Cu on 0.3 m	GM 62425 GM 62122
2006 - 2007	• EarthMetrix Technologies Inc.	• Structural and Lithogeochem Study		Beauregard and Gaudreault (2008)
2007	• Alexandria Minerals Corp.	• Drilling: 2 DDH (AAX-07-20@-21) (775.8 m) • Mag and IP Surveys	• Drilling: 0.27 g/t Au over 1.05 m (CL)	GM 64419

MID-CANADA				
Date	Company / Individual	Work descriptions	Results	Reference
	• Abitibi Geophysics	• Compilation of IP (350 line-km)		
2008	• Geologica Groupe-Conseil	• 43-101 Technical Report		Beauregard and Gaudreault (2008)

(1) These "resources" and "reserves" are historical in nature and should not be relied upon. It is unlikely they comply with NI 43-101 requirements or follow CIM Definition Standards, and they have not been verified to determine their relevance or reliability. They are included in this section for illustrative purposes only and should not be disclosed out of context. InnovExplo did not review the databases, key assumptions, parameters or methods used for these estimates.

6.6 Oramaque

The former Oramaque Property consisted of twenty-six (26) claims totalling 393.40 ha. It has been intermittently explored for both gold and base metal mineralization since the early 1930s (Beauregard and Gaudreault, 2008). Historical work on this property is summarized in
Table 6.7.

Table 6.7 – Historical work on the Oramaque Property (modified from Beauregard and Gaudreault, 2008)

ORAMAQUE				
Date	Company / Individual	Work descriptions	Results	Reference
1930-1984	• G.G.R.T. Exploration Inc. • Consolidated Canadian • Faraday Ltd • Sullivan Group Mining • Sullico Mines Ltd • Kabour Mines Ltd	• Mag, VLF, EM and IP Surveys • Prospecting • Drilling: 36 DDH (6,645.2 m)	• Cu-Au showings • Zone 3 (1938)	GM 62422 GM 47650 GM 40794 GM 39934 GM 38529 GM 26251 GM 25809 GM 02268 GM 01860
1985	• Aur Resources Inc.	• Line Cutting • Mag and VLF-EM Surveys (northern part) • Mapping and Compilation • Overburden Reverse Circulation Drilling: 8 boreholes (eastern part)	• Gold targets identified • Hogg Zone • Drilling: 8.7 g/t Au over 1.82 m	GM 62522 GM 47650 GM 42641

ORAMAQUE				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1987	• Aur Resources Inc. • Alexis Minerals Corp.	• Drilling: 20 DDH (4,183.1 m) (Hogg and Cadillac Fault)	• Preliminary evaluation of gold targets of 1985 • Hogg, Zone 3 continuity • South Zone • Schist Zone • North Zone • Porphyry Zone	GM 62422 GM 47650
1989		• Stripping • Mapping • Sampling of Hogg and Zone 3	• Zone 3: 17.50 g/t Au + 1.79% Cu on 0.3 m • Zone Hogg: 11.88 g/t Au + 0.64% Cu + 55.43 g/t Ag on 3.0 m	GM 62422
1990		• Compilation	• 47 claims abandoned	GM 62422
2002		• Surface Deep-EM (In-Loop) Survey		GM 62422
2003-2004		• Drilling: 8 DDH (1,761.5 m) (Hogg, Zone 3 and Porphyry) • PEM Surveys on DDH	• Garnet zones on the property	GM 62422
2004-2005	• Alexis Minerals Corp. • Alexandria Minerals Corp. • Tech2Mine	• Drilling: 4 DDH (17407-01@-04) (1,294.0 m) • Stripping on Hogg (4,757.9 m²) • Mapping (2,850.0 m²) • Lithogeochem sampling: 9 samples	• Structural model	GM 62422 GM 62104
2006-2007		• Compilation of Geology Maps and Drilling Data • Mag and IP Surveys • Mapping and Prospecting • Line Cutting • Drilling: 12 DDH (AAX-07-01@12) (3834.0 m)	• 1.09 g/t Au over 89.10 m (CL) • 1.39 g/t Au + 0.2 %Cu over 2.20 m (CL) • 1.45 g/t Au + 0.1 %Cu over 3.85 m (CL)	GM 63655
2007	• Abitibi Geophysics • Earthmetrix Technologies Inc. • Alexandria Minerals Corp.	• Compilation of IP Data (350 line-km) + Fugro Airborne Survey • Mag and IP (200-m spacing) Surveys • Mapping, Prospecting, Line Cutting • Trenching (Hogg Zone 3) • Structural and Lithogeochem Study • Drilling: 9 DDH (AAX-07-01 @ 09, 2772.5 m)	• Au and Cu targets • Lithogeochem trends • Trenching: 6.07 g/t Au and 0.29% Cu over 3.8 m • Drilling: 1.97 g/t Au over 10.18 m (CL), 6.29 g/t Au over 1.70 m (CL), 0.71 g/t Au and 1.05% Cu over 2.20 m (CL)	Beauregard and Gaudreault (2008)
2008	• Geologica Groupe-Conseil	• 43-101 Technical Report		Beauregard and Gaudreault (2008)

6.7 Robert

The former Robert Property consisted of nineteen (19) mining claims totalling 295.21 ha. This property has been explored since 1936. (Beauregard and Gaudreault, 2008). Historical work on this property is summarized in Table 6.8.

Table 6.8 – Historical work on the Robert Property (modified from Beauregard and Gaudreault, 2008)

ROBERT				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1936	• Centremaque Gold Mines Ltd	• Mag (16 km) and EM (14.5 km) Surveys		GM 58144 GM 06967 GM 52395
1938-1939		• Drilling: 20 DDH (01@20) (2,760 m)	• 15.87 g/t Au over 0.30 m	GM 58144 GM 06850-A GM 06850-B GM 52395
1940		• Drilling: 12 DDH (07@09, 11@17, 19-20)		GM 06851-B GM 06851-A
1945-1946	• Centremaque Gold Mines Ltd • Norsyncomaque Gold Mines Ltd	• Drilling: 82 DDH (22,590 m)	• 6.17 g/t Au over 0.30 m	GM 52395 GM 06849
1946	• Centremaque Gold Mines Ltd • East Sullivan Mines Ltd	• Mag and SP Surveys		GM 06851-D GM 52395 GM 06965
1947	• Centremaque Gold Mines Ltd	• Mag Surveys • Geological Interpretation		GM 52395
1952		• Mag and SP Surveys	• 3 SP anomalies	GM 52395 GM 06851-C GM 58144
1956	• Centremaque Gold Mines Ltd • Norsyncomaque Gold Mines Ltd	• Assays, Plans, Location • Drilling: 2 DDH (75-A, 78-A) • Mag and Resistivity Surveys		GM 06851-C GM 04715 GM 04857
1962		• Assay Results, Report		GM 12804
1974	• Sylvermaque Mining Ltd	• Mag and VLF Survey	• 5 weak conductors	GM 52395
1976	• Brominco Inc.	• IP Survey		GM 32588
1979-1980	• Long Lac Mineral Exploration Ltd	• Mag Report • EM and Gravimetric Surveys (45 km) • Drilling: 5 DDH (79-1@-3, 80-2@-3)	• 4 weak conductors	GM 34902 GM 36219 GM 36152 GM 36084
1984	• Sylvermaque Mining Ltd	• Geological Report		GM 52395

ROBERT				
Date	**Company / Individual**	**Work descriptions**	**Results**	**Reference**
1987	• Geomaque Exploration Ltd	• Line Cutting • Mag, HELM, IP Resistivity Surveys • Drilling: 14 DDH (GMB-87-1@-13, -18) • Reverse Circulation Drilling: 46 holes • Till Exploration		GM 45715 GM 45616 GM 46336 GM 46225
1988		• Drilling: 1 DDH (B-88-2)		GM 47483
1989-1993		• No Work		GM 52395
1993	• Noranda Exploration Ltd	• Compilation • Lithogeochem		GM 52395 GM 52639
1994		• Drilling: 3 DDH (94-1, -1A, -2)		GM 52639
2007	• Earthmetrix Technologies Inc.	• Structural and Lithogeochem Study	• Au and Cu targets • Lithogeochem trends	Beauregard and Gaudreault (2008)
2008	• Geologica Groupe-Conseil	• 43-101 Technical Report		Beauregard and Gaudreault (2008)

7. GEOLOGICAL SETTING AND MINERALIZATION

7.1 Abitibi Greenstone Belt (Abitibi Subprovince)

The Orenada Group Properties (the "Properties") are located in the southeastern Abitibi Greenstone Belt of the Archean Superior Province in the Canadian Shield. The Abitibi Greenstone Belt has been historically subdivided into northern and southern volcanic zones using stratigraphic and structural criteria (Dimroth et al., 1982; Ludden et al., 1986; Chown et al., 1992), based mainly on an allochthonous greenstone belt model (i.e., interpreting the belt as a collage of unrelated fragments). The first geochronologically constrained stratigraphic and/or lithotectonic map (Figure 7.1), interpreted by Thurston et al. (2008), includes the entire known span of the Abitibi Greenstone Belt. Thurston et al. (2008) described the Abitibi Greenstone Belt as composed mainly of volcanic units that were unconformably overlain by large Timiskaming-style sedimentary assemblages. More recent mapping surveys and new geochronological data also support an autochthonous origin for the Abitibi Greenstone Belt.

Generally, the Abitibi Greenstone Belt comprises east-trending synclines containing volcanic rocks and intervening domes cored by synvolcanic and/or syntectonic plutonic rocks (gabbro-diorite, tonalite and granite), separated by east-trending turbiditic wacke bands (MERQ-OGS, 1984; Ayer et al., 2002a; Daigneault et al., 2004; Goutier and Melançon, 2007). The volcanic and sedimentary strata usually dip vertically and are separated by steep east-striking faults. Some of these faults, such as the Cadillac–Larder Lake Fault Zone ("CLLFZ") and Porcupine–Destor Fault Zone ("PDFZ"), display evidence of overprinting deformation events, including early thrusting and later strike-slip and extension events (Goutier, 1997; Benn and Peschler, 2005; Bateman et al., 2008). Two ages of unconformable successor basins are observed: widely distributed fine-grained clastic rocks in early Porcupine-style basins, followed by Timiskaming-style basins composed of coarser clastic sediments and minor volcanic rocks, largely proximal to major strike-slip faults, such as the PDFZ and CLLFZ and other similar regional faults in the northern Abitibi Greenstone Belt (Ayer et al., 2002a; Goutier and Melançon, 2007). The Abitibi Greenstone Belt is intruded by numerous late-tectonic plutons composed mainly of syenite, gabbro and granite, with lesser lamprophyre and carbonatite dykes. Commonly, the metamorphic grade in the Abitibi Greenstone Belt varies from subgreenschist to greenschist facies (Jolly, 1978; Powell et al., 1993; Dimroth et al., 1983b; Benn et al., 1994), except in the vicinity of most plutons where the metamorphic grade corresponds mainly to the amphibolite facies (Jolly, 1978).

7.2 Abitibi Greenstone Belt Subdivisions

Abitibi Greenstone Belt subdivisions were redefined using new mapping and geochronology data from the Ontario Geological Survey and Géologie Québec. The following section presents an overview of these new subdivisions, mostly abridged from Thurston et al. (2008) and references therein.

Seven discrete volcanic stratigraphic episodes define the new Abitibi Greenstone Belt subdivisions based on numerous U-Pb zircon age groupings. The new U-Pb zircon ages clearly show timing similarities for volcanic episodes and plutonic activity between the northern and southern portions of the Abitibi Greenstone Belt, as indicated in Figure 7.1. These seven volcanic episodes (Figure 7.1) are listed below, from oldest to youngest:

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

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

The geographic limit (Figure 7.1) between the northern and southern parts of the Abitibi Greenstone Belt has no tectonic significance but is herein provided merely for reader convenience and is similar to the limits between the internal and external zones of Dimroth et al. (1982) and that between the Central Granite-Gneiss and Southern Volcanic zones of Ludden et al. (1986). The boundary is located south of the wackes of the Chicobi and Scapa groups with a maximum depositional age of 2698.8 ± 2.4 Ma (Ayer et al., 1998, 2002b).

The Abitibi Subprovince is bounded to the south by the CLLFZ, a major crustal structure that separates the Abitibi and Pontiac subprovinces (Figure 7.1; Chown et al., 1992; Mueller et al., 1996a; Daigneault et al., 2002, Thurston et al., 2008).

The Abitibi Subprovince is bounded to the north by the Opatica Subprovince (Figure 7.1) a complex plutonic-gneiss belt formed between 2800 and 2702 Ma (Sawyer and Benn, 1993; Davis et al. 1995). It is mainly composed of strongly deformed and locally migmatized, tonalitic gneisses and granitoid rocks (Davis et al., 1995).

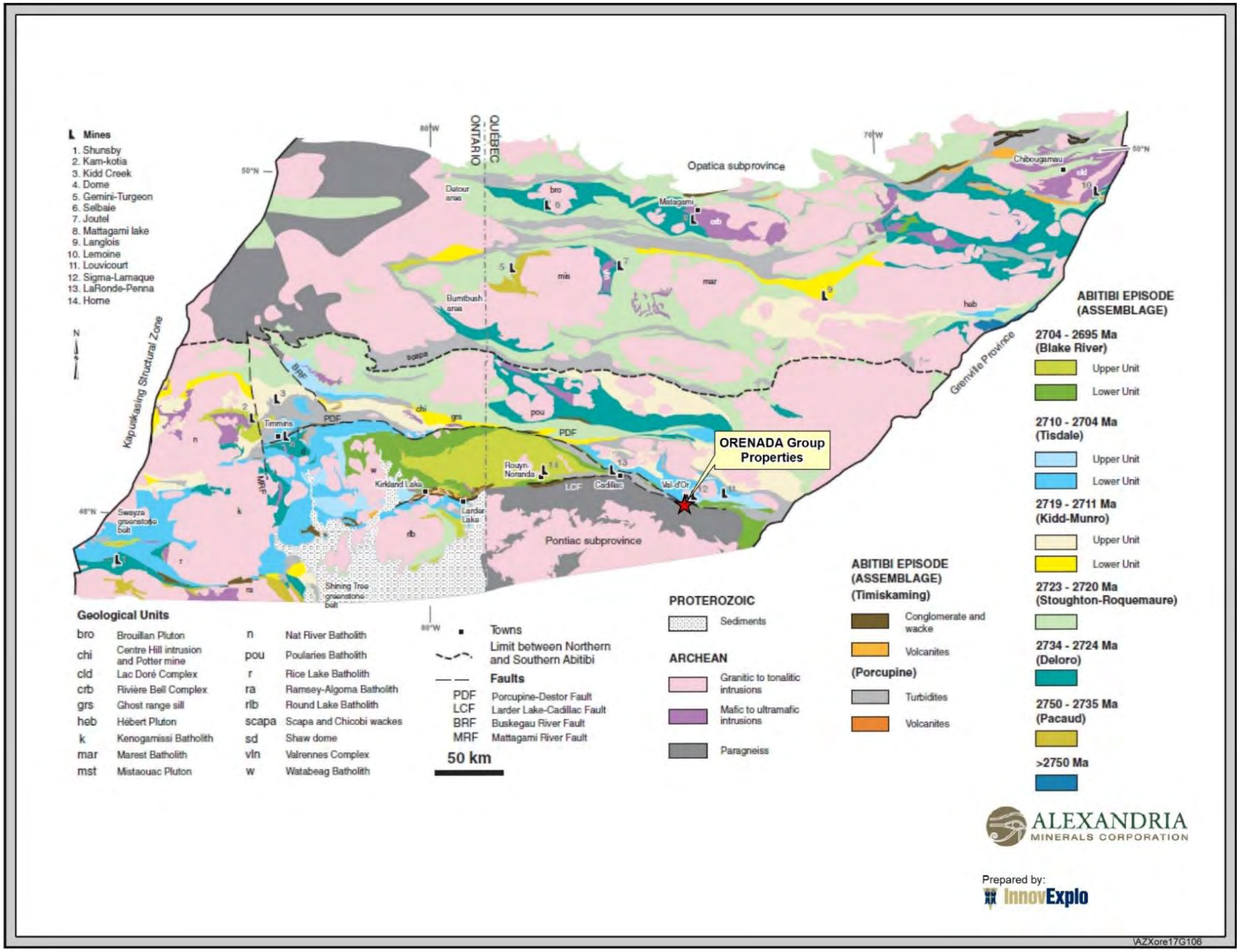

Figure 7.1 – Geology of the Abitibi Greenstone Belt based on Ayer et al. (2005) and Goutier and Melançon (2007). Figure modified from Thurston et al. (2008)

7.3 Regional Geological Setting

The Orenada Group Properties are located in the Val-d'Or mining camp. The camp geology is described below using information compiled from the following publications: Gunning and Ambrose (1940), Norman (1947), Latulippe (1966), Dimroth et al. (1982, 1983a, 1983b), Imreh (1976, 1984), Desrochers et al. (1993), Desrochers and Hubert (1996), Pilote et al. (1997, 1998a, 1998b, 1999, 2000, 2015a, 2015b, 2015c), Scott et al. (2002) and Scott (2005).

The region can be divided into two stratigraphic groups based on regional tectonics and volcano-sedimentary stratigraphy (Pilote et al., 1999): the basal Malartic Group comprising the La Motte-Vassan, Dubuisson and Jacola formations, and the upper Louvicourt Group comprising the Val-d'Or and Héva formations (Figure 7.2). These two groups are bounded to the south by rocks of the Pontiac Subprovince and the Piché Group.

The Malartic Group comprises mainly ocean floor komatiite and tholeiitic basalt flows and sills, with minor sedimentary rocks, which are interpreted to have formed in an extensional setting related to mantle plumes. The Louvicourt Group is composed mainly of mafic to felsic volcanic rocks that formed in a subduction-related deep marine volcanic arc.

7.3.1 Stratigraphy

The Val-d'Or mining camp is situated in the eastern segment of the southern part of the Abitibi Subprovince at the boundary with the Pontiac Subprovince. In this region, the CLLFZ marks the separation between these two subprovinces. The polarity of the volcanic sequences is to the north. The stratigraphic units are from north to south: La Motte–Vassan Formation (LVF), Dubuisson Formation (DF), Piché Group (PG), Jacola Formation (JF), Val-d'Or Formation (VDF), Héva Formation (HF), Cadillac Group (CG) and Pontiac Subprovince (PO).

7.3.1.1 Pontiac Subprovince (PO)

The PO covers the area to the south of the CLLFZ. It is lithologically homogeneous in this region and dominated by sandstones (60%) and shales (40%). Small mafic tuff bands occur locally but constitute less than 1% of the rock sequence. In outcrop, the rocks of the PO exhibit a pale brown colour for the sandstone and darker brown for the mudstone. Tuffs stand out from other lithologies by their greenish colour and porous appearance.

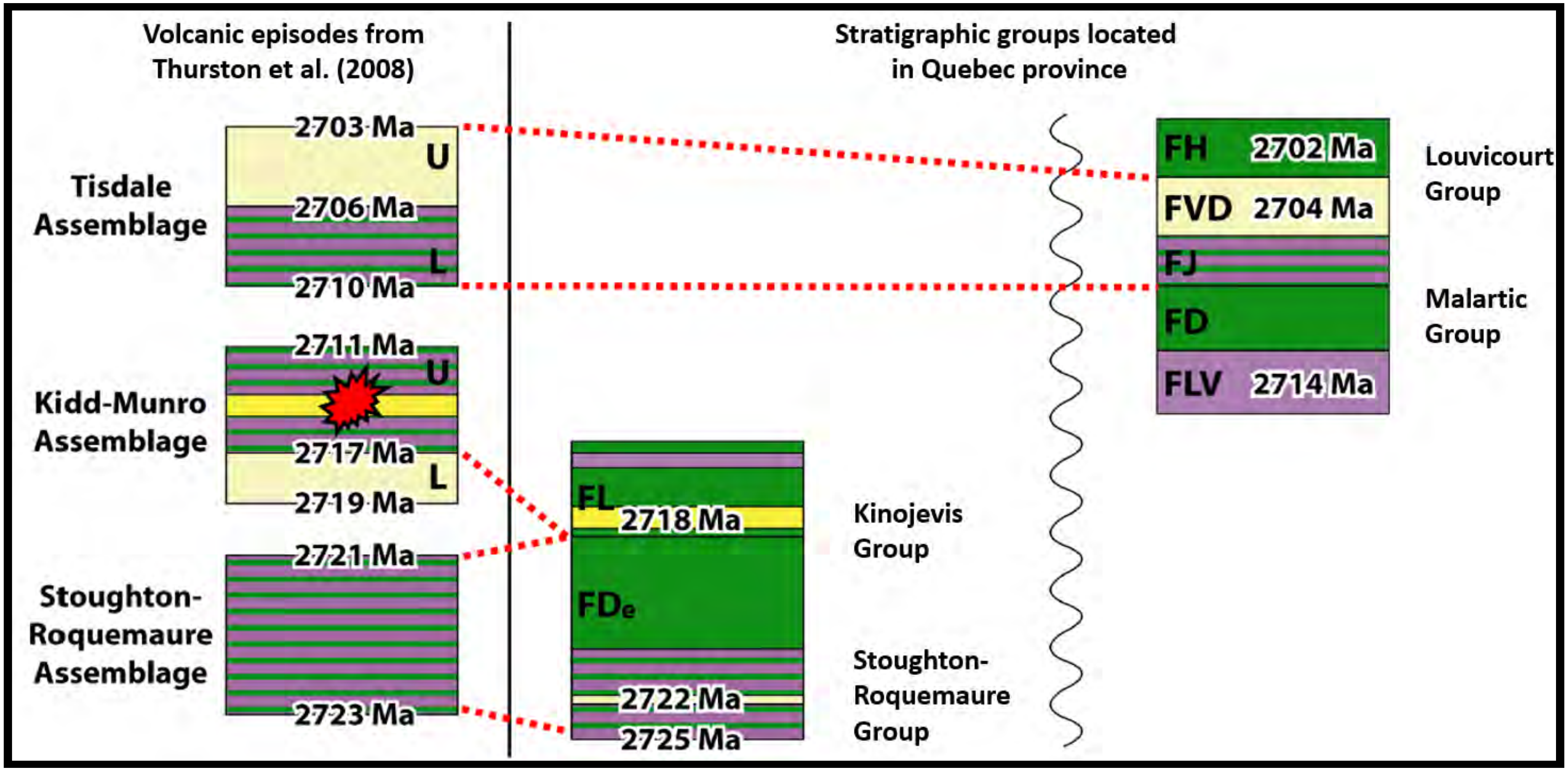

Figure 7.2 – Tisdale and Kidd-Munro assemblages and stratigraphic groups in the province of Québec (Adapted and modified from Pilote et al., 2014)

(1) Abbreviations in this figure are based on French names and thus different from those used in the text: FH = Héva Formation, FVD = Val-d'Or Formation, FJ = Jacola Formation, FD = Dubuisson Formation, FLV = La Motte–Vassan Formation, FDe = Deguisier Formation, FL = Lanaudière Formation.

The level of deformation is variable. Bedding and primary textures are commonly preserved south of the CLLFZ. Elsewhere, in the more deformed areas, these sedimentary rocks show tectonic banding that is superimposed on the original stratigraphic layering (S0). The age of the Pontiac rocks is estimated at 2685 ±3 Ma (Davis, 2002).

7.3.1.2 Piché Group (PG)

Outcrops of the PG (Latulippe, 1976) are rare in the region. The position of the rocks of this group generally coincides with the location of the CLLFZ, leading many researchers to describe the group as a band of talc-chlorite or talc-chlorite-carbonate schist (e.g., Gunning and Ambrose, 1940). Recently, however, it has been shown that the distribution and intensity of deformation is heterogeneous within the CLLFZ. Primary textures have been preserved in areas where deformation is less intense. These less deformed rocks are typically discontinuous and encompassed by schist. In underground workings and drill core, these pockets are of basaltic and komatiitic composition (Sansfaçon and Hubert, 1990), whereas at surface, they are essentially ultramafic and exhibit cumulate textures. Spinifex textures are locally preserved.

In 2013, an age of 2709.5 ±2 Ma was obtained for a tonalite dyke that cuts the ultramafic units of the Buckshot pit near the Canadian Malartic deposit, constraining the minimum age for the PG.

7.3.1.3 Héva Formation (HF)

The HF (2702 ±2 Ma) is 2 to 5 km thick. It is located between the CLLFZ and the VDF. The HF represents a separate volcanic cycle from that of the VDF, comprising volcaniclastic rocks, pyroclastic rocks, and dykes and sills of gabbroic to dacitic composition. Volcaniclastic rocks are characterized by coarse or fine tuff horizons with millimetre-scale laminations, intruded by gabbro and dacite. Disruptions in the volcaniclastic beds and peperite textures indicate that the dykes and sills were injected into unconsolidated sediments. In most cases, the interaction between magma and sediment formed complex structures of pseudo-pillows in the magma rather than true peperite. The volume and styles of the gabbro and dacite intrusions suggest a proximal position relative to the volcanic centre.

7.3.1.4 Val-d’Or Formation (VDF)

The VDF (2704 ±2 Ma) is 1 to 3 km thick and comprises submarine volcaniclastic deposits formed by autoclastic and/or pyroclastic mechanisms. These deposits include 1 to 20 m thick layers of brecciated and pillowed andesite flows with feldspar and hornblende porphyries, intercalated with volcaniclastic beds 5 to 40 m thick. The pillows exhibit a variety of forms, from strongly amoeboid to lobed. Lobed pillows are 1 to 10 m long and 0.5 to 1.5 m high and have a vesicularity index of 5% to 40%. The volcaniclastic beds are composed of lapilli tuff, lapilli and block tuffs, and to a lesser extent, fine to coarse tuffs.

7.3.1.5 Jacola Formation (JF)

The JF (2706 ± 2) lies north of the VDF. It consists of a cyclic package comprising, from bottom to top, komatiitic flows, basalts and andesitic volcaniclastic rocks. The sequences may be complete or truncated. Komatiitic lavas are observed in the form of massive flows with local spinifex textures. Basaltic flows are massive, pillowed and sometimes in the form of flow breccias. Magnesian basalts are also present in small amounts. They are easily identified by their characteristic pale grey colour.

7.3.1.6 Dubuisson Formation (DF)

The DF (2708 ± 2 Ma) consists mainly of pillowed and massive basalt with various interbedded komatiitic flows (Imreh, 1980). Ultramafic and mafic flows are similar to those described in the LVF (see below), but in different proportions.

7.3.1.7 La Motte–Vassan Formation (LVF)

The LVF crops out on the north side of Lac De Montigny and has variable apparent thickness, up to a maximum of 6 km. The LVF consists of komatiites, tholeiitic basalts and magnesian basalts. The base of the sequence is mostly represented by komatiites with some minor intercalated basalt. However, a decrease in the proportion of komatiites is observed toward the top of the sequence (Imreh, 1984). Komatiites are mainly found in two morphofacies: 1) classic sheet flow with spinifex textures or tube-shaped flows, and 2) mega-pillows. The basalt flows are usually massive or pillowed; more rarely, they are brecciated (Imreh 1980). The age of the LVF (2714 ± 2 Ma) suggests it may be contemporaneous with the upper part of the Kidd-Munro Assemblage (Figure 7.2).

7.3.1.8 Cadillac Group (CG)

The Cadillac Group is a 150 km by 5 km basin located along the CLLFZ to the north. Both groups are interpreted to be a lateral equivalent of the Porcupine Group (Ayer et al., 2002; Thurston et al., 2008). They are mostly composed of turbiditic sedimentary rocks, with rare local interlayering of polymictic conglomerates (Ayer et al., 2002; Dimroth et al., 1982). The Cadillac Group is identified based on its distinctive banded iron formations (Dimroth et al., 1982). Deposition ages for both groups are around 2686 Ma (Davis, 2002).

7.3.2 Intrusive rocks

The initial volcanic and structural architecture is cut and disrupted by several intrusive events (summarized from Pilote et al., 2000), mainly: the synvolcanic Bourlamaque Pluton (2700 ± 1Ma), pre to early-tectonic dykes and stocks as the Snow Shoe and the East Sullivan suites (respectively dated at 2694 ± 3 Ma and 2684 ± 1 Ma) and the syn- to post-tectonic Preissac–La Corne Pluton (2680–2642 Ma).

7.3.3 Structural fabrics

Pilote et al. (2015c) established the nomenclature for the various structural elements in the region, as described below.

The oldest regional schistosity S1 is normally subparallel to bedding, S0. The overall S1 trend is NW-SE with moderate to steep dips to the north. S1 contains the primary stretching lineation L1. In the southwestern part of the region, S0 and S1 are jointly folded into Z-folds, with an average axial plane of N095°/85° marked by the regional schistosity S2. The axes of these folds, F1-F2, are parallel to the plunges shown by the L1 stretching lineation contained in S1.

A late S3 cleavage is the product of kinking and irregular conical chevron folds in highly altered units showing a strong pre-existing anisotropy. Those folds are commonly intrafolial to S2 and their envelopes measure less than 1 m. The intersection lineation on S2 mostly plunges moderately to steeply westward.

7.3.3.1 Large-scale fault zones

The region has several large-scale strike faults and/or shear zones, striking W to WNW and dipping steeply to the north. They are, from south to north: the CLLFZ, the Parfouru Fault (PF), the Marbenite Fault (MF), the Norbenite Fault (NF), the K Shear Zone (KSZ) and the Rivière Héva Fault (RHF). The descriptions below are presented in the same order of south to north.

All these major structures contain dykes or stocks of monzonitic or tonalitic composition with highly variable ages (pre-, syn- or post-tectonic) that are spatially associated with several gold mines (Norlartic, Marban, Kiena, Sullivan, Goldex, Siscoe, Joubi, Sigma and Lamaque). The observed diversity in the styles and ages of gold mineralization related to these large-scale strike faults and/or shear zones demonstrates that several distinct episodes of mineralization occurred.

7.3.3.2 Cadillac-Larder Lake Fault Zone (CLLFZ)

The regional-scale CLLFZ (Figure 7.3 and Figure 7.4) is one of the most important structural controls on gold mineralization in the Abitibi Greenstone Belt. The CLLFZ is important not only for its metallogenic wealth, but also for its geodynamic significance and for the juxtaposition of varied lithologic assemblages along its subsidiary faults. The E-W and ESE-WNW striking sections of the fault reflect a deep asymmetry in the Abitibi Subprovince, a feature that influenced the styles and episodes of gold mineralization.

The CLLFZ has long been known to be associated with talc-chlorite-serpentine schists that have now been assigned to the Piché Group (PG). The CLLFZ is 200 to 1000 m wide, consisting of anastomosing fault strands that isolate distinct lithological wedges displaying variable degrees of deformation.

Numerous intrusions of various shapes, sizes, compositions and ages are also found along the CLLFZ. Calc-alkaline intrusions were injected between 2690 and 2680 Ma, whereas younger alkaline intrusions were emplaced between 2680 and 2670 Ma. These features reveal the role of the fault as a conduit for both magmas and hydrothermal fluids, and also demonstrate its long-lived deep crustal nature. In the Val-d’Or region, the CLLFZ is generally oriented N100° and dips steeply to the north-northeast.

7.3.3.3 Parfouru Fault (PF)

The PF (Figure 7.3) is an ESE-WNW shear zone that dips steeply (75°) to the north or northeast (Daigneault, 1996). The shear zone can reach 300 m wide and has been traced for at least 20 km.

7.3.3.4 Marbenite Fault (MF)

The MF (Figure 7.3) is an ESE-WNW to SE-NW shear zone that dips steeply to the north or northeast (Trudel and Sauvé, 1992; Sauvé et al., 1993; and Beaucamp, 2010). It is parallel to the Norbenite Fault.

7.3.3.5 Norbenite Fault (NF)

The NF (Figure 7.3) is a strong second-order shear zone that strikes WNW, subparallel to stratigraphy, and dips 40-60° to the northeast (Trudel and Sauvé, 1992; Sauvé et al., 1993). The NF is 15 to 110 m wide and has been traced for 8 km. It mainly affects the komatiitic units of the JF and occasionally the basaltic units as well. This shear zone splits into two or three branches in some places.

7.3.3.6 K Shear Zone (KSZ)

The KSZ (Figure 7.3) is a shear zone between 300 and 600 m wide that has been traced for 1.7 km. It strikes ESE-WNW and dips 80° to the northeast, and is composed of talc and chlorite schists, actinolite schists and minor sericite schists, and bodies of pure talc and massive actinolite (Olivo and Williams-Jones, 2002; Olivo et al., 2007).

7.3.3.7 Rivière Héva Fault (RHF)

The RHF (Figure 7.3) is an ESE-WNW shear zone that dips steeply (80°) to the north or northeast (Daigneault, 1996). The shear zone can reach 300 m wide and has been traced for at least 30 km.

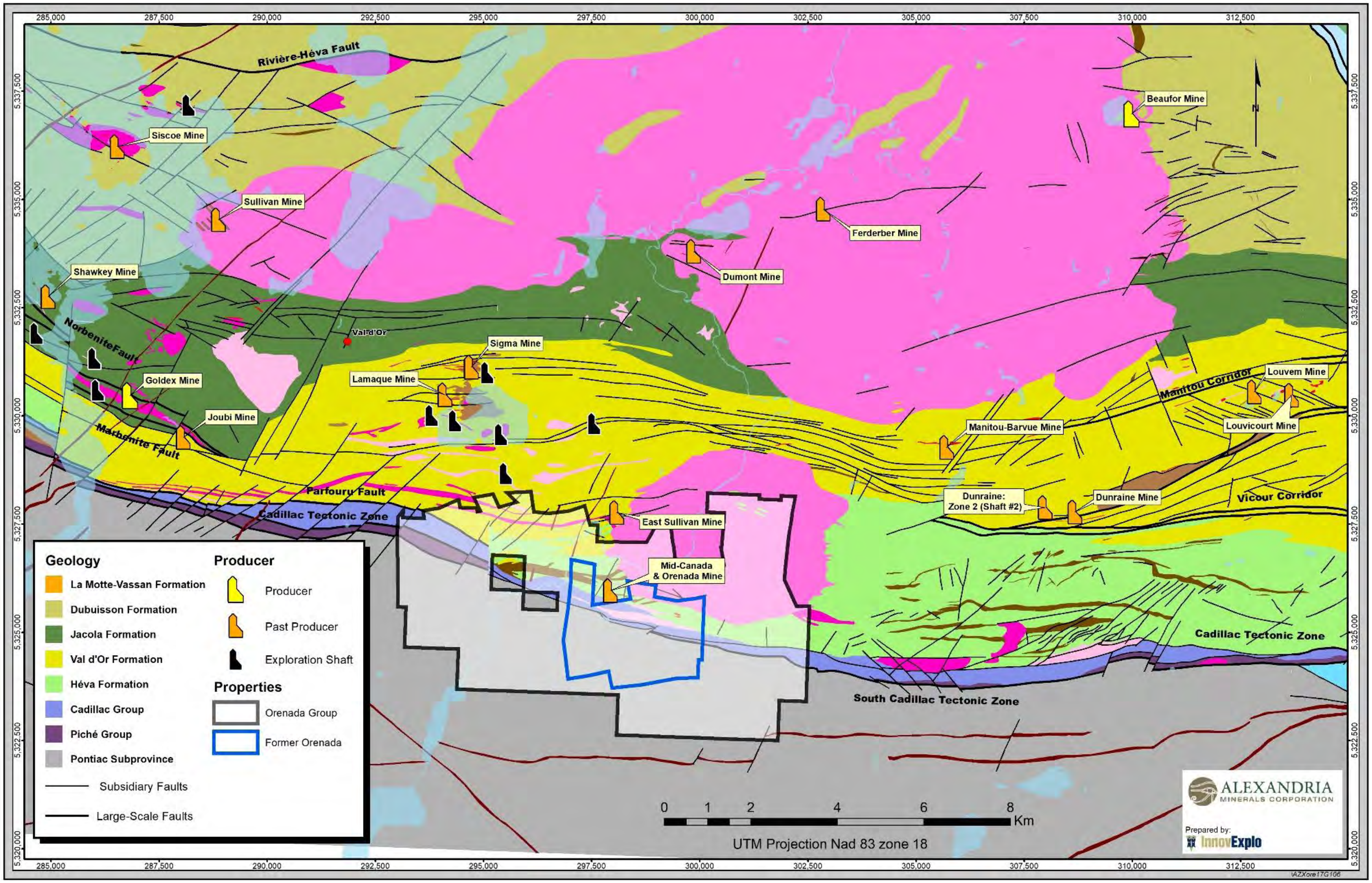

Figure 7.3 – Regional geological context of the Orenada Group Properties

7.4 Local Geological Setting and Mineralization

This section describes the geology of the Orenada Zone 2 and Zone 4 Project (formerly Orenada Property). The text was abridged and modified from reports by Robert (1986, 1990), Hodgson (1987) and Desrocher and Robert (2000).

7.4.1 Geology

The Properties are characterized by the presence of the CLLFZ, the major deformation corridor located in the center of the claim block (Figure 7.4). The CLLFZ marks the contact between the Abitibi and Pontiac subprovinces and is a major regional metallotect. The two main mineralized zones, zones 2 and 4, are coincident with sheath folds in the CLLFZ.

Metasedimentary rocks of the Pontiac Subprovince dominate the southern half of the Properties, south of the CLLFZ. The Pontiac Subprovince sediments are composed of greywackes, siltstones, argillites and a few conglomerate horizons.

The Piché and Cadillac groups mark the contact of the Pontiac Subprovince sediments with the Southern Volcanic Zone of the Abitibi Subprovince to the north Figure 7.5 and Figure 7.6). The CLLFZ is coincident with the Piché Group, but also straddles the Cadillac Group and sometimes regionally overlaps the Pontiac Subprovince sediments.

The Piché Group is highly deformed, with two compositionally distinct subparallel subunits that are laterally continuous. The northern subunit consists of sericite and chlorite-sericite schists, whereas the southern subunit consists of chlorite-carbonate and talc-chlorite-carbonate schists. The subunits have been interpreted to be derived from different volcanic rocks. The northern subunit has been interpreted as derived from intermediate to felsic volcanic rocks, while the southern subunit has been interpreted as derived from mafic to ultramafic volcanic rocks. Locally, spinifex textures have been identified in the southern subunit ultramafic schists.

The Cadillac Group rocks on the Properties consist of greywacke, arenite, mudstone and lenses of clast-supported, polymictic conglomerate. They correspond to the Porcupine-type sedimentary basins of Thurston et al. (2008). Thin layers (less than 1 m) of black, graphitic argillite are present. One layer of graphitic sediments is present almost everywhere near the contact between the Cadillac and Piché groups and is considered a marker layer. This graphitic argillite contains up to 10-15% pyrite and pyrrhotite as disseminations and veinlets.

To the north, the Cadillac sediments are in contact with the volcanic rocks of the Heva Formation (Louvicourt Group). The southern Heva Formation is occupied by an elongated body of porphyritic diorite of unknown age intruding the mafic volcanic rocks. The generally undeformed porphyritic diorite is increasingly foliated towards the contact with the Cadillac sedimentary rocks.

In the northeastern quadrant of the Properties, the Heva Formation is in contact with the East Sullivan monzonite pluton (Figure 7.4).

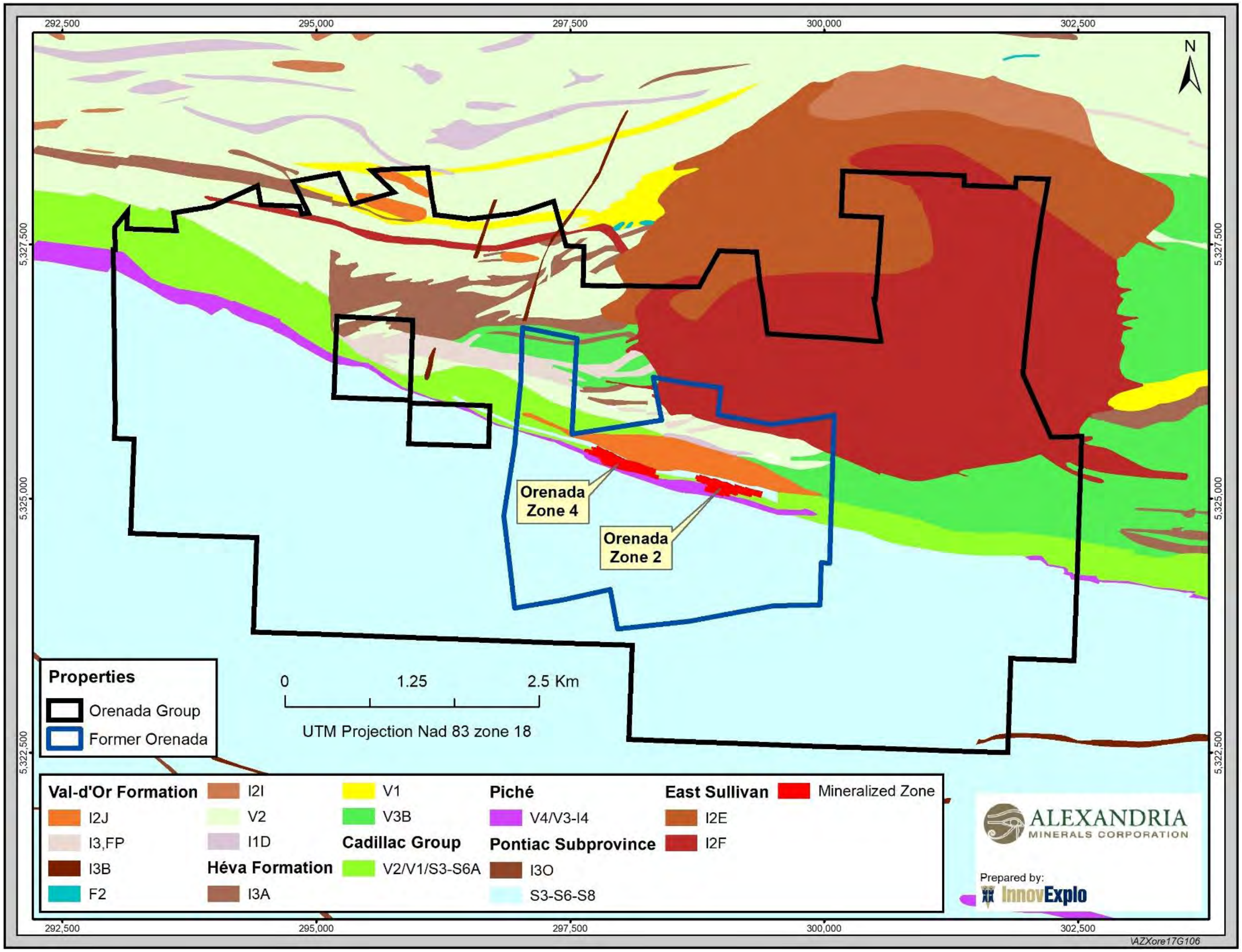

Figure 7.4 – Local geology of the Orenada Group Properties

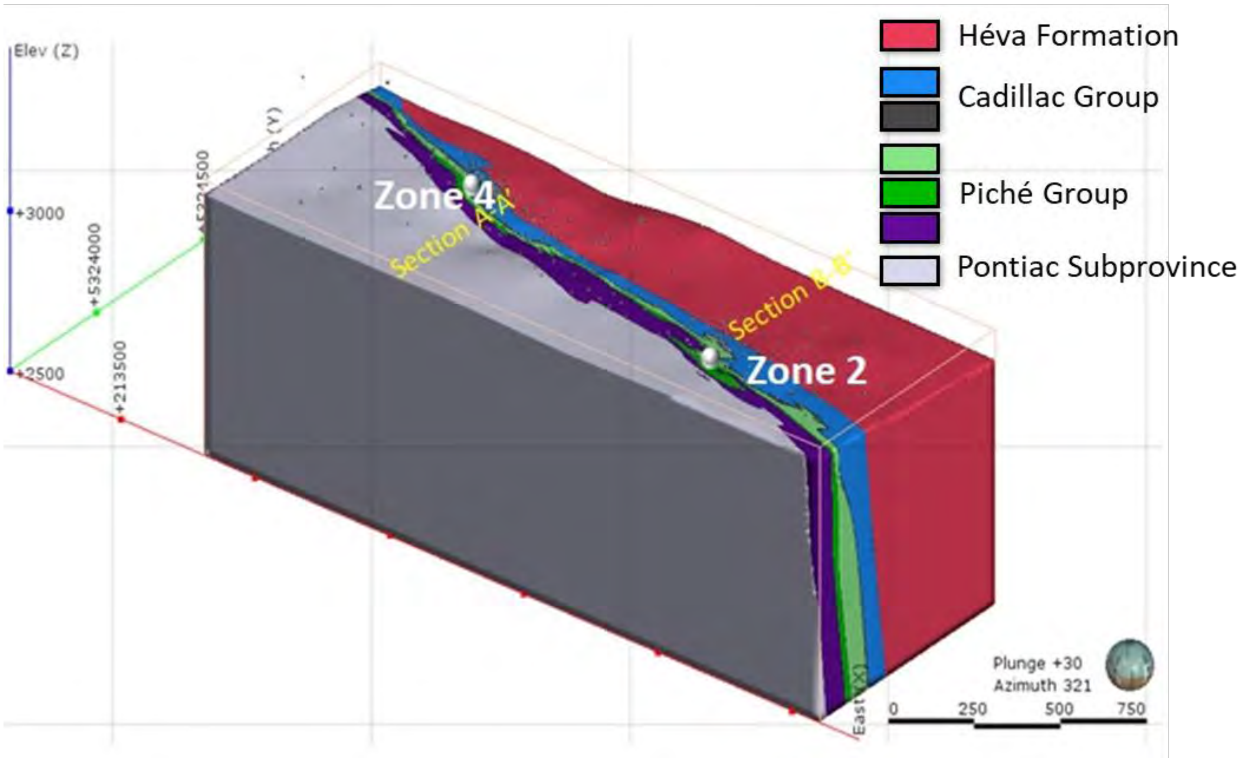

Figure 7.5 – Local geology of the Orenada Zones 2 and 4 Project

7.4.2 Deformation

The most dominant structural feature of the Properties is the complex deformation associated with the CLLFZ, which strikes at 110°, and dips 70-80° to the north. The rocks within the deformation zone are characterized by a generally E-W penetrative foliation (S1) in contrast with the rocks on either side where foliation is weak or absent. At the deposit scale (Zones 4 and 2), F2 asymmetric Z-shaped folds are superimposed on S1 and accompanied by a subvertical spaced axial plane cleavage (S2), as described by Hodgson (1987) (Figure 7.6). The F2 folds form lenticular domains of more complex internal folding outside of which S1 is not folded (Figure 7.7). The F2 folding domain plunges slightly to the east and, being the locus for gold mineralization, they account for the observed plunge of zones 2 and 4.

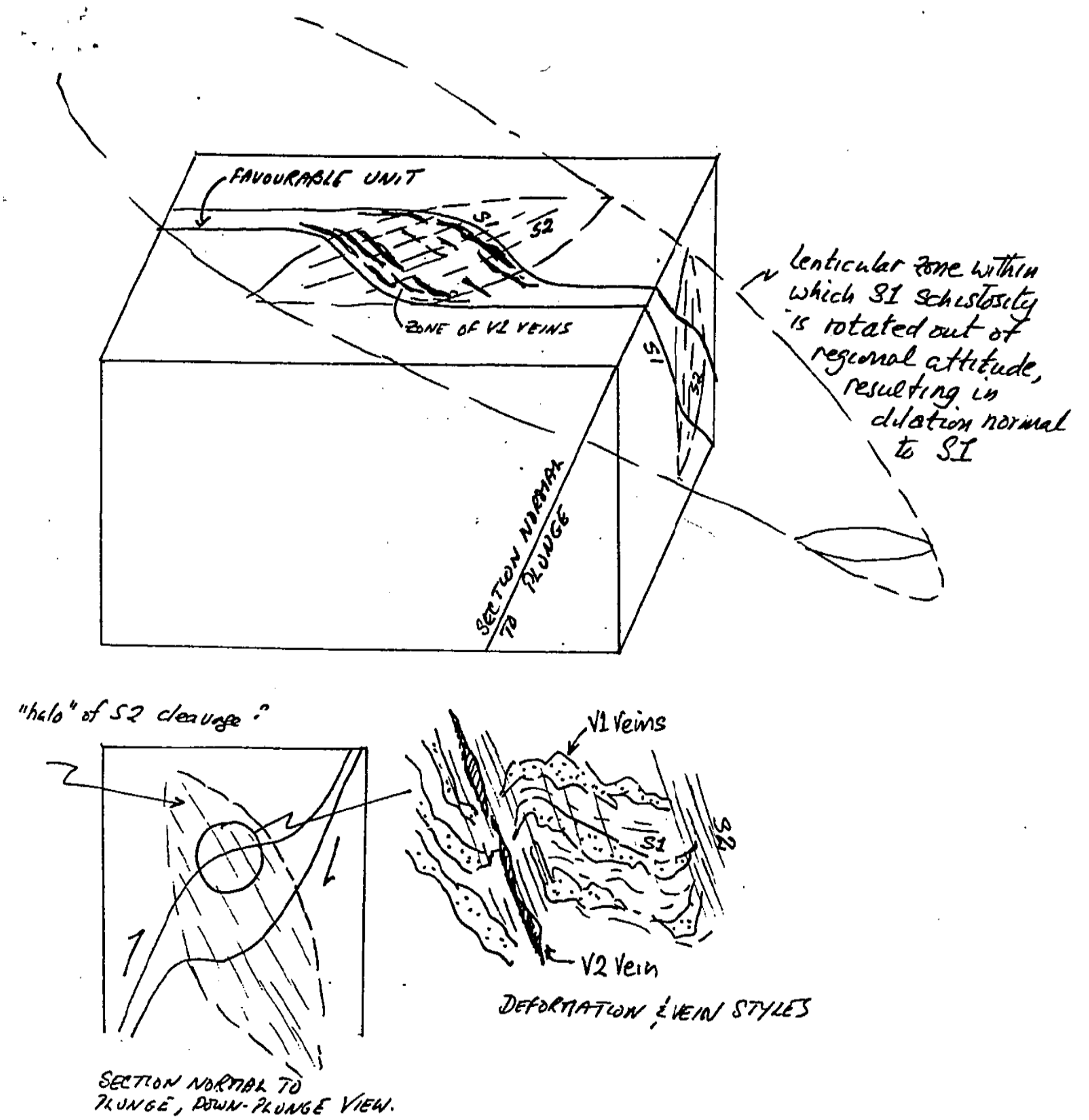

Figure 7.6 – Deformation and structural styles for Orenada Zone 4 (from Hodgson, 1987)

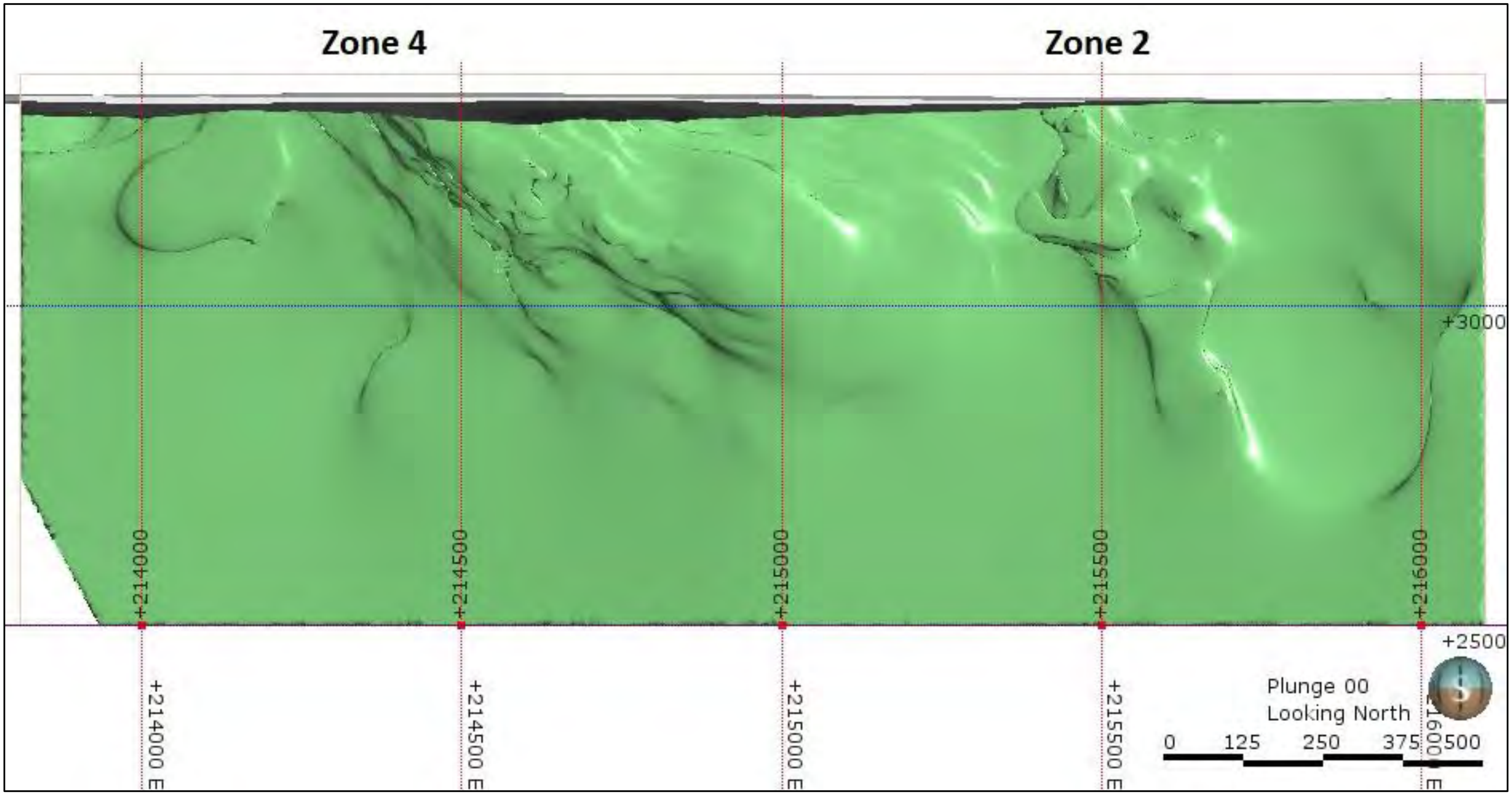

Figure 7.7 – 3D section looking north showing fold plunges in volcaniclastics of the Cadillac Group on the Orenada Zones 2 and 4 Project

7.4.3 Veins

Two main sets of mineralized veins and veinlets are recognized in relation to the deformation events: V1 and V2. These vein sets are grouped into zones or domains for the purpose of the 2018 MRE.

Veins of the V1 set are auriferous quartz-tourmaline-albite-carbonate-arsenopyrite veins generally parallel to S1 (Figure 7.8 and Figure 7.9) and are also referred to by Robert (1990) as “concordant veins”. They are the most abundant vein type and make up the bulk of the low-grade gold zone in Zone 4. Gold-bearing V1 veins have been observed in all rock types, but in Zone 4 they occur mainly in the volcaniclastic rocks of the Cadillac Group. Within these favourable host rocks, their distribution is largely, but not exclusively, constrained to the major F2 fold and they have been interpreted as predating the F2 folding episode.

Veins of the V2 set contain coarse visible gold. They are mineralogically similar to the V1 veins and are also referred to by Robert (1990) as “discordant veins” (Figure 7.8 and Figure 7.9). These veins occupy narrow faults and shear zones, they are subhorizontal and have in some cases been traced laterally up to 30 m. They are grouped and stacked, forming envelopes of mineralization 3 to 5 m thick. V2 veins cut across the V1 veins and have been interpreted to post-date the F2 folding. V2 veins are interpreted to be formed during reverse-dextral faulting. Veins of the V2 set are more abundant in Zone 4 than Zone 2. V1 is the dominant vein set in Zone 2.

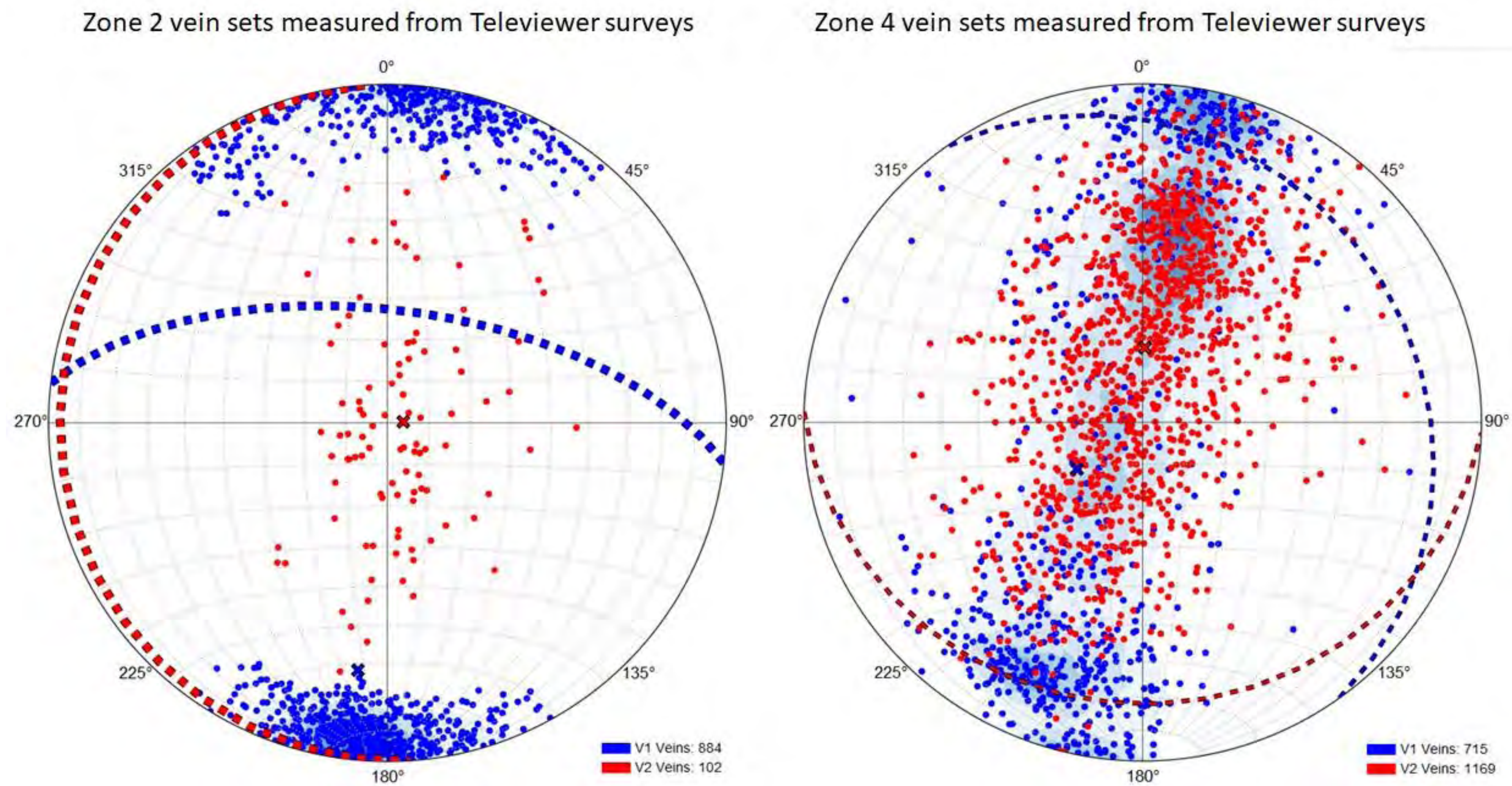

Figure 7.8 – Stereonet data for Orenada Zones 2 and 4 showing the main orientations of the V1 and V2 vein sets

7.4.4 Mineralization and Alteration

Concordant veins of the V1 vein sets (Figure 7.9) combine to form a broad mineralized envelope that typically consists of a series of parallel V1 veins sets accompanied by an alteration envelope. These mineralized zones consist of variable proportions of the following components: quartz-albite-carbonate-veins, generally a few centimetres thick and containing slivers and fragments of altered schists; layers of massive brown tourmaline, typically a few centimetres thick, forming either a vein component or a wallrock replacement component; and layers of visibly altered wallrocks containing up to several percent arsenopyrite.

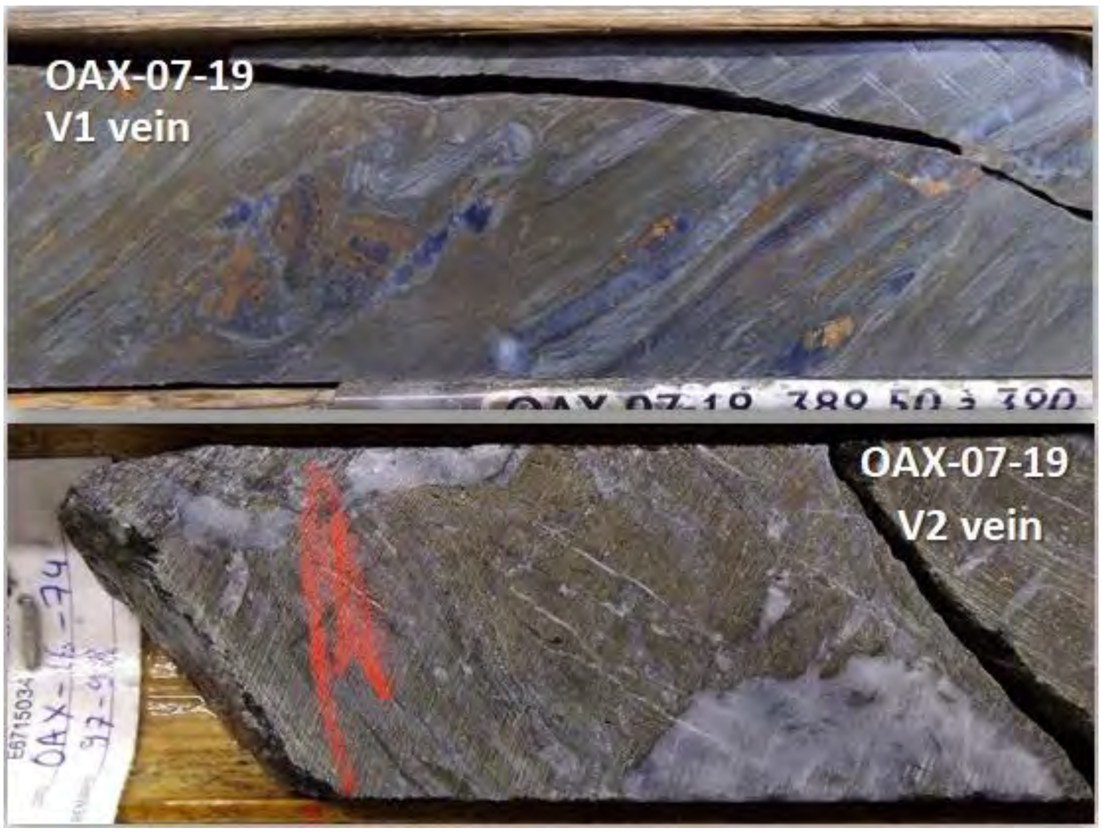

Figure 7.9 – Examples of mineralized V1 and V2 vein sets

Mineral assemblages in the mineralized zones are variable, but consist mainly of albite, quartz, tourmaline, carbonate and arsenopyrite. Other minor minerals include pyrrhotite, chalcopyrite, sphalerite, pyrite and rutile.

Gold is intimately associated with arsenopyrite in the mineralized zones. It occurs almost exclusively as blebs within arsenopyrite, as coatings on arsenopyrite grains or in fractures within arsenopyrite. Gold grains range from 1 to 80 microns in size with the highest proportion in the 10- to 50-micron range (Renou, 2008). The intimate association of gold and arsenopyrite is also reflected by a good correlation between gold and arsenic values. Gold tends to be present when pyrrhotite and chalcopyrite are also present as inclusions in arsenopyrite. Gold concentrations tend to be higher in volcaniclastics than in metavolcanics and they tend to correlate with increasing percentages of tourmaline and arsenopyrite in volcaniclastics (Renou 2008).

Veins of the V2 set represent the main economic vein set in Zone 4. Veins of this group are more abundant and of higher grade. These veins have a similar mineralogy to the V1 veins but tend to contain a larger proportion of quartz and less albite. Visible gold has been reported in these veins as well as scheelite.

Two types of hydrothermal alteration can be distinguished at the deposit scale. Regional pervasive carbonatization is overprinted by vein-scale arsenopyrite-tourmaline halos affecting both sets of veins.

At the regional scale, all units have been affected by a significant addition of CO_2. However, each unit was affected differently according to its unique parental metamorphic assemblage. For ultramafic schists, regional alteration was also accompanied by the addition of Ca. Regional alteration is also characterized by an increase of the Fe^{+2}/Fe^{+3} ratio in the mafic and ultramafic schists. Regional alteration results in assemblages such as talc-chlorite-dolomite with subordinates amounts of calcite and quartz in the ultramafic schists and chlorite-albite-calcite-quartz in the mafic schists.

Vein-scale alteration is characterized by the presence of arsenopyrite and/or tourmaline and accompanied by a colour change in the host rock (grey to orange, Figure 7.9). These alteration envelopes are generally a few centimetres to a few tens of centimetres thick around individual veins but may reach thicknesses of 1 to 2 m where alteration envelopes of several closely spaced veins combine. In general, vein-scale alteration is characterized in all rock types by the addition of variables amounts of CO_2, S, As, B and Au, with local gains of Na, K, but no significant silicification. In the centre of the mineralized system, alteration is characterized by an assemblage of arsenopyrite-tourmaline-carbonate-sericite-(biotite) and proximal zones are instead characterized by an assemblage of carbonate-sericite-(chlorite-biotite). The orange colour of the arsenopyrite-tourmaline near-vein alteration is reportedly due to the oxidation of ilmenite to rutile.

7.4.5 Other Known Occurrences

Other than Orenada Zones 2 and 4, several other mineralized occurrences are recorded in the SIGEOM database in the area of the Properties.

Table 7.1 provides with a summary of occurrences and associated deposit styles for the mineralization, while Figure 7.10 provides with the location of the recorded mineralized occurrences.

Table 7.1 – Mineral occurences for the Orenada Group Properties and associated deposit styles

Deposit type	Mineralization	Name
Skarn	Cu-Au	D'Aragon
		Orenada Zone 1
		Mid-Canada
		Orenada Zone 5
		Oramaque-Hogg
Porphyry	Cu-Mo±Au	Porphyre Est (Ducros-1)
		Porphyre Ouest (Ducros-2)
Late -orogenic gold lode	Au	Bourlamaque Central 1
		Centremaque
		Oramaque (Orenada Zone 3)
		Oramaque-Cadillac Zone Nord
		Oramaque-Cadillac Zone Sud
		Cadillac Break

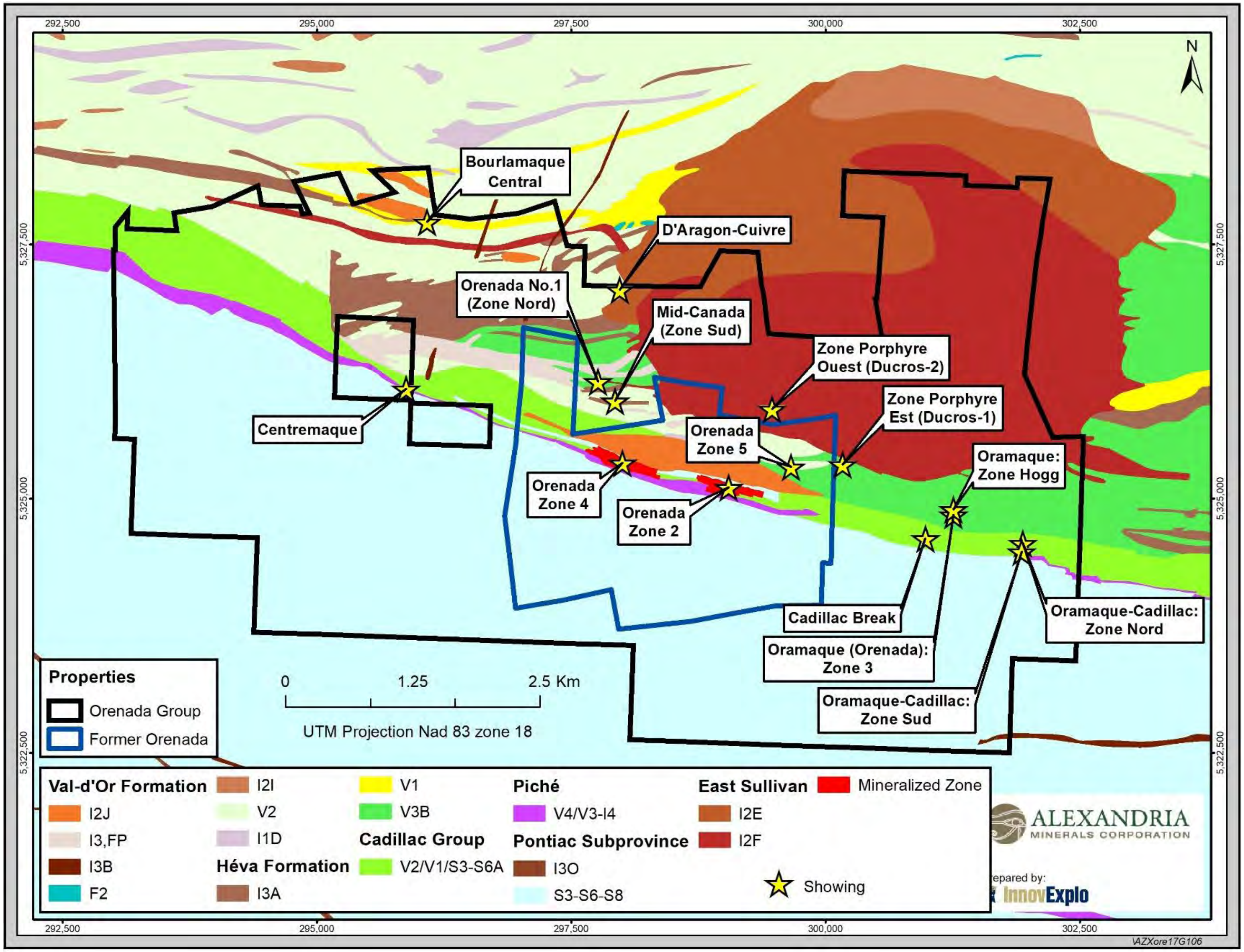

Figure 7.10 – Other known mineral occurrences on the Orenada Group Properties

8. DEPOSIT TYPES

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

As represented in Figure 8.1, thirteen (13) globally significant types of gold deposits have been recognized, each with its own well-defined characteristics and environment of formation. As proposed by Robert et al. (1997) and Poulsen et al. (2000), many of these gold deposit types can be grouped into clans; i.e., families of deposits that either formed by related processes or are distinct products of large-scale hydrothermal systems.

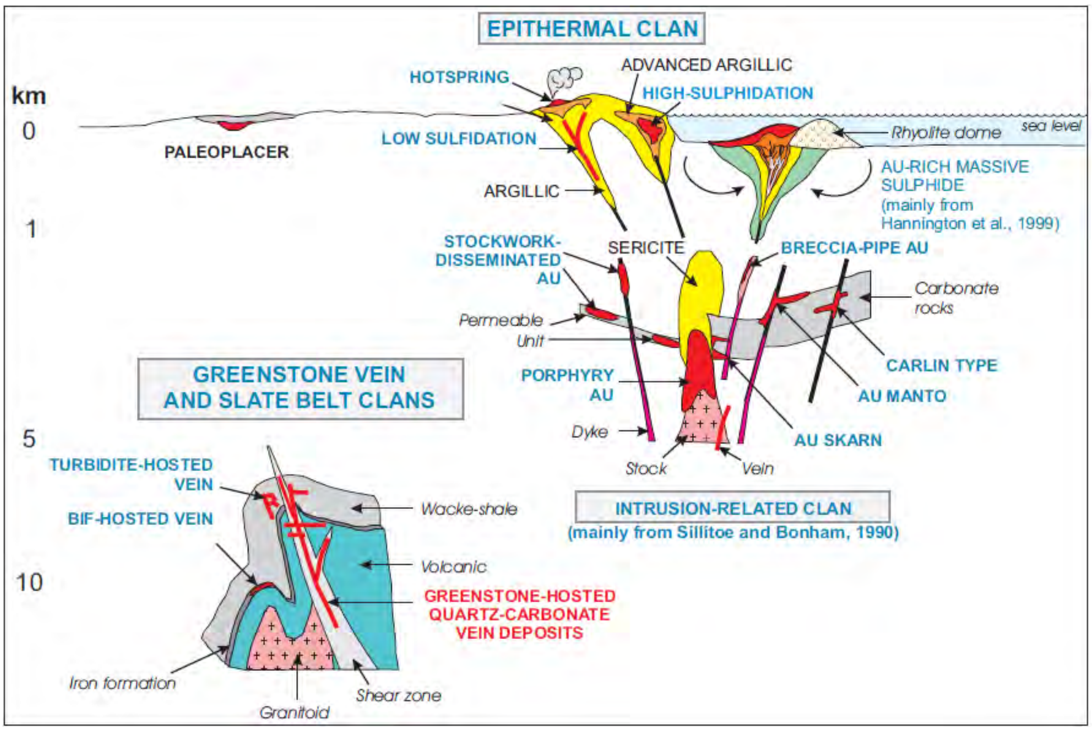

Figure 8.1 – Inferred crustal levels of gold deposition showing the different types of gold deposits and the inferred deposit clan (note the logarithmic depth scale). From Dubé and Gosselin (2007), modified from Poulsen et al. (2000)

These clans effectively correspond to the main classes of gold models, such as the reduced intrusion-related and oxidized intrusion-related orogenic classes (Hagemann and Brown, 2000). Deposit types such as Carlin, gold-rich VMS, and low-sulphidation are viewed by different authors either as stand-alone models or as members of the broader oxidized intrusion-related clan. They are treated here as stand-alone deposit types, whereas high- and intermediate-sulphidation and alkaline epithermal deposits are considered as part of the oxidized intrusion-related clan.

Gold mineralization in Orenada Zones 2 and 4 share many geological attributes with other vein-type gold deposits of the Val-d'Or district and with lode gold deposits in general in terms of host rock composition, mineralogy and hydrothermal alteration, also known as orogenic gold deposits (Goldfarb and Groves, 2015). Orenada Zones 2 and 4 can be associated with the Greenstone Vein and Slate Belt Clan. However, the occurrence of gold in folded veins associated with large asymmetric folds has been found to be a rather unique feature which for at least one set of veins can be explained by either dilatational vein formation during folding and/or pre-existing veins folding. The second and later generation of veins may have formed also as tensional gap infillings during the later stages of the CLLFZ movement. Also, a unique feature for this deposit type is the association of arsenopyrite and gold. The gold mineralized zones at Orenada are interpreted to represent deformed greenstone-hosted quartz-carbonate vein-type gold deposit.

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

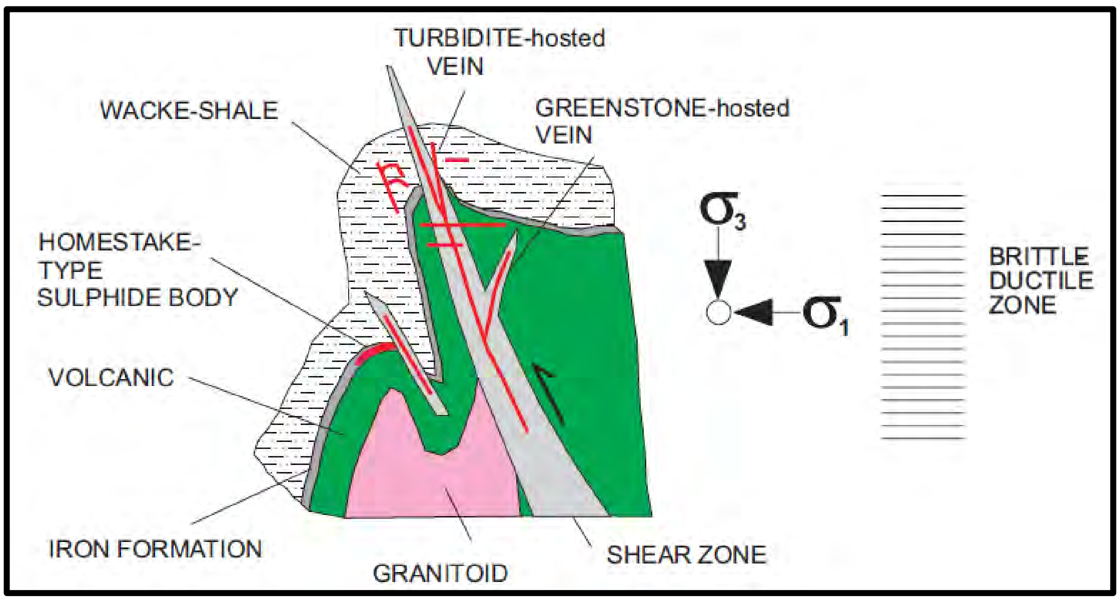

Figure 8.2 – Schematic diagram illustrating the setting of greenstone-hosted quartz-carbonate vein deposits (from Poulsen et al., 2000)

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

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

9. EXPLORATION

Since the publication of the August 2009 technical report (Beauregard et al., 2009), no other technical report has been published for the Orenada Group Properties (the "Properties").

This item presents a summary of the exploration activities conducted by the issuer from August 2009 to January 2018 on the Properties. The information was provided by Philippe Berthelot (P.Geo.), Vice-President Exploration, and Pierre-Étienne Mercier, P.Geo., Geologist, both of Alexandria.

9.1 Geophysical Exploration Work

In 2011, a high-sensitivity heliborne magnetic survey was carried out by New-Sense Geophysics Ltd over the issuer's Cadillac Break Property Group (Figure 9.1). A total of 4,811 line-km of field magnetic data was flown. The objective of the survey was to provide high-resolution total field magnetic maps suitable for anomaly delineation, detailed structural evaluation, and identification of lithologic trends. Fully corrected magnetic maps were prepared by New-Sense Geophysics. Three possible intrusions were outlined, varying in size and character (Yakovenko and Scrivens, 2011).

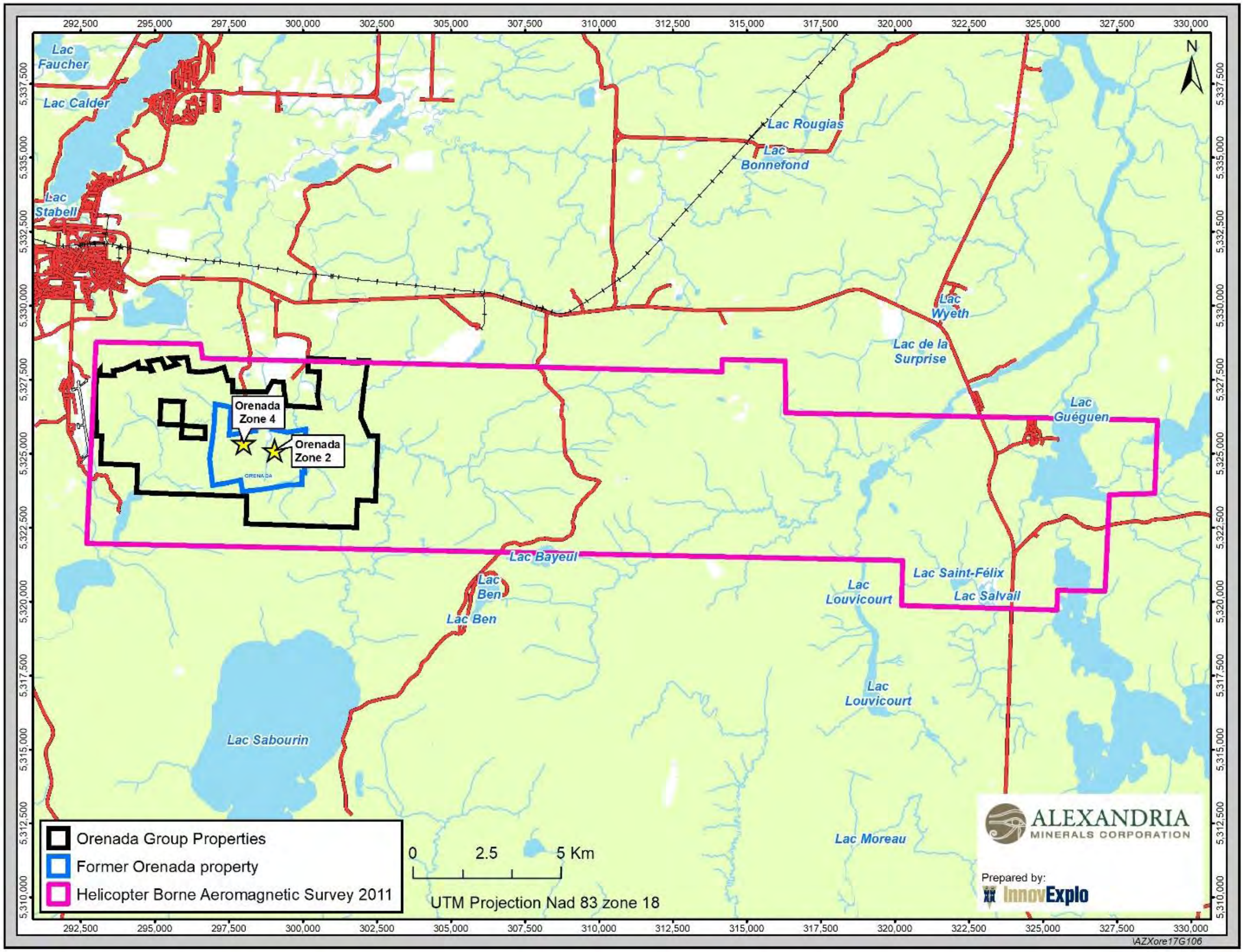

Figure 9.1 – Map showing the area covered by the high-sensitivity heliborne magnetic survey conducted in summer 2011

Since 2014, the following geophysical work has been conducted by Abitibi Geophysics:

- An OreVision Resistivity/IP survey in February and March 2014 over the Orenada, Oramaque and Ducros properties (Figure 9.2). The survey was conducted on two grids, one with line intervals of approximately 120 m (400 ft) and one with a line interval of 100 m. Stations were spaced at 25 m and the baseline, common to both grids, was oriented N107°. A total of 69.55 km of TDEM resistivity and IP surveying was completed using the OreVision array and 35 anomalous chargeability trends were identified. Abitibi Geophysics proposed 16 DDH to explore chargeable trends interpreted on the OreVision IP survey (Loader and Bérubé, 2014).
- A GPS-positioned ground magnetic field survey in December 2015 (Figure 9.2). The principal purpose of this survey was to identify and map the main structural units present on the Airport Property with a focus on outlining major tectonic features such as faults and shear zones but also ellipsoidal magnetic anomalies. Nine (9) sectors that present one or more of the targeted features were identified by the survey. The survey covered 89.1 line-km and was composed of a grid of 71 N-S lines with 50- to 100-m spacing. The interpretation of this survey was done by Loader and Dubois (2015) who produced several maps (total magnetic field profiles, total magnetic field contours and calculated vertical gradient contours).
- Ground and borehole InfiniTEM® surveys in September 2016 over the Orenada Zone 2, Zone 4 and Zone 5 areas. The main objective of the mandate was to detect and characterize deeply buried conductors in order to identify targets for further exploration drilling. The ground part of the survey was carried out on three NE-SW lines for a total length of 4.3 km. The borehole part was performed on 13 DDH. At least two different conductive zones were identified in both types of surveys. The interpretation of the surveys was done by Card and Bérubé (2015) who proposed 4 DDH as follow-up.
- An OreVision IP survey in September and November 2016 over the Orenada and Robert properties (Figure 9.2). The survey was composed of 16 lines of various lengths totalling 47.1 km. Line spacing was approximately 120 m (400 ft) with the lines oriented along an azimuth of N017°. Twenty-one (21) non-outcropping polarizable sources were identified and interpreted. These sources have the distinctive features of the vein-type gold mineralization defined by the Gold Index. This index is calculated with the following formula:

  Gold Index = $\frac{Chargeability^2 \times Resistivity}{1000}$

In other words, it highlights sectors susceptible to hosting disseminated sulphides in a resistive environment (e.g., quartz veins) (Dubois, 2016).

- A GPS-positioned ground magnetic survey in January 2017 (Figure 9.2). This survey covered two joined grids, one with 31 lines oriented N017° and the second with 36 N-S lines. All lines were spaced at 50 m and had variable lengths, for a total of 124.65 km. The interpretation of this survey was done by Madjid Cheman of Abitibi Geophysics (2017) who produced several maps (total magnetic field, total magnetic field reduced at the poles, residual anomaly reduced at the poles, inverted chargeability, and maps of the sector’s structural complexity and high entropy zones), a 3D model of the magnetic susceptibility obtained by 3D inversion, and horizontal sections of the magnetic susceptibility (Cheman, 2017). Figure 9.3 shows the total magnetic field generated by this mandate.

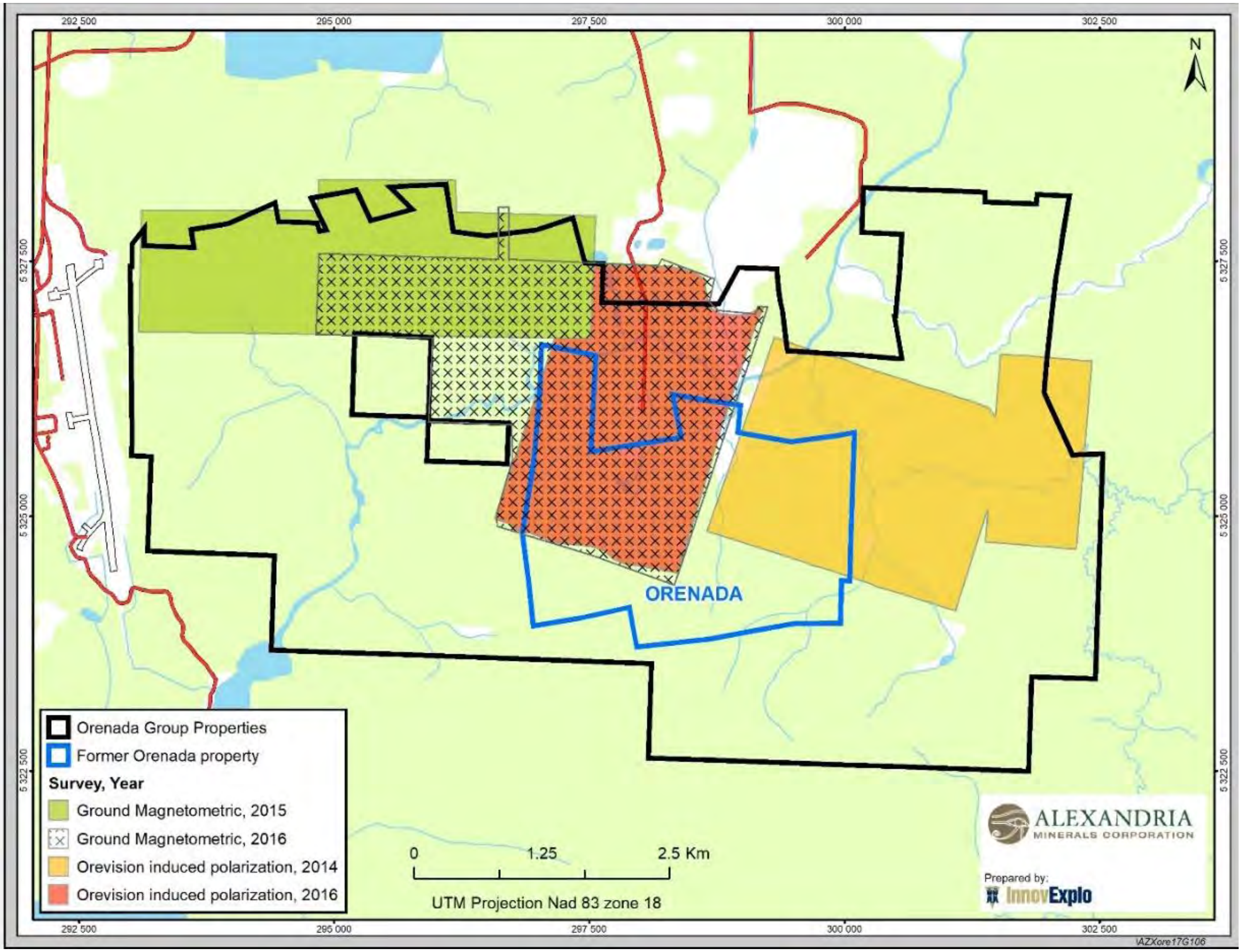

Figure 9.2 – Map showing the area covered by the OreVision and ground magnetic field surveys conducted between 2014 and 2017

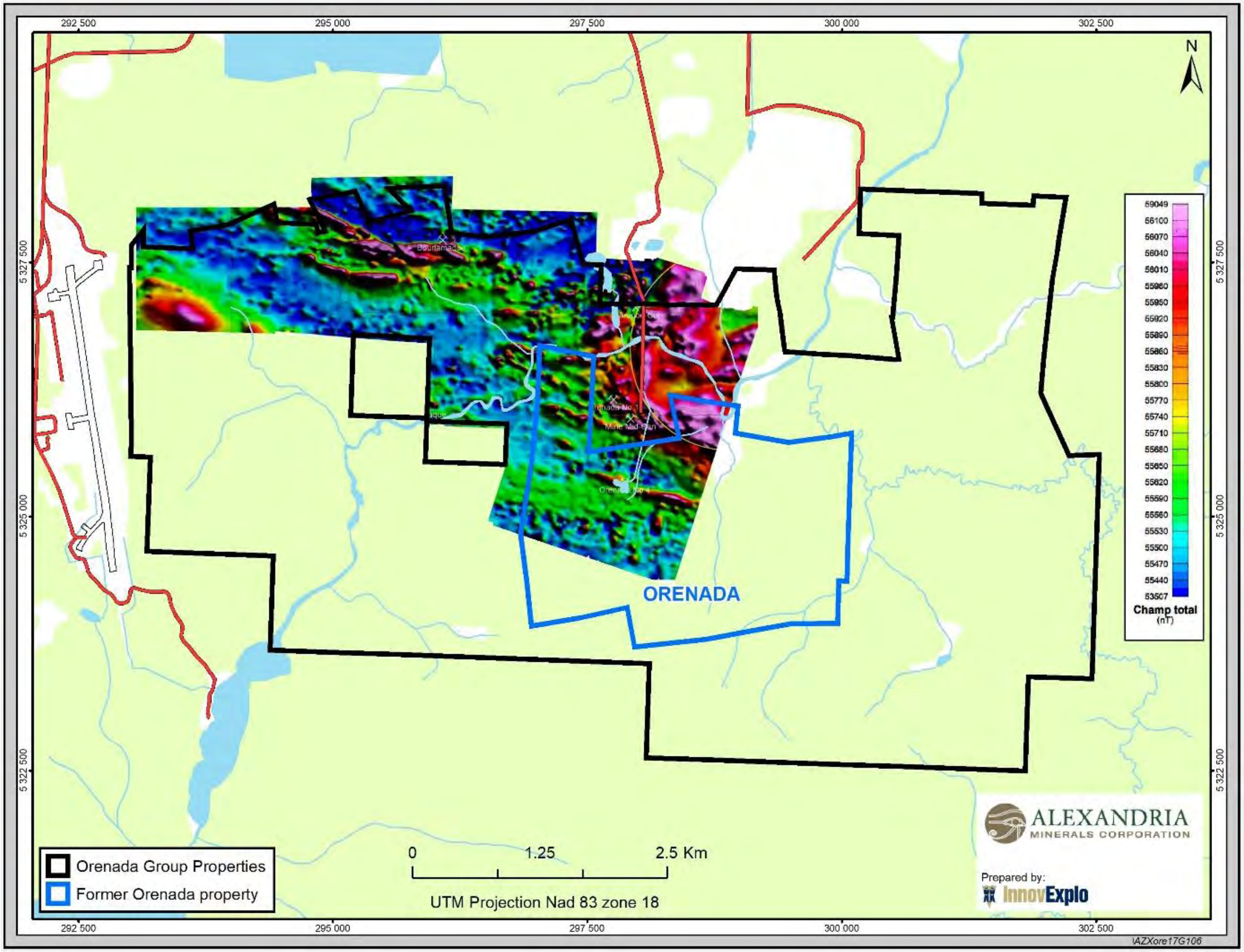

Figure 9.3 - Map of the total magnetic field (modified from Cheman, 2017)

- A hole-to-hole IP survey in January 2017 on 4 DDH on the Airport Property. The holes were two sets of paired holes drilled in the Triangle Too sector. This survey aimed to identify chargeability/resistivity anomalies in a similar context to the Triangle deposit located directly to the north. The interpretation produced one profile for each pair of holes displaying the chargeability, resistivity, gold index and metal factor, and four chargeability/resistivity pseudosections corresponding to each hole. Nine (9) anomalies were identified and interpreted (pers. comm., P.-E. Mercier, July 2018).

9.2 Other Exploration Work

In September 2016, twenty-nine (29) surface samples were collected on the Oramaque Property (Table 9.1). Thirteen (13) returned anomalous Cu values. The anomalous values are generally in the range of 100 ppm to 500 ppm, with only one higher value at 2,140 ppm. The table below presents a summary of the 13 anomalous assays (pers. comm., P.-E. Mercier, July 2018).

Table 9.1 – Results of the surface samples collected on the Oramaque Property in 2016 (pers. comm., P.-E. Mercier, July 2018)

Sample number	Cu (ppm)
E5357253	2140
E5357233	464
E5357245	391
E5357250	374
E5357246	274
E5357254	242
E5357234	203
E5357258	198
E5357248	191
E5357689	134
E5357259	131
E5357236	123
E5357257	100

In 2016-2017, Alexandria's geologists compiled historical drill holes. These holes were integrated into the GeoticLog database, including collar locations, deviation tests (when available), lithological descriptions and gold assays (pers. comm., P.-E. Mercier, July 2018).

In 2016-2017, a sampling/resampling program of historical holes was performed under the supervision of InnovExplo. It included the re-assaying of historical samples, the creation of composite samples composed of two or more historical samples, and the sampling of intervals that had not been sampled before (as made evident by intact whole core). The process was continously supervised by InnovExplo and documented with photographs at every step. Forty-one (41) DDH were involved in this program, comprising 1,210 samples sent to AGAT Laboratories and ALS Minerals where they were analyzed by metallic sieve for gold. The resulting assays were compared to the historical data by geologist Denys Vermette (P.Geo.) and integrated into the database (pers. comm., P.-E. Mercier, July 2018). Certain details of this work are presented in Item 12 of this report.

Between August 2017 and January 2018, a litho-structural 3D model of the Orenada deposit was generated by MRB & Associates. It consists of a 3D model of all geological units in the deposit area, supported by a great number of structural data as Televiewer logs and core angle measurements gleaned from core logs (pers. comm., P.-E. Mercier, July 2018).

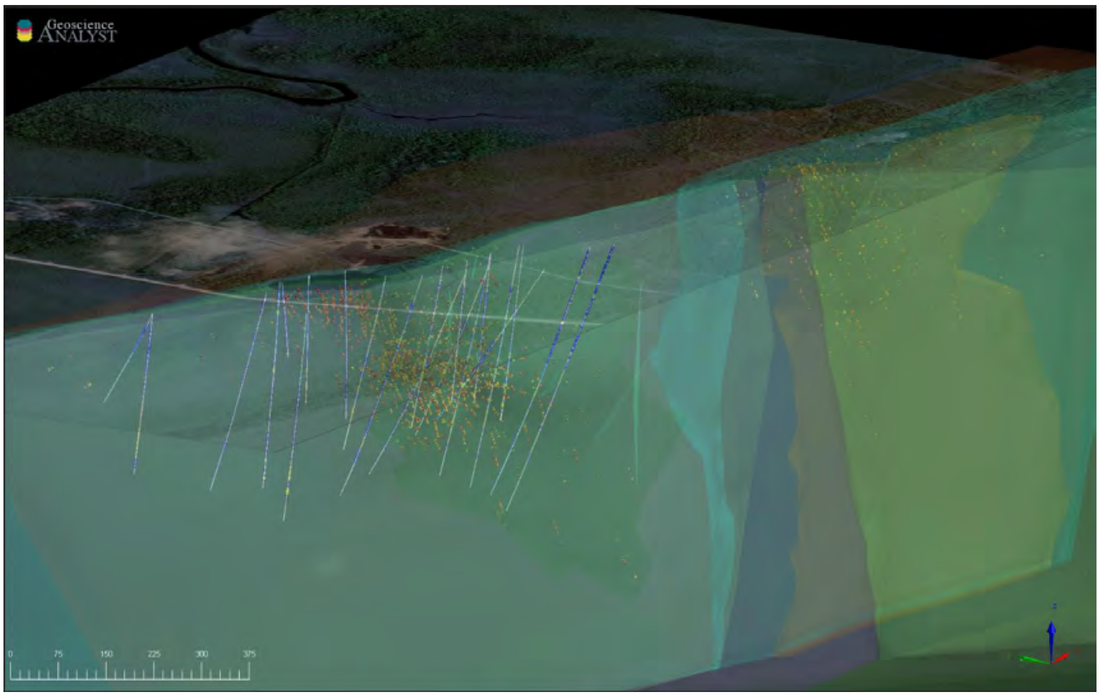

Figure 9.4 - Litho-structural 3D model generated by MRB & Associates

10. DRILLING RESULTS

The information in this item was obtained from the issuer. Since the last technical report published in 2009 (Beauregard et al., 2009), Alexandria has conducted 15 drilling campaigns from surface on the Orenada Group Properties (the “Properties”). Table 10.1 summarizes these programs.

Table 10.1 – Summary of the drilling programs conducted on the Orenada Group Properties since 2009

Period	Property/ Subproperty/ Showing	Number of DDH*	Number of metres**
Sept-Nov 2014	Porphyry	8	1,978
Nov 2014	Cadillac Break	1	336
Feb-March 2015	Porphyry	3	926
March 2015	Orenada Zone 4	3	844
March-April 2015	Orenada Zone 5	2	537
April 2015	Cadillac Break	1	408
March-April 2016	Orenada Zone 5	6	1,829
April 2016	Triangle Too	2	476
July-Aug 2016	Triangle Too	8	2,873
Aug-Sept 2016	Orenada Zone 2	6	1,675
Sept-Oct 2016	Orenada Zone 4	5	2,343
Jan-April 2017	Orenada Zone 4	33	9,087
Feb-March 2017	Airport	8	2,160
May-Oct 2017	Orenada Zone 4	89	22,268
July-Sept 2017	Orenada Zone 2	35	10,195

(1) ** Deepened holes are counted as single holes (original hole + extension) when drilled in the same campaign*

(2) *** Numbers are rounded to the nearest 1 metre*

10.1 Drilling Methodology

From 2015 to 2018, drilling on the Orenada Zones 2 and 4 Project (the “Project”) was performed by Spektra Drilling Canada Inc., Forages Rouillier, Forage Dami-Or and Forages Val-d’Or Inc. All holes were drilled from surface with NQ core caliber (47.6 mm core diameter) and the longest hole was 525.5 m.

Diamond drill holes were planned using vertical cross sections and plan views in order to intercept interpreted veins or structural features at the proper angle. Geoscience ANALYST™ and GeoticGraph™ software were used. In-house geologists were involved in the targeting and follow-up phases of the drilling program.

Alexandria geologists and technicians used a handheld Garmin GPSMAP 60CSx™ to position the collar. Two front sights were positioned in front of each collar using a Brunton hand compass. Once the rig was in place, the final orientation adjustment was made using an Mazac Smart Aligner mounted on top of a casing rod locked in place in the rig and linked to a smartphone with an application that allows the geologist to visualize and confirm the azimuth.

Drill hole collars are systematically surveyed by professional surveyors (Corriveau J.L. & Assoc. Inc.) approximately twice per year.

The core is marked with blocks at the beginning and end of each drill run interval at the drill site. Deviation surveys consist of single shots only taken at the beginning and end of each hole, with additional tests every 30 m and a multishot survey every 3 m when pulling out the rods. The REFLEX EZ-TRAC™ instrument was used to record azimuth and dip information. The instrument was handled by the drilling contractor, and survey information was transcribed and provided on a daily basis in paper format to Alexandria geologists. The survey information was also provided electronically and was transferred to the Geotic database.

After moving the drill rig off a drill site, the casing is left in place and capped with a metal plug identifying the hole.

After drilling, a set of critical drill holes was selected for a Televiewer survey which involved both optical and acoustic logs to measure the structural orientation of the geological structures. These were done in batches every few months by either Wireline Services Group or DGI Geosciences Inc.

Core recovery is calculated by measuring borehole core recovery as a percentage over each 3-m (10-ft) drill run. Rock quality designation is a rough measure of the degree of jointing or fracture in a rock mass, measured as a percentage of the drill core in lengths of 10 cm or more in each run (3 m). Alexandria has recorded RQD measurements on most of the drill core since 2015. The overall average RQD on the Orenada Zone 2 and Zone 4 Project is 80% and average core recovery is approximately 98%.

10.2 Recent Diamond Drilling

This section describes each of the diamond drilling campaigns conducted from 2015 to 2017 on the Project because it is the focus area of the MRE.

When Alexandria resumed drilling in March 2015, the main goal was to increase the grade of the 2009 MRE by testing a different paradigm by drilling the flat veins perpendicularly, while also increasing continuity and tonnage, and updating the mineral resources accordingly.

From March 2015 to the end of October 2017, Alexandria drilled 171 holes (including two extensions) on the Project. Seven (7) were aborted due to incorrect alignments, misplacement of collars and/or high deviations. The programs totalled 46,413.1 m of exploration and delineation drilling. Details are summarized in Table 10.2. Figure 10.2 shows the location of the diamond drill holes according to year drilled.

Table 10.2 – Summary of the 2015-2017 drilling campaigns conducted on the Orenada Zones 2 and Zone 4 Project

Program	Number of drill holes	Metres
2015	3	844
2016	11	4,018
2017	157	41,550
Total	**171**	**46,413**

10.2.1 March 2015

Following a preliminary study that resulted in the re-interpretation of the geological model, the March 2015 campaign involved three (3) surface holes on Zone 4 to test the new model of high-grade flat-dipping veins (V2-veins) in order to support the re-interpretation. Good grades were found in two (2) of the holes as they both intercepted V1 and V2 veins (Alexandria news releases of April 22, 2015 and May 7, 2015).

10.2.2 Summer-Fall 2016

The 2016 summer-fall campaign consisted of five (5) surface holes on Zone 4 and six (6) on Zone 2 (Figure 10.2). The aim was to continue testing the new geological model of the V2 high-grade flat-dipping veins, which had been recognized by underground mapping of Zone 4 and confirmed by the March 2015 campaign. An in-fill hole (OAX-16-79) was designed to aid the correlation between these veins and the veins recorded in previous holes in order to create a more robust geologic model.

Hosted in deformed schists within the CLLFZ, the holes intersected multiple quartz veins with visible gold. Highlights included 16.08 g/t Au over 1.0 m (CL) and 13.35 g/t Au over 1.0 m (CL) in OAX-16-076 in Zone 2 and 21.29 g/t Au over 0.5 m (CL) in Zone 4 (Alexandria news releases of November 10, 2016 and December 7, 2016). Hole OAX-16-083, designed to test the area between zones 2 and 4, intersected some good gold values, such as 10 g/t Au over 0.80 m (CL) and 2.2 g/t Au over 1.0 m (CL).

10.2.3 Winter-Spring 2017

The 2017 winter-spring campaign consisted of 33 surface holes in the Zone 4 area designed to extend the known strike of the Zone 4 gold-bearing Qz-Tm-As-Py veins and provide infill drilling around the historical open pit area. Promising results were obtained (Figure 10.1). This also resulted in a better understanding of the boundaries of the felsic/intermediate tuff unit, which is the principal host of the gold-bearing structures. Four (4) holes tested the westward extension of the mineralization and good results were obtained, including 375 g/t Au over 0.45 m (CL) and 4.060 g/t Au over 1.0 m (CL) in OAX-17-109.

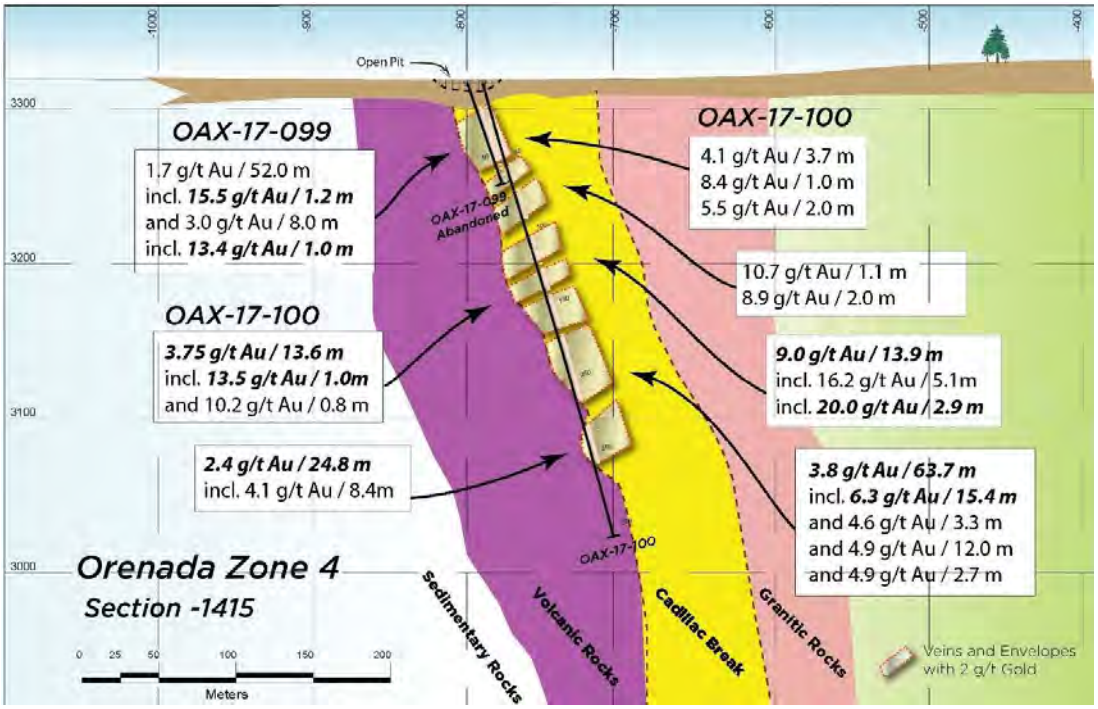

Figure 10.1 – Typical cross-section view showing highlights of diamond drill holes OAX-17-100 and OAX-17-099 (from Alexandria news release of May 10, 2017)

10.2.4 Summer-Fall 2017

The 2017 summer-fall campaign consisted of 89 surface holes on Zone 4 and another 35 on Zone 2.

For Zone 4, the focus was on infill drilling in known mineralization and testing the western extension of the gold-bearing structures. Twelve (12) holes were dedicated to testing the area between zones 4 and 2 along the same corridor.

For Zone 2, the focus was on extending mineralization along strike in both east and west directions and to fill some strategic gaps with infill drilling. One hole (OAX-17-201) extended the mineralized zone to the west of the 2009 resource area (Beauregard et al., 2009) by approximately 100 m with results of 12.1 g/t Au over 1.5 m (CL) and 7.434 g/t Au over 1.5 m (CL).

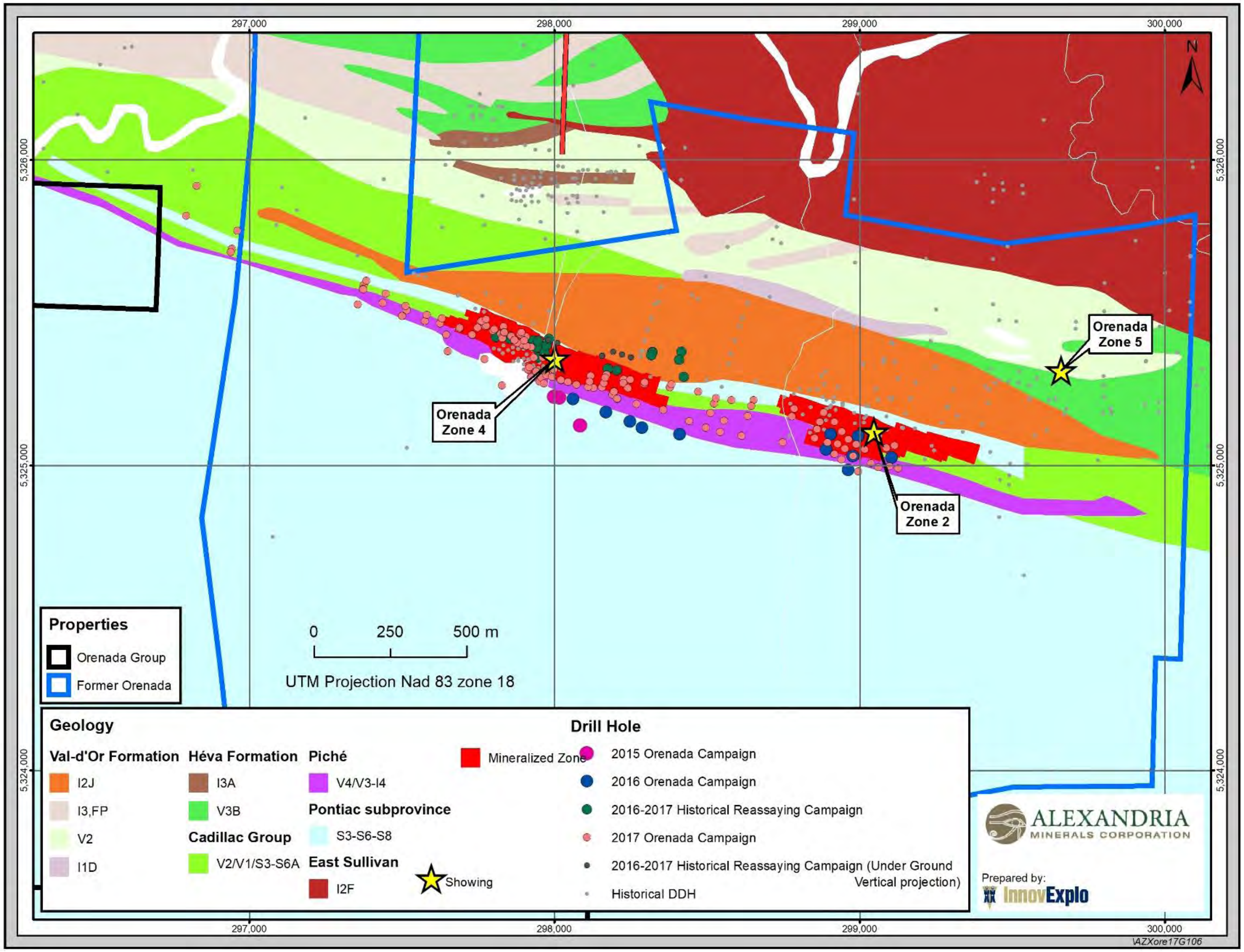

Figure 10.2 – Location of Alexandria diamond drill holes (2015-2017) and mineralized zones on the Orenada Zone 2 and 4 Project

11. SAMPLE PREPARATION, ANALYSES AND SECURITY

This item describes the issuer's sample preparation, analytical and security procedures for the drilling campaigns carried out since the 2009 MRE on the Orenada Zones 2 and 4 Project (the "Project"). These campaigns cover the period starting in 2015 up to the database close-out dates of December 15, 2017 (Zone 4) and January 16, 2018 (Zone 2) for the current MRE. The information was provided by Alexandria's geology team. The authors reviewed the QA/QC results for the 2015 to 2017 drilling campaigns.

11.1 Laboratories Accreditation and Certification

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

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

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

Since resuming drilling on the Project in 2015, Alexandria has used five different independent commercial laboratories to analyze their samples. All these laboratories have ISO 9001:2008 certification and ISO/IEC 17025:2005 accreditation through the SCC. Table 11.1 describes the number of samples assayed in each laboratory.

Table 11.1 – Number and percentage of samples assayed per laboratory since 2015

Laboratory	Drilling campaign	Number of assays	Percentage (%)	Accreditation and certification
AGAT Laboratories Ltd	2015, 2016, 2017	15,412	55.5	ISO 9001 and ISO/IEC 17025
Activation Laboratories Ltd (Actlabs) / Techni-Lab S.G.B Abitibi Inc.	2016, 2017	1,278	4.6	
ALS Global Ltd (ALS Global)	2016, 2017	2,212	8.0	
Bureau Veritas	2017	5,955	21.5	
SGS	2017	2,468	8.9	
TOTAL		**27,752**		

11.2 Alexandria Sampling Method and Approach

At the drill rig, the driller helper places the core into core boxes, marking off every 3 m with wooden blocks. Once a core box is full, the helper wraps the box with tape. At the start of each day, an Alexandria technician brings core boxes from the drill rig to the core logging facility.

In the core shack, Alexandria employees remove the tape and place the boxes on the logging tables. The technicians rotate the core so that all piece's slant the same way, showing a cross-sectional view, at about a 45° angle. They check that distances are correctly indicated on the wooden blocks placed every 3m. The core distance along the hole is measured in each box and all the boxes are labelled.

RQD is measured by geologists or geological technicians. Any breakage under 10 cm is recorded and entered directly into the Geotic Log software and database.

The core is logged and sampled by Alexandria geologists/engineers or under their supervision. All geologists/engineers in the issuer's employ are members in good standing of the OGQ (Québec Order of Geologists) or the OIQ (Québec Order of Engineers). Lithologies (principal and secondary), alteration, mineralization, veins and samples are compiled in the database, and assay results are added as they are received.

Core samples consist of half-split core with lengths ranging from 0.5 to 1.5 m. The sampled core is considered representative. Geologists or engineers mark the core to indicate sample intervals and place two parts of a uniquely numbered sample tag at the end of the sample interval. Photos of wet core are taken once the geologist/engineer has completed this step. The third part of the tag remains in the book as a reference of the interval's meterage. The same type of tag is used for QA/QC samples. In accordance with Alexandria's QA/QC protocol, one blank, one CRM (standard) and one pulp duplicate are systematically added to every 20 samples at random. Standards are chosen according to their gold content, which must be as close as possible to the gold content of the core.

Once logged and/or labelled, the core is stored indoors on racks until sawed. The core of each selected interval is sawed in half using a standard table-feed circular rock saw. One half is placed in a numbered plastic bag along with one part of the tag in the core box for dispatch to the laboratory and the other half of the core is returned to the box as a witness (reference) sample. The remaining part of the tag is left in the box at the end of the sampled interval.

Eight to ten samples are placed in a rice bag which is closed hermetically by tie-wrap and the contents identified on the outside of the bag. When roughly a hundred samples are ready, the rice bags are packed and sent to the laboratory. Each shipment contains the work order prepared by a geologist, indicating the sample preparation and assay procedures to be followed by the laboratory.

The core box is then taken to roofed racks in the outdoor core storage area enclosed by secure fencing. The exact location of each hole in the outdoor core library is recorded in an Excel spreadsheet for future reference.

The Televiewer data obtained from the acoustic and optical logs are interpreted by the surveyor’s team before Alexandria geologists classify the different types of structures and add them to the database.

11.3 Sampling Preparation and Analysis Protocols

11.3.1 Sampling preparation

ALS

- Samples are sorted, bar-coded and logged into the ALS program, then dried and weighed.
- Samples are then crushed (CRU-31) to 70% passing 10 mesh (2 mm) and split using a riffle splitter (SPL-21). A 250-g to 1,000-g split of the crushed material is pulverized (PUL-32) to 85% passing 200 mesh (75 µm) to provide a sample pulp.
- For the metallic screen procedure, 1,000 g of the final prepared pulp is passed through a Tyler 150 mesh (100 µm) stainless steel screen to separate the oversize fractions. Any material remaining on the screen (>100 µm) is retained and fire assayed in its entirety with gravimetric finish and reported as the coarse (“plus”) fraction result. Material passing through the screen (<100 µm) is homogenized and two subsamples (50 g) are fire assayed with AAS finish (Au-AA25 and Au-AA25D). The average of the two AAS results is taken and reported as the fine (“minus”) fraction result. All three values are used in calculating the combined gold content of the plus and minus fractions. The plus and minus gold assay fractions (“Au(+) 100 µm” and “Au(-) 100 µm”) are reported along with their weights and the calculated total gold content of the sample. The calculation for “total gold” is as follows:

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

Bureau Veritas

- Samples are sorted, bar-coded and logged into the laboratory program, then dried and weighed.
- Samples are then crushed to 70% of material passing 10 mesh (2 mm). A 250-g to 1-kg split of crushed material is pulverized to 85% passing 200 mesh (75 µm) (PRP70).

SGS

- Samples are sorted, bar-coded and logged into their SLIM program, then dried at 105°C and weighed.
- Samples are then crushed to a fineness of 75% passing a 10 mesh (2 mm) sieve. A 250-g to 1,000-g split of the crushed material is further comminuted to a sample pulp by pulverizing to 85% passing 200 mesh (75 µm).
- For the metallic screen procedure, a 500-g to 1,000-g sample is screened to 106 µm. The plus fraction is fire assayed for gold and a duplicate assay is performed on the minus fraction. The size fraction weights, coarse and fine fraction gold contents, and total gold content are reported.

AGAT

- Samples are sorted, bar-coded and logged into AGAT's LIMS program. They are then placed in the sample drying room and dried at 60°C.
- Samples are crushed to 90% passing 10 mesh (2 mm) and split using a Jones riffle splitter. A 250-g to 1,000-g split is pulverized to 95% passing 140 mesh (105 µm).
- For the metallic screen procedure, a 1,000-g split of crushed material (90% passing 10 mesh) is pulverized using a ring and puck mill to ensure approximately 95% passing 140 mesh (105 µm). The material on top of the screen is referred to as the "plus" (+) fraction and the material passing through the screen is the "minus" (-) fraction. The weights of both fractions are recorded. The entire "plus" fraction and two 30-g replicates of the "minus" fraction are fire assayed with gravimetric, AAS or ICP-OES finish. The plus and minus gold assay fractions, their weights, and the calculated "total gold" of the sample are included in every report. Upon request, individual gold assays may be reported for every fraction. The calculation for "total gold" is as follows:
-

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

Techni-Lab (Actlabs)

- Samples are sorted, bar-coded and logged into the Actlabs LIMS program. They are then placed in the sample drying room and dried at 60°C.
- Samples are crushed to 80% passing 10 mesh (2 mm) and split using a Jones riffle splitter. A 250-g to 1,000-g split is pulverized to 80% passing 200 mesh (75 µm).

- For the metallic screen procedure, a representative 500-g to 1,000-g split is sieved at 100 mesh (149 µm). The entire +100 mesh and two -100 mesh splits are fire assayed. The total sample and the +100 and -100 mesh fractions are weighed for assay reconciliation.

11.4 Analytical Procedures

Between the first hole drilled on the Project in 2015 and drill hole OAX-17-123 of the 2017 drilling program, every unmineralized sample was analyzed by fire assay (FA) with AAS, gravimetry (GRAV) or ICP-OES finish. For mineralized samples with visible gold, a metallic sieve procedure was used.

Since 2017, three assay methods have been used depending on the nature of the samples:

- For core samples positioned between mineralized intersections that are assumed to be barren or very low grade, one pulp sample (50 g) is analyzed by FA with AAS or GRAV finish.
- For mineralized intervals with no visible gold, the entire core sample is crushed in accordance with the laboratory protocol and a split of 1 kg of crushed material is then pulverized. Two pulp samples, 50 g each, are analyzed by FA with AAS finish. Samples assaying >10.0 g/t Au are re-analyzed with a GRAV finish on two 50-g charges for each sample. The final gold content corresponds to the mean of these assays.
- For mineralized intervals with visible gold, a metallic screen procedure was used.

11.5 QA/QC Results

A total of 27,752 samples (including 4,391 QA/QC samples) were submitted to the laboratories during the 2015 to 2017 drilling programs. Quality control procedures included routine insertion of standards, blanks and pulp duplicates.

As part of their standard internal QA/QC, blanks, sample replicates, duplicates, and internal reference materials are routinely used by the laboratories through sample preparation and analysis. In the event of non-conformance to the quality standard, the process is reviewed and corrected by the laboratory.

Denys Vermette, P.Geo., data manager geologist and consultant to Alexandria, was responsible for QA/QC management. The authors of this Technical Report were not involved in collecting and recording the data, which was the responsibility of the issuer. The authors only synthesized the results to evaluate the validity and reliability of the DDH database.

11.5.1 Blanks

Contamination is monitored by the routine insertion of a sample of barren crushed white marble (“blank”) that goes through the same sample preparation and analytical procedures as the core samples. One blank was run every 20 samples. Blanks are usually selectively placed after potential high-grade samples. Blanks are submitted with samples for crushing and pulverizing to determine if there has been contamination or sample cross-contamination in preparation. Elevated values for blanks may also indicate sources of contamination in the FA procedure (contaminated reagents or crucibles) or sample solution carry-over during instrumental finish.

According to the issuer's QA/QC protocol, if any blank in a batch from a mineralized zone yields a gold value above 0.015 g/t Au, several samples before and after the anomalous blank should be re-assayed. If the anomalous blank is outside a mineralized zone or if no significant gold values are present in the certificate, no action is taken. For the 2015 to 2017 drilling programs, 1,418 (92.8%) of the 1,528 blanks sent to the laboratories returned values below the recommended value whereas 110 samples (7.2%) exceeded this value (Figure 11.1 and Figure 11.2).

Fifty-six (56) (3.6%) of the failed blanks were not reassayed even though they were added to sample batches from mineralized zones (as interpreted by InnovExplo for the current MRE). InnovExplo recommends re-assaying the certificates containing those failed blanks. Overall, however, the very low incidence of failed blanks suggests a negligible effect on the MRE, and the authors are of the opinion that the issuer's use of blanks to monitor contamination during the 2015 to 2017 drilling programs is valid and the data reliable.

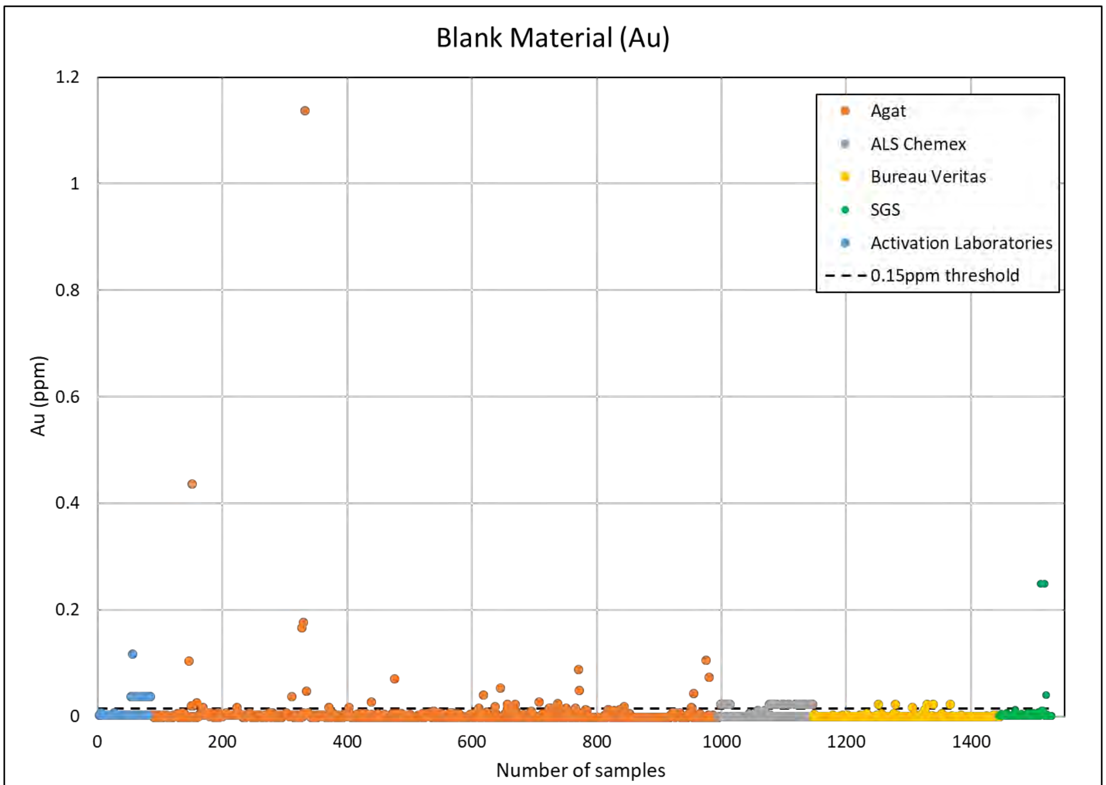

Figure 11.1 – Results for blanks used by Alexandria during the 2015 to 2017 drilling programs on the Orenada Zones 2 and 4 Project

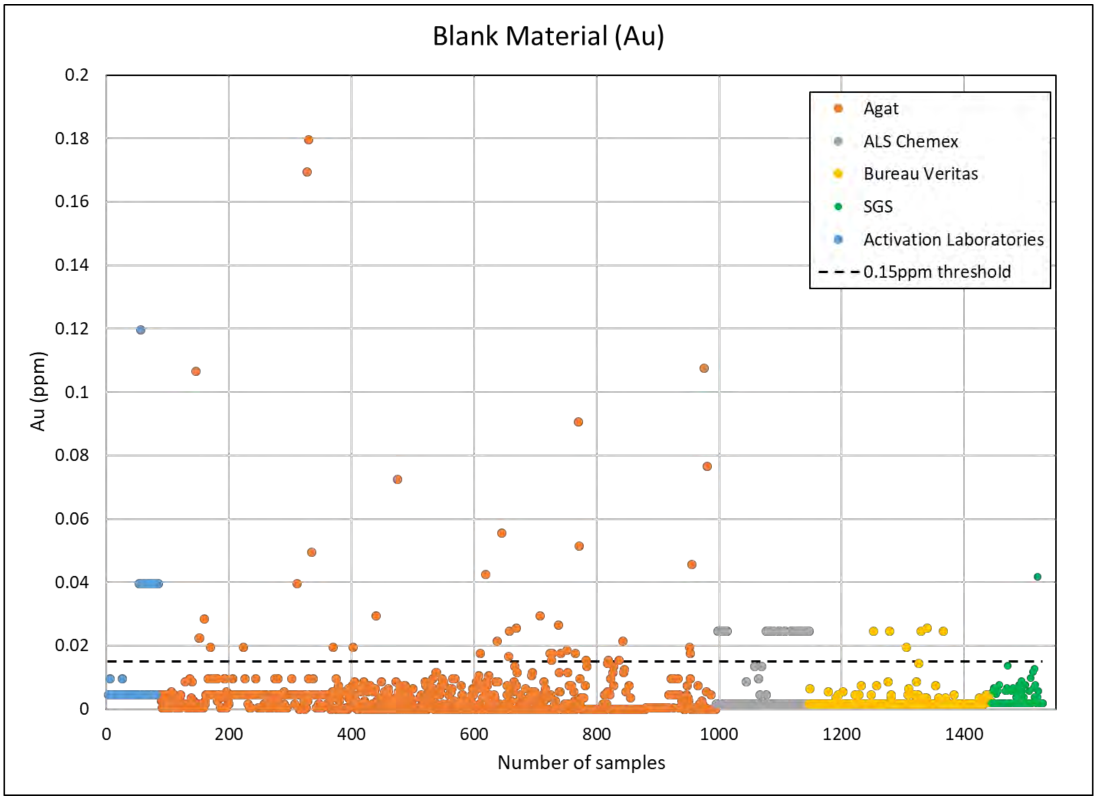

Figure 11.2 – Close-up view of Figure 11.1 showing the results for blanks used by Alexandria during the 2015 to 2017 drilling programs on the Orenada Zones 2 and 4 Project. Only samples grading less than 0.2 ppm

11.5.2 Certified reference materials (standards)

Standards are used to monitor accuracy, specifically by detecting problems with the assays for specific sample batches or possible long-term biases in the overall dataset. One (1) certified reference material (CRM) sample was run every 20 samples.

Fifteen (15) standards were used for the drilling programs from 2015 to 2017. Gold grades range from 0.309 to 12.11 g/t Au (Table 11.2).

A total of 1,584 CRM samples were sent to the laboratories from 2015 to 2017 (Table 11.2). According to the issuer's QA/QC protocol, if any analyzed standard yields a gold value above or below three standard deviations (3SD) of the certified grade for that standard, several samples before and after the anomalous CRM should be re-assayed. However, if the anomalous CRM is outside a mineralized zone or if no significant gold values are present in the certificate, no action is taken.

At the close-out dates of the 2018 MRE database, 118 of the 1,584 CRM samples were still pending and 4 had insufficient material to be re-assayed. The results of the 1,462 analyzed CRM samples are summarized in Table 11.2.

One hundred and thirty (130) samples (91.1% of the results) passed the quality control criteria. Twelve (12) of the failed standards can probably be attributed to standard mismatch (human errors) since the grades match the recommended grades of other CRMs or blanks. Forty-three (43) (2.9%) of the failed standards were not re-assayed even though they were added to batches of samples from mineralized zones (as interpreted by InnovExplo for the current MRE). InnovExplo recommends re-assaying the certificates containing those failed standards. Overall, however, the very low incidence of failed blanks suggests a negligible effect on the resources, and the authors are of the opinion that the issuer's use of standards during the 2015 to 2017 drilling programs is valid and the data reliable.

Table 11.2 – Results for standards used by Alexandria for the 2015 to 2017 drilling programs on the Orenada Project

Standard (CRM)	Standard supplier	Laboratory	Certified gold value (g/t)	Quantity inserted	Alexandria Mean (Au g/t)	SD	Lower limit (-3SD)	Upper limit (+3SD)	Number failed	(%) passing quality control
10c	OREAS	AGAT + ALS Global + Techni-Lab	6.600	14	6.489	0.160	6.120	7.080	1	92.9
200	OREAS	AGAT + ALS Global + Bureau Veritas + Techni-Lab	0.340	115	0.364	0.012	0.304	0.376	11	90.4
202	OREAS	AGAT + ALS Global + Bureau Veritas + Techni-Lab + SGS	0.752	392	0.747	0.026	0.674	0.830	27	93.1
204	OREAS	AGAT + ALS Global	1.043	18	1.043	0.039	0.926	1.160	0	100.0
208	OREAS	AGAT + ALS Global + Techni-Lab	9.248	39	9.094	0.438	7.934	10.562	5	87.2
209	OREAS	AGAT + ALS Global + Techni-Lab	1.580	88	1.583	0.044	1.448	1.712	2	97.7
210	OREAS	AGAT + Bureau Veritas + SGS	5.490	106	5.392	0.152	5.034	5.946	18	83.0
215	OREAS	AGAT + Bureau Veritas + SGS	3.540	83	3.296	0.097	3.249	3.831	10	88.0
216	OREAS	AGAT + ALS Global + Bureau Veritas + Techni-Lab + SGS	6.660	126	6.615	0.155	6.195	7.125	10	92.1
218	OREAS	AGAT + Bureau Veritas + SGS	0.531	1	0.493	0.017	0.480	0.582	0	100.0
222	OREAS	AGAT + Bureau Veritas + SGS	1.220	130	1.193	0.033	1.121	1.319	6	95.4
228	OREAS	AGAT	8.730	59	8.481	0.279	7.893	9.567	8	86.4
229	OREAS	AGAT	12.110	13	11.172	0.206	11.492	12.728	2	84.6
250	OREAS	AGAT + ALS Global + Bureau Veritas + Techni-Lab + SGS	0.309	277	0.321	0.013	0.270	0.348	30	89.2
502B	OREAS	AGAT + Bureau Veritas	0.491	1	0.517	0.015	0.446	0.536	0	100.0
TOTAL				**1462**					**130**	**91.1**

11.5.3 Duplicates

Duplicates are used to check the representativeness of the results for a given population and to monitor precision during the sample preparation and analytical process. A total of 1,389 pulp duplicates were sent to the laboratories from 2015 to 2017. One pulp duplicate was run every 20 samples. No field or coarse duplicates were used during this period.

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

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

Figure 11.3 and Figure 11.4 are plots of 347 pulp duplicates grading ≥ 0.1 g/t Au showing a linear regression slope of 0.859 and a correlation coefficient of 98.81%. The results indicate excellent reproducibility of gold values.

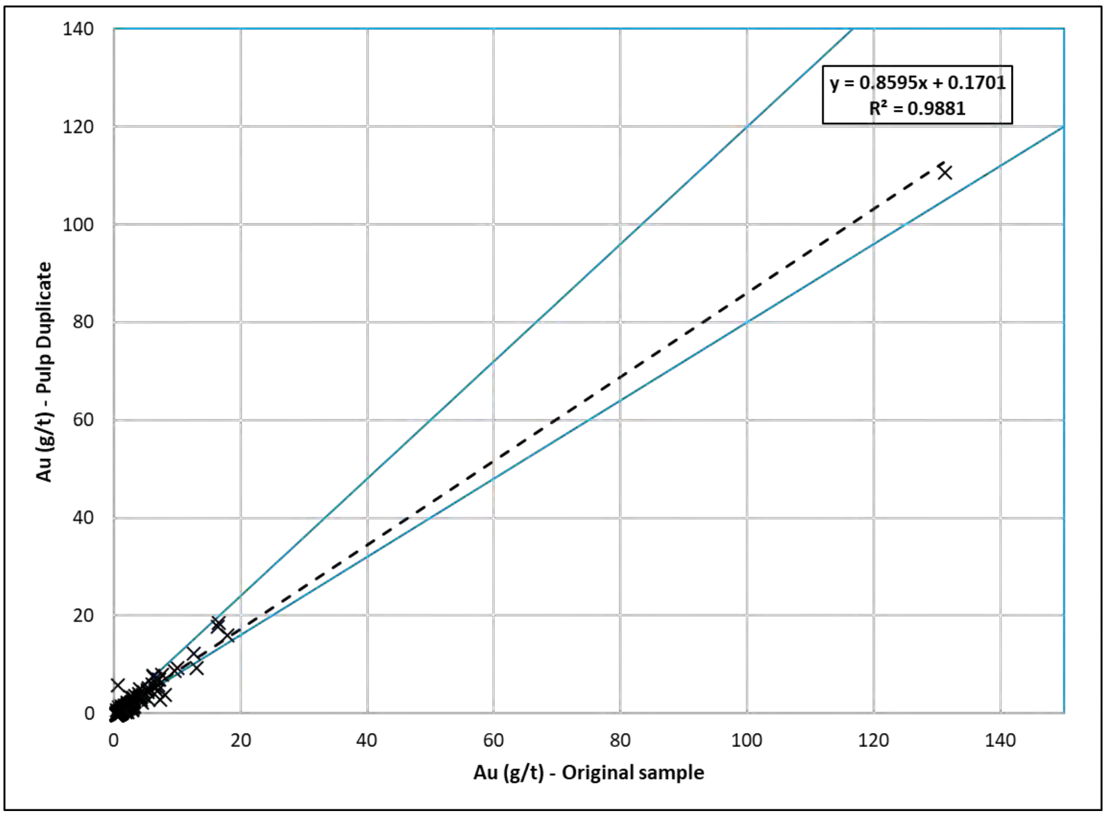

Figure 11.3 – Linear graph of pulp duplicates grading ≥ 0.1 g/t Au (n = 347) for drilling programs between 2015 and 2017

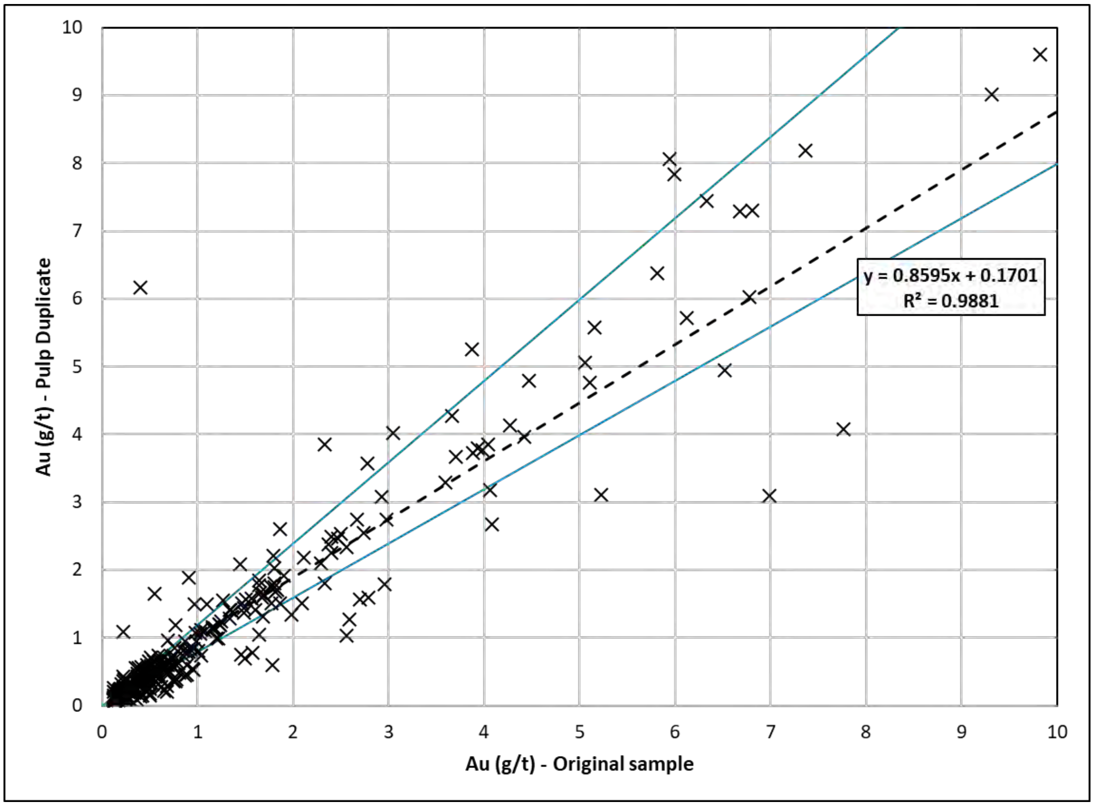

Figure 11.4 – Close-up view of Figure 11.3 showing pulp duplicates grading ≥ 0.1 g/t Au (n = 347) for drilling programs between 2015 and 2017. Only samples grading less than 10 g/t Au are shown

Precision of duplicates

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

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

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

Figure 11.5 illustrates precision (%) versus cumulative frequency (%) and shows that approximately 63% of pulp duplicates have a precision better than 20%.

The results are in agreement with gold tendencies in the industry.

Figure 11.6 indicates that samples with higher grades tend to show greater precision than samples containing less than 1.0 g/t Au because only slight variations of several tens of ppb for grades closer to the gold detection limit cause very poor precision.

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

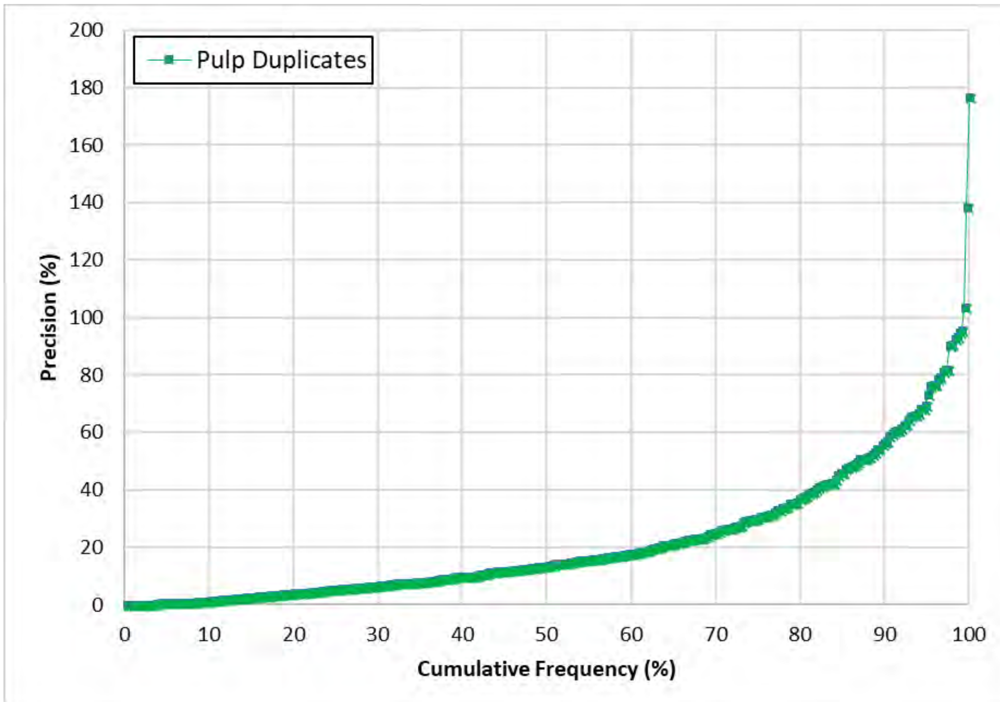

Figure 11.5 – Precision versus cumulative frequency for pulp duplicates grading ≥ 0.1 g/t Au (n = 347)

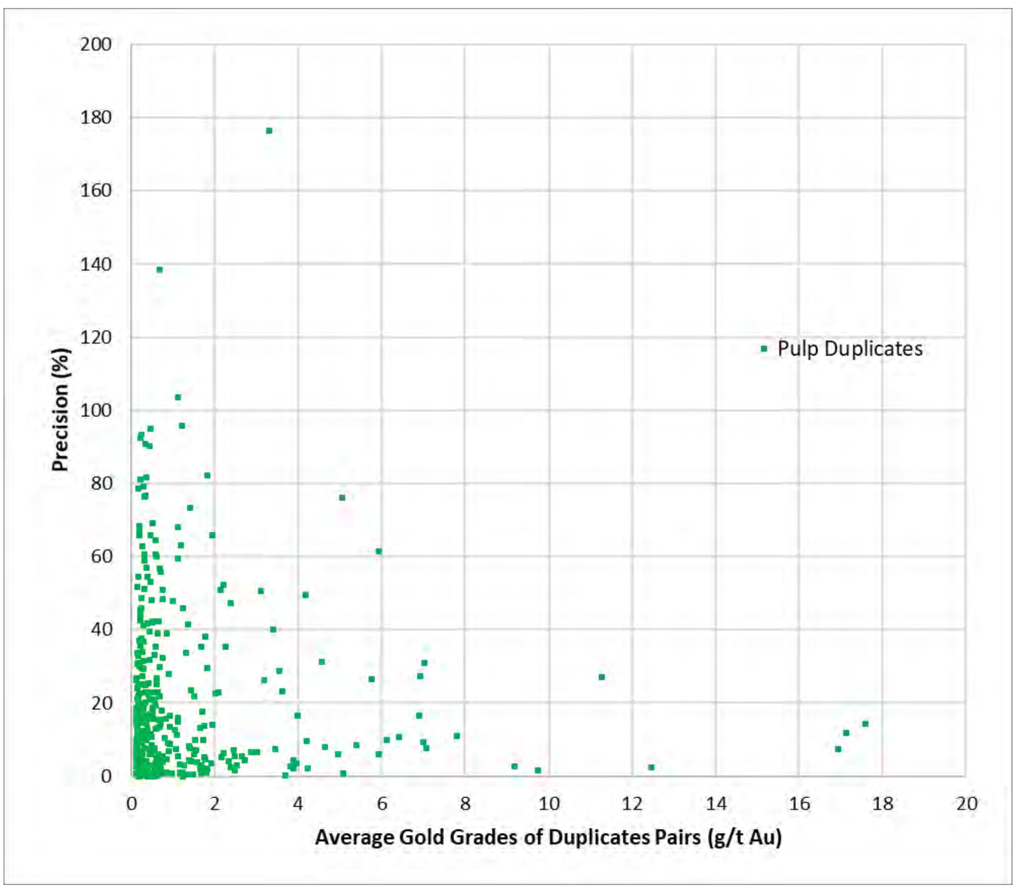

Figure 11.6 – Precision versus average gold grade for pulp duplicates grading ≥ 0.1 g/t Au (n = 347)

11.5.4 Conclusions

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

A review is recommended of any batches of samples with significant gold values in which a standard or blank failed to return an acceptable value. Where the reason for such failure cannot be explained or if the explanation warrants it, the entire batch should be re-assayed.

An insertion protocol for field and coarse reject duplicates should be considered for a project at this stage of exploration. The nugget effect would be easier to qualify with this kind of protocol.

In InnovExplo's opinion, the procedures followed at the Orenada Zones 2 and 4 Project conform to industry practices and the quality of the assay data is adequate and acceptable to support a mineral resource estimate.

12. DATA VERIFICATION

The diamond drill hole database used to support the current mineral resource estimate (the “2018 MRE”) was provided by the issuer. The drilling program on the Orenada Zones 2 and 4 Project (the “Project”) was still ongoing at the time of the database close-out dates of December 15, 2017 (Zone 4) and January 16, 2018 (Zone 2). The last drill hole included in the database was OAX-17-240.

InnovExplo’s data verification included several visits to the Project. Authors Claude Savard and Alain Carrier visited the core logging and storage facilities in Val-d’Or on multiple occasions in 2017 and 2018. The site visits included a review and independent resampling of selected core intervals as well as a review of assays, QA/QC protocols, downhole survey methodologies, and the descriptions of lithologies, alteration, mineralization, veins and structures.

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

12.1 Historical Work

The historical information used in this report was taken mainly from reports produced before the implementation of NI 43-101. In some cases, little information is available about sample preparation, analytical or security procedures. InnovExplo assumes that exploration activities conducted by previous companies were in accordance with prevailing industry standards at the time. Basic cross-check routines between original logs and the GEMS database were performed on 5% of the database.

It should be noted that even though drilling since the implementation of NI 43-101 (“recent” drilling) has influenced the final resource classification for the Project, it is generally insufficient in terms of coverage. As an example, the lack of “recent” drilling results in Zone 2 (even in densely drilled areas) meant that resources had to be classified in the inferred category rather than indicated.

12.2 Drill Hole Database

12.2.1 Drill hole locations

Most of the holes drilled on the Project between 2015 and 2017 have been professionally surveyed by Corriveau J.L. & Assoc. Inc. (Val-d’Or) using a high-precision Leica GPS (precision of ±0.05 m). The coordinate system for the GEMS project is NAD83 MTM Zone 9.

Approximately 5% of the drill hole locations recorded in the database were compared to the data on the original certificates provided by the surveyor company. Some collar coordinates were originally imported in the database using coordinates measured at the top of the casing. These coordinates were corrected in the resource database and replaced by the coordinates measured at ground level. Detailed drilling procedures should be written out to avoid confusion at the time of the collar coordinate importation.

The author concluded that the collar locations are adequate and reliable.

12.2.2 Down-hole survey

Down-hole surveying (single-shot and/or multi-shot) was performed routinely by Alexandria on most of the drill holes. The survey data were verified for approximately 5% of the drill hole database. Invalid deviation tests (e.g., magnetic highs) were removed when drafting the 3D drill hole traces.

A few issues were identified and corrected by Alexandria. The down-hole survey data are considered valid and reliable.

12.2.3 Assays

Gold assays and density measurements were verified for 5% of the database. InnovExplo was granted access to the original assay certificates for most of these drill holes. The assays recorded in the database were compared to the original certificates from the laboratories (ALS Global, Bureau Veritas, AGAT, SGS, Actlabs (Techni-Lab)). Assay results are automatically imported by Alexandria into the Geotic Log software and database, which prevents typing errors. Values below the detection limits are correctly entered into the database as half the detection limit.

In the assay table, the final value of gold ("Au_final") corresponds to the mean of the value obtained by AAS and GRAV finish, or the gold value obtained by the metallic screen procedure if that method was used (i.e., the latter takes precedence over other methods).

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

12.3 Logging, Sampling and Assaying Procedures

The issuer was responsible for establishing logging, sampling and assaying procedures as described in items 10 and 11.

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

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

Figure 12.1 – Photograph of the inside of the core logging facility

12.4 Independent Resampling

In 2016-2017, Alexandria undertook a resampling/sampling program of historical holes under the supervision of Claude Savard (InnovExplo) as independent geologist. It included re-assaying historical samples and sampling intervals that had not been sampled before (as evidenced by the fact that the core was still whole), in addition to thorough QA/QC.

In many cases, historical samples were combined to provide enough material for the laboratories to assay. The process was continuously supervised by InnovExplo and documented with photographs at every step.

The resampling program consisted of 865 samples (including 738 core samples from 41 DDH, 43 blanks and 84 standards) and the sampling program consisted of 345 samples (including 297 core samples from 31 DDH, 17 blanks, 14 duplicates and 17 standards). The samples from both programs were sent to AGAT and ALS laboratories for the metallic sieve procedure. Figure 12.2 shows the resulting assays compared with the historical data. The results indicate good reproducibility of the historical samples. InnovExplo believes the results from the resampling program are reliable and valid for a gold project.

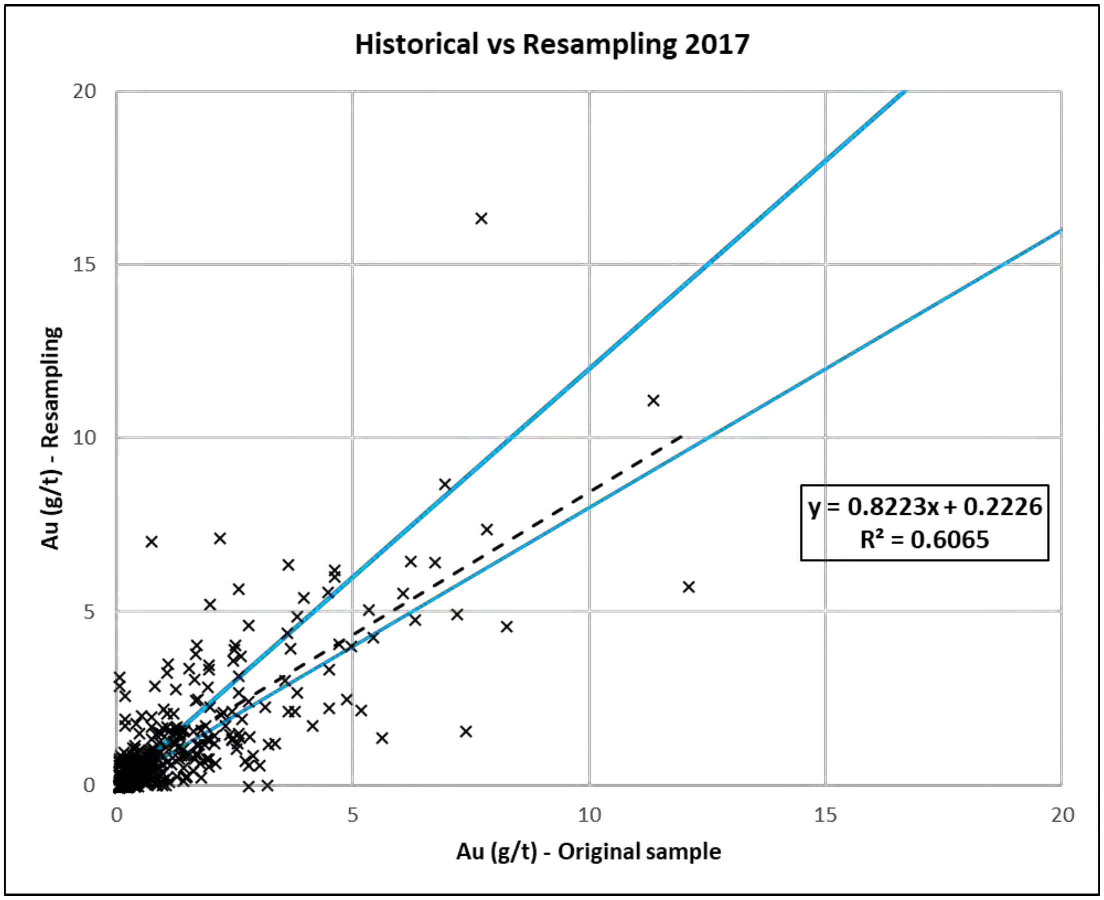

Figure 12.2 – Linear graph comparing historical samples to samples from the resampling program undertaken by Alexandria (n= 735) in 2016-2017

12.5 Conclusion

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

13. MINERAL PROCESSING AND METALLURGICAL TESTING

Two metallurgical testwork programs have been completed on the Orenada Zones 2 and 4 Project (the "Project") since the testwork reported in the previous NI 43-101 technical report of Beauregard et al. (2009) (see Item 6). The results of both studies are reported below in italics, unmodified from their original sources. At this stage of the Project, they are provided for illustrative purposes only. InnovExplo did not review these studies and cannot assess their relevance or reliability.

13.1 Testwork at CANMET Laboratory (2009)

In August 2009, Alexandria mandated CANMET Laboratory in Ottawa (Ontario) to determine the refractory nature of the gold in Orenada zones 2 and 4 of the Project. Two composite samples of Zones 2 and 4 were subjected to mineralogical characterization and bench-scale testing involving flotation, pressure oxidation and cyanidation. The excerpt below was taken directly from Paktunc et al., 2009:

"The ore samples weighing about 30kg each were ground first and subjected to flotation tests to concentrate arsenopyrite. The concentrate samples were washed with dilute sulfuric acid to decompose and eliminate the carbonate minerals. Following this, the concentrate samples were oxidized in an autoclave at 200°C and 100 psi partial oxygen pressure to decompose arsenopyrite. The autoclave residues were subjected to 48-hour cyanidation tests performed at pH 11. The solid and pregnant solution samples were analyzed for Au. In addition, the arsenopyrite concentrates were subjected to a mineralogical characterization study involving ion microprobe (SIMS) and electron microprobe (EPMA) microanalyses to determine the gold concentrations in arsenopyrite and independently assess the refractory nature of the gold.

Mineralogical characterization studies and bench-scale testwork confirmed that the ore from Zone 2 is refractory in nature where gold is "locked" in arsenopyrite. Gold concentrations in arsenopyrite range from 3.9 to 1389.8 ppm with an average value of 78.3 ± 94.4 ppm. Cyanidation of the arsenopyrite concentrate after pressure oxidation resulted in 78% gold recovery. This is an improvement over the direct cyanidation recovery of ≈ 60%; however, it is still considered too low. There are many parameters that can influence the recovery from refractory ores such as those of Zone 2. Gold leaching kinetics, cyanite consumption and preliminary mineralogical observations are indicative of gold passivation through the formation of secondary compounds during pressure oxidation and/or preg robbing due to the presence of organic carbonaceous material in the ore. Further work is needed to determine such limiting factors in the recovery of gold from Zone 2. Fine adjustment of the pressure oxidation test conditions such as temperature, partial oxygen pressure, pulp density and retention time is often required to optimize the recovery of gold from refractory ores.

Bench-scale tests on Zone 4 ore indicated a gold recovery of about 98%. Mineralogical characterization study of the Zone 4 concentrate indicated the presence of refractory gold in Zone 4 as well. Arsenopyrite of Zone 4 contains 6.24 ± 1.74ppm Au. This could be significant since it cannot be recovered by direct cyanidation; however, further work is needed to determine the fraction of Au tied to arsenopyrite in Zone 4."

13.2 Testwork at SGS Lakefield (2010)

Alexandria submitted samples from the Project to SGS Group (Ontario) in 2010 for a scoping level metallurgical test program. Two composite samples from zones 2 and 4 were tested. Bond ball mill grindability, gravity separation, flotation, cyanidation, cyanide destruction, and environmental testwork were conducted on both composites. This report was published after the last technical report in 2009 (Beauregard et al., 2009), and is thus the only publication relevant to this item. Head assay results of the zone 2 and 4 composites are summarized in the excerpt below from the report by Yu and Lascelles (2010):

"The Bond ball mill work index for the Zone 2 and Zone 4 composites were 13.6 kWh/t and 12.4 kWh/t, respectively. The ore is considered medium to medium-soft when compared to all ores tested in the SGS database.

Gravity testing on the Zone 2 and Zone 4 composites using a combination of Knelson concentrator and Mozley mineral separator produced Mozley concentrates graded 351 g/t Au for Zone 2 and 1444 g/t for Zone 4. Despite the high concentrates grade, poor Au recovery of 4.3% and 14.3% for Zone 2 and Zone 4, respectively, indicates that the gold recovered was not free milling and likely in the form of inclusions embedded within other mineral species.

Batch rougher kinetics testing on the Zone 2 and Zone 4 composites using standard flotation practices for Au-sulphide system resulted Au recoveries of 92% and 96%, respectively. No significant differences in Au recovery were observed with flotation feed size varying from 80% passing 55 microns to 75 microns.

Cyanide leach testing was performed on whole ore and rougher concentrates of Zone 2 and Zone 4 composites. For Zone 2, Au extraction was similar in both whole ore and rougher concentrate leaches at 76%-80%. For Zone 4, Au extraction was 86%-91% for whole ore leaches and up to 95% in rougher concentrate leaches. The significantly higher Au extraction (up to 20%) observed for Zone 4 is likely due to differences in mineralogy. It has been indicated by Alexandria that the Zone 2 composites contained high amounts of arsenopyrite. Pre-aeration and cyanide dosage (1-2 g/L NaCN) had minimal impact on Au extraction.

Cyanide destruction testwork on samples from carbon-in-pulp (CIP) leached flotation concentrates were performed using the SO2/Air process. Cyanide destruction of the solution was successful as less than 1 mg/L CNWAD was attained for both Zone 2 and Zone 4 at pH of 8.8 for 2-2.5 hours retention time. Despite the low CNWAD, it was found that significant amounts of CNT, up to 48.9 mg/L and 44.5 mg/L for Zone 2 and Zone 4, respectively, still existed. The presence of Fe as ferrocyanide is likely the cause. To further reduce CNT, it is recommended that further testing should focus on a second treatment stage using either copper sulphate or zinc sulphate to precipitate ferrocyanide.

Environmental testing of the Zone 2 and Zone 4 tailings samples indicated that although these samples are potentially acid neutralising, the release of arsenic in solution may be of environmental concern."

14. MINERAL RESOURCE ESTIMATE

The 2018 MRE was prepared under the direct supervision of Alain Carrier, M.Sc., P.Geo. (InnovExplo), assisted by Claude Savard, B.Sc., P.Geo. (InnovExplo). Both Carrier and Savard are “qualified persons” as defined by NI 43-101, and both are considered “independent” of the issuer for the purposes of section 1.5 of NI 43-101. InnovExplo is also considered to be “independent” of the issuer for the purposes of section 1.5 of NI 43-101.

The main objective of the mandate assigned by the issuer was to prepare a 43-101 compliant mineral resource estimate for the Orenada Zones 2 and 4 Project (the “Project”) located on the Orenada Group Properties (the “Properties”).

The mineral resources herein are not mineral reserves as they do not have demonstrated economic viability. The result of this study is a single resource estimate for two gold-bearing zones (Zone 2 and Zone 4). The 2018 MRE includes Indicated and Inferred resources and is based on the assumption that the deposit will be potentially developed and mined using an in-pit method and a complementary underground method.

The effective date of the estimate is May 25, 2018.

14.1 Grade Model Methodology

The resource area measures 2,095 m along strike, 605 m wide and 555 m deep. The estimate is based on a compilation of historical and recent diamond drill holes, and the wireframed mineralized zones constructed by InnovExplo.

The 2018 MRE was prepared using Leapfrog GEO v.4.2.3 (“Leapfrog”) and GEOVIA GEMS v.6.8.1 (“GEMS”) software. Leapfrog was used for the 3D modelling of the geological units. The estimate encompasses two different zones (Zone 2 and Zone 4) subdivided into mineralized subdomains (i.e., V1 subvertical mineralized zones representing 5 solids defined in Zone 4 and 22 solids in Zone 2), and V2 mineralized subhorizontal subdomains (only defined in Zone 4 for a total of 71 solids) each defined by individual wireframes with a minimum true thickness of 2 m included within a broader domain (or dilution envelope). Orenada Zones 2 and 4 are located within the CLLFZ and mostly hosted in metasedimentary rocks and tuff located immediately north of the mafic and ultramafic volcanic rocks of the Piché Group. The V1 subdomains and the broader subvertical domain represent highly deformed veinlets, disseminated sulphide and alteration envelopes, whereas the V2 subdomains represent subhorizontal tensional quartz veining.

GEMS was used for the modelling of the 98 individual 3D wireframes and for the grade estimation and block modelling. Statistical studies used Snowden Supervisor v.8.8.1 and Microsoft Excel software. The estimation used 3D block modelling and the ordinary kriging interpolation (“OK”) method.

The main steps in the methodology were as follows:

- Database compilation and validation for the DDH used in the mineral resource estimate;
- Televiewer structural analysis and 3D modelling of potential vein domains;
- Modelling of the 3D geological units and mineralized zones based on metal content, lithological and alteration information;
- Capping study on raw assay data;
- Generation of drill hole intercepts for each mineralized zone;
- Grade compositing;
- Spatial statistics;
- Grade interpolations; and
- Validation of grade interpolations.

14.2 Drill Hole Database

The GEMS database provided by Alexandria contains 440 surface DDH and 139 underground DDH, for a total of 58,955 samples. The database corresponds to all holes completed on the Project at the database close-out dates of January 16, 2018 (Zone 2) and December 15, 2017 (Zone 4).

A selection of 529 DDH (392 surface and 137 underground) was considered for the resource estimate (Figure 14.1). Of these, a subset of 359 DDH from surface and 137 DDH from underground cut across the mineralized veins and dilution envelopes. Figure 14.1 shows the selection of 529 DDH used for the resource estimate (in red). As part of the current mandate, all holes were compiled and validated before starting the estimation. The data for the 529 DDH include lithological descriptions taken from drill core logs.

The 529 DDH cover the strike length of the Project at a drill spacing ranging from 15 m to 300 m, corresponding to 102,873.2 m of drilled core (including 60,881.7 m sampled) and containing a total of 53,758 sampled intervals (40,971 samples in mineralized veins and dilution envelopes).

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

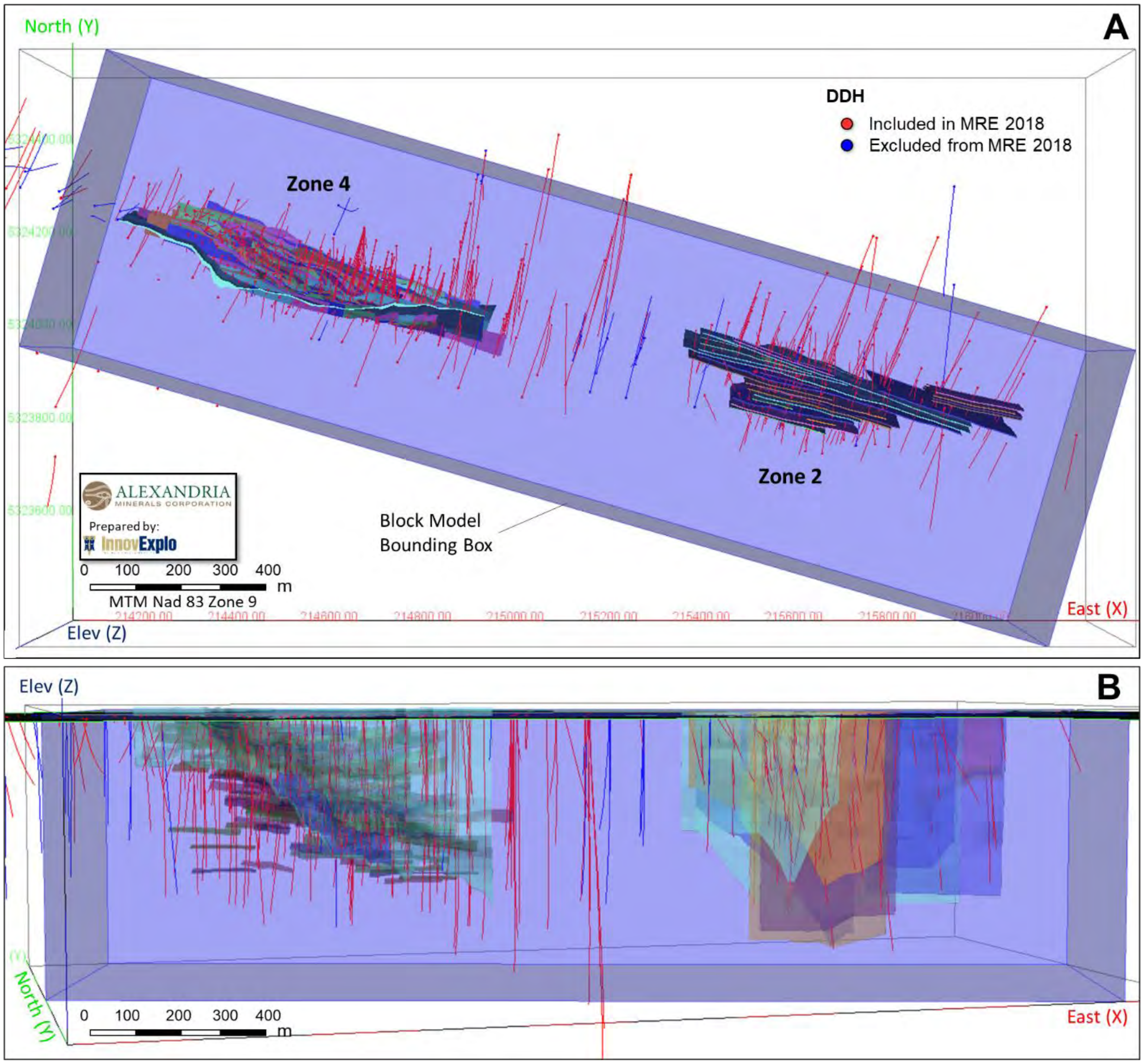

Figure 14.1 – 3D view looking down (A) and NNE (B) showing the 529 diamond drill holes used for the grade model, the bounding box for the grade block model, and the mineralized domains

14.3 Geological Model

The geological model for zones 2 and 4 was developed by InnovExplo using the geological description of the drill holes and the Televiewer data. The main lithological units of the deposit presented in the model include mafic and ultramafic volcanic units of the Piché Group in the south and metasedimentary units (tuffs and a graphitic argillite unit) of the Cadillac Group in the north representing the CLLFZ (Figure 14.2 and Figure 14.3). The geological model is bounded to the south by the metasedimentary units of the Pontiac Subprovince and to the north by a porphyritic diorite unit. The geological model constitutes the basis for the interpretation of mineralization and was included in the GEMS block models to help document the density of each block.

14.4 Interpretation of Mineralized Zones

In order to conduct accurate resource modelling of the deposit, InnovExplo based its mineralized-zone wireframe model on the drill hole database, the geological and structural model, 3D structural measurements along the drill hole (Televiewer), and the authors' knowledge of the geological and structural setting of the Project and of similar lode gold deposits in the Val-d'Or area.

Mineralized zones are subdivided into mineralized subdomains:

- V1 subvertical mineralized zones in zones 2 and 4;
- V2 mineralized subhorizontal subdomains only defined in Zone 4.

They are included within a broader domain (or dilution envelope)

Therefore, InnovExplo created 98 distinct wireframes, including 22 wireframes in Zone 2 (coded 501 to 522) and 76 wireframes in Zone 4 (coded 201 to 305).

The following paragraphs and figures (14.2 and 14.3) describe and illustrate three different groups of mineralization used to support the 2018 MRE.

Zone 4 "V2" flat tensional veins (Z4V2 (200))

Located in the western part of the deposit and limited to Zone 4, the mineralization type/group named "Z4V2" (coded 200) includes veins oriented approximately N110° and dipping 28° to the south. These veins are characterized by the presence of tensional quartz veins and scattered high-grade gold values, and follow the angle obtained from 3D structural measurements (Televiewer survey) taken mainly in the Cadillac tuff unit. They are bounded to the south by the contact with the mafic and ultramafic rocks of the Piché Group. In its northern limit, the veins often cross-cut the Cadillac sediments over a few metres. The 71 solids (veins and/or vein sets) included in the Z4V2 group were coded 201 to 284 in the block model.

Zone 4 "V1" subvertical mineralized zones (Z4V1 (300))

Located in the western part of the deposit, this mineralized type/group named "Z4V1" (coded 300) includes subvertical highly deformed veins and veinlets with strong alteration and disseminated sulphides in zones oriented approximately N110° and dipping 80° to the north. These zones are supported by scattered high-grade gold values in all Cadillac units, spilling south into basalts and north into the Cadillac metasediments. The five (5) zones included in the Z4V1 group were coded 301 to 305 in the block model.

Zone 2 "V1" subvertical mineralized zones (Z2V1 (500))

In the eastern part of the deposit, only one type of mineralization was modelled in Zone 2: the Z2V1 group (coded 500). This group includes subvertical highly deformed veins and veinlets with strong alteration and disseminated sulphides in zones oriented approximately N110° and dipping 80° to the north. These zones are supported by scattered high-grade gold values mainly found in the Cadillac tuff unit and often to the south in the basalts and north in the Cadillac sediments. The 22 veins included in the the Z2V1 group were coded 501 to 522 in the block model.

Construction lines were created on cross sections with 15-m spacing and were snapped to drill hole intercepts using a minimum true thickness of 2.0 m to produce valid solids.

The vein groups in Zone 2 and Zone 4 are included within two (2) dilution envelopes (named “Dil_Z4” and “Dil_Z2” and coded 602 and 604 in the block model), which were also created by InnovExplo. Both envelopes are oriented approximately N105° and dip steeply (80°) to the north. They are separated by the Southeast Fault (“Fault SE_A” on Figure 14.2). The dilution envelopes contain some “floating” gold intersects for which continuity has not yet been demonstrated or interpreted.

Overlaps were handled by the “precedence” system used by GEMS for coding the block model.

The topographic surface was generated using the old open pit surface and new drilling data. A bedrock surface was created to define the overburden. This surface was generated from drill hole descriptions and survey information provided by Alexandria. A waste solid was also created corresponding to the block model limits.

Figure 14.2 and Figure 14.3 present 3D and 2D views of the mineralized solids and dilution envelopes.

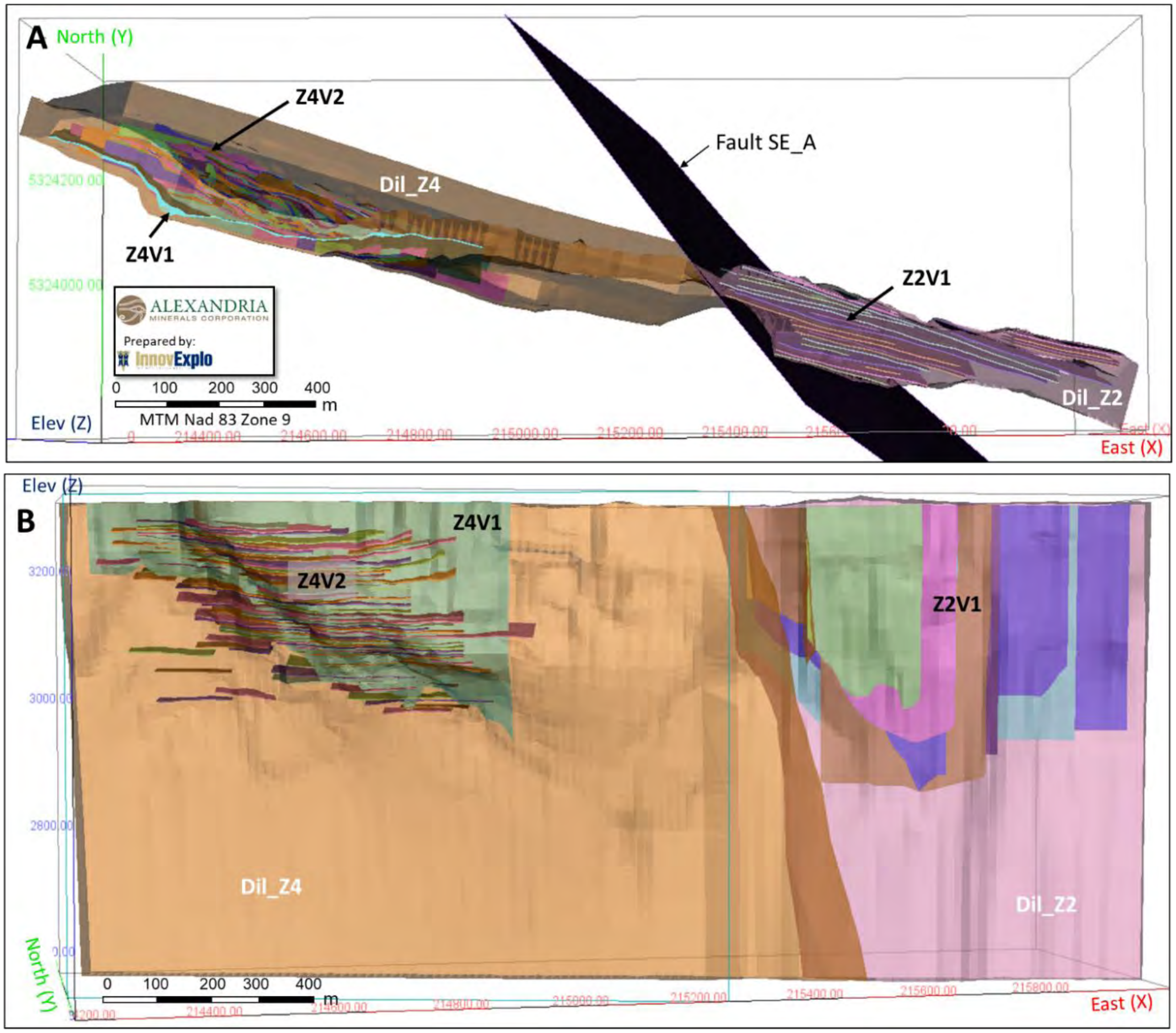

Figure 14.2 – 3D view looking down (A) and looking NNE (B) illustrating the mineralized zones and the dilution envelopes

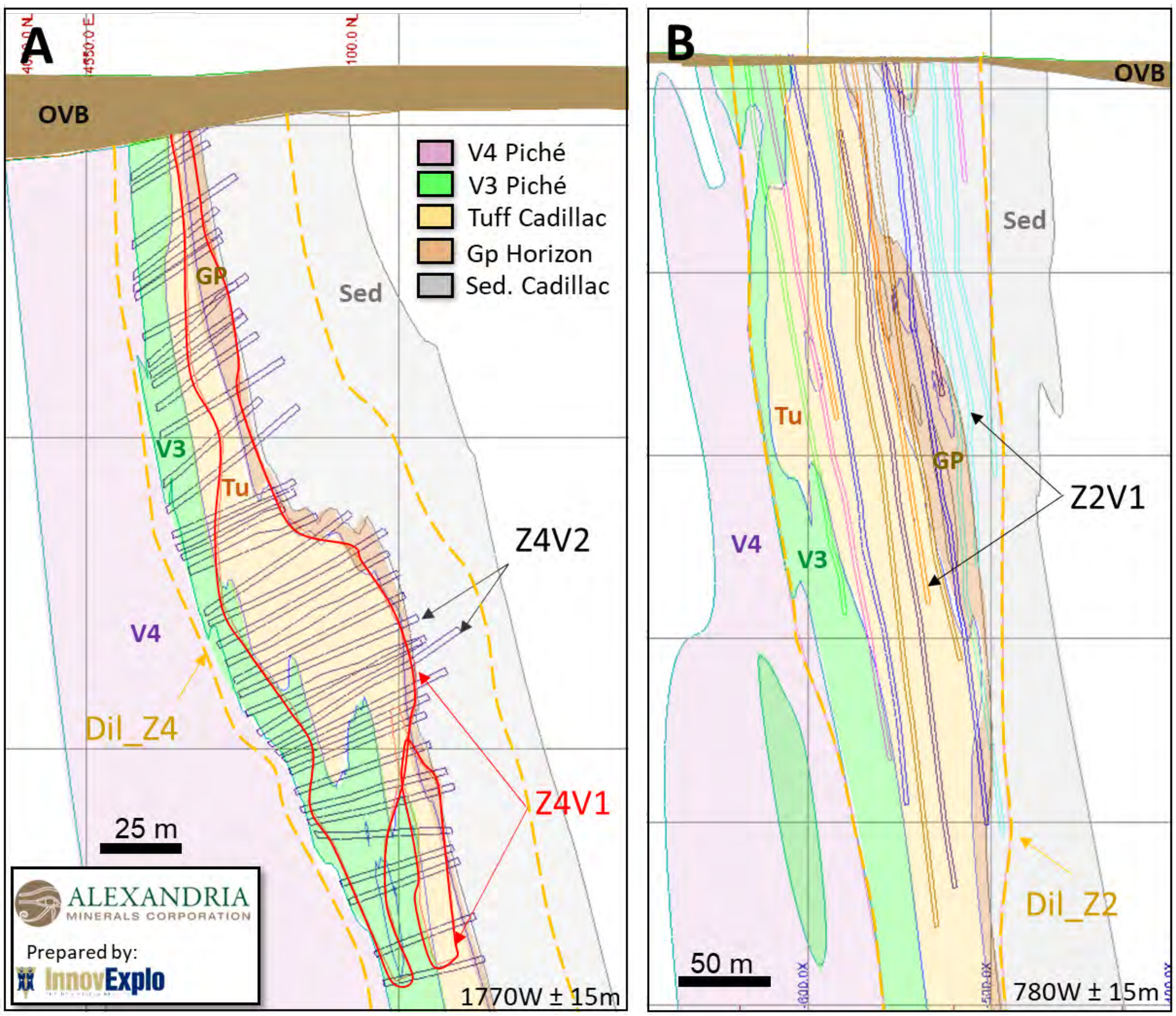

Figure 14.3 – Section view looking WNW showing the different types of mineralized zones and the group of veins inside Orenada Zone 4 (A) and Orenada Zone 2 (B)

14.5 Underground Development and Mined-out Voids

The 3D solids of the Orenada Zone 4 underground developments were provided by Alexandria and upgraded by InnovExplo. InnovExplo added drifts from two levels (levels 200 and 350) and two raises from historical plans and sections (source: Aur Resources) and adjusted the elevation of the voids in accordance with the collar coordinates of the underground drill holes. The depth of the shaft was also modified from 400 m to 276 m. The wireframes were then validated for any discrepancies or construction errors.

The developments intersect a few mineralized zones and the dilution envelope of the Zone 4 area. The mined-out volume from the developments was coded and included in the GEMS block model as voids in order to adequately deplete the current resource estimate.

Based on the available data, the voids (shaft, drifts and raises) in the GEMS project are considered accurate. Figure 14.4 shows the voids used to deplete the current resource estimate.

The existing open pit of Zone 4 was also taken into consideration in the mineral resource estimate by merging it with the topographic surface. Mining depletion for the historical extraction voids (underground and open-pit) was therefore applied in the block model.

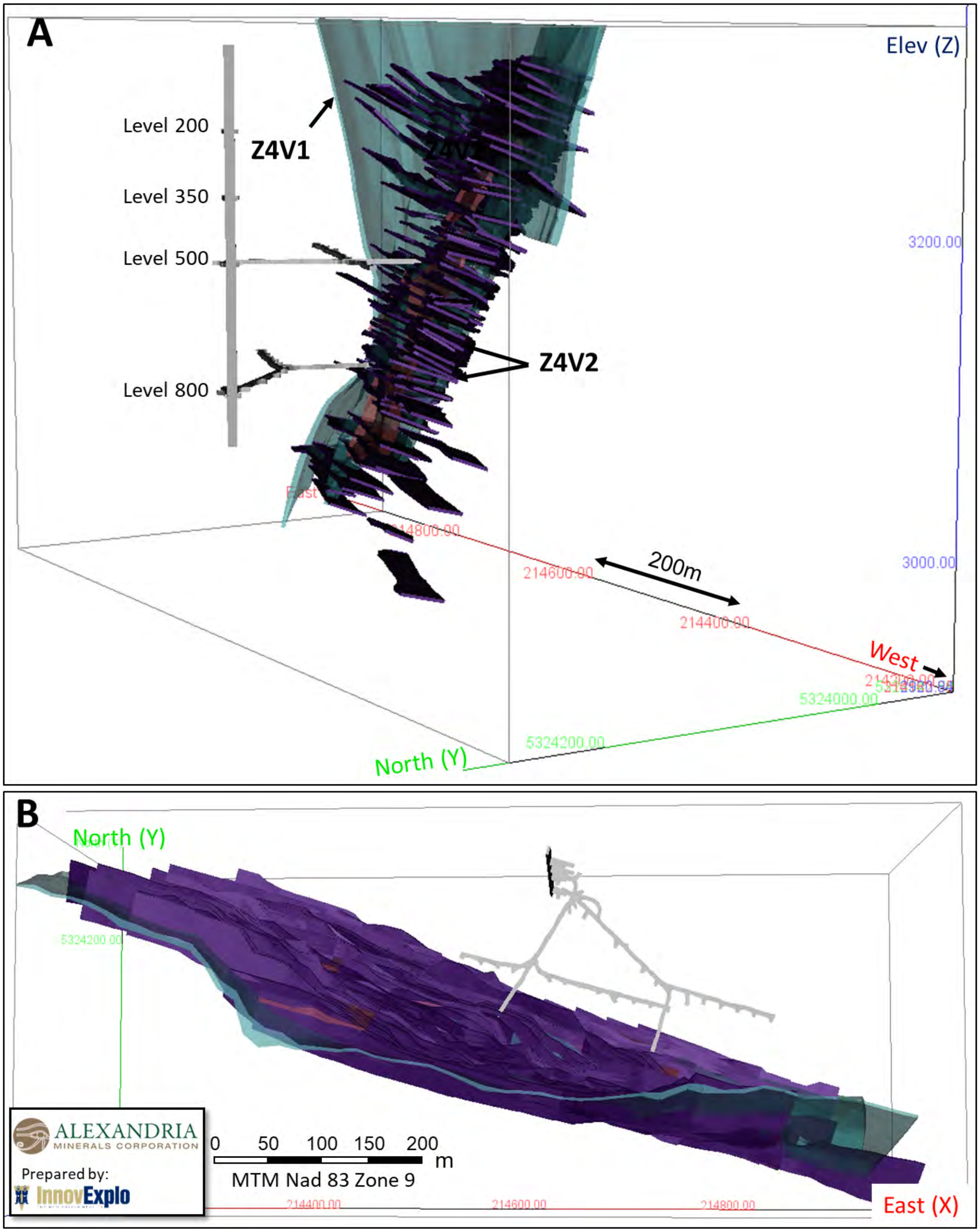

Figure 14.4 – 3D view looking ESE (A) and down (B) showing the underground developments used to deplete the current mineral resource estimate

14.6 High Grade Capping

Any drill hole interval intersecting an interpreted mineralized vein were automatically assigned a code based on the name of the 3D solids, and the coded assays in the interval were used to review the distribution of sample lengths and to generate statistics for high-grade capping and composites.

Basic univariate statistics, probability plots and histograms were generated using datasets of individual raw gold assays for each group of veins and for the dilution envelopes. High-grade capping values for gold were established for each group of zones (Z4V2, Z4V1 and Z2V1).

Capping was applied on raw assays before compositing.

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

- If the quantity of metal contained in the last decile is above 40%, capping is warranted; if below 40%, the uncapped dataset may be used;
- No more than 10% of the overall contained metal must be contained within the first 1% of the highest-grade samples;
- The probability plot of grade distribution must not show abnormal breaks or scattered points outside of the main distribution curve;
- The log normal distribution of grades must not show any erratic grade bins or distanced values from the main population.

Table 14.1 presents a summary of the statistical analysis for each group. Figure 14.5 to Figure 14.8 show graphs supporting the capping threshold decisions for the four (4) datasets.

Table 14.1 – Summary statistics for the raw assays by dataset

Group	Blockcode	Number of samples	Max (g/t Au)	Uncut mean gold (g/t Au)	High Grade Capping (g/t Au)	Number of samples cut	Percentage of samples cut (%)	Cut mean gold (g/t Au)	COV	% Loss Metal Factor
Z4V2	200	5951	366.00	2.24	35	18	0.30%	2.08	1.83	4.5%
Z4V1	300	5600	199.03	0.78	20	6	0.11%	0.74	1.89	1.9%
Z2V1	500	3052	42.17	0.96	20	3	0.10%	0.94	2.03	2.6%
Dil_Env	600	26351	80.70	0.18	9	24	0.09%	0.17	3.15	4.7%

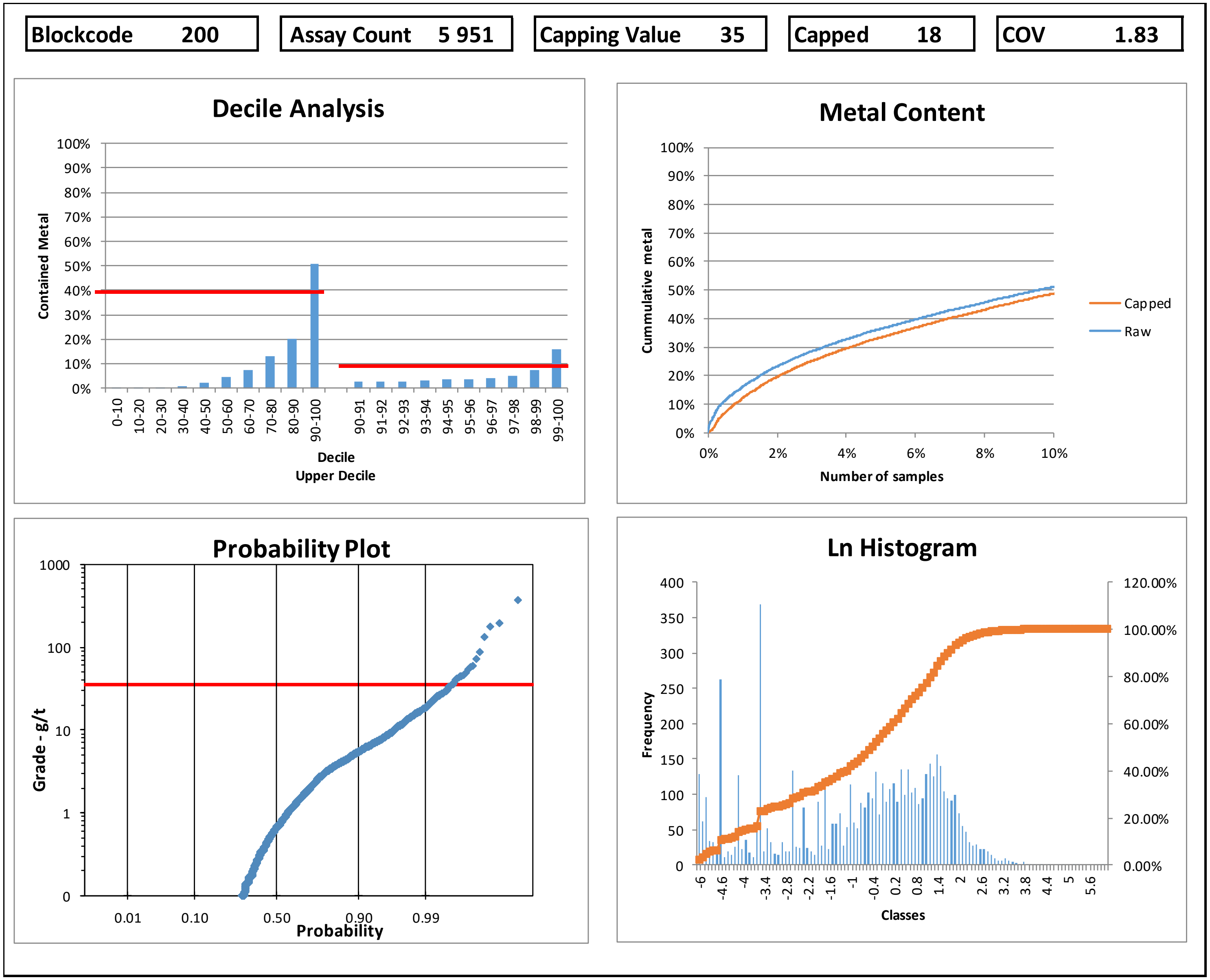

Figure 14.5 – Graphs supporting a capping grade of 35 g/t Au for the mineralized zones Z4V2 (200)

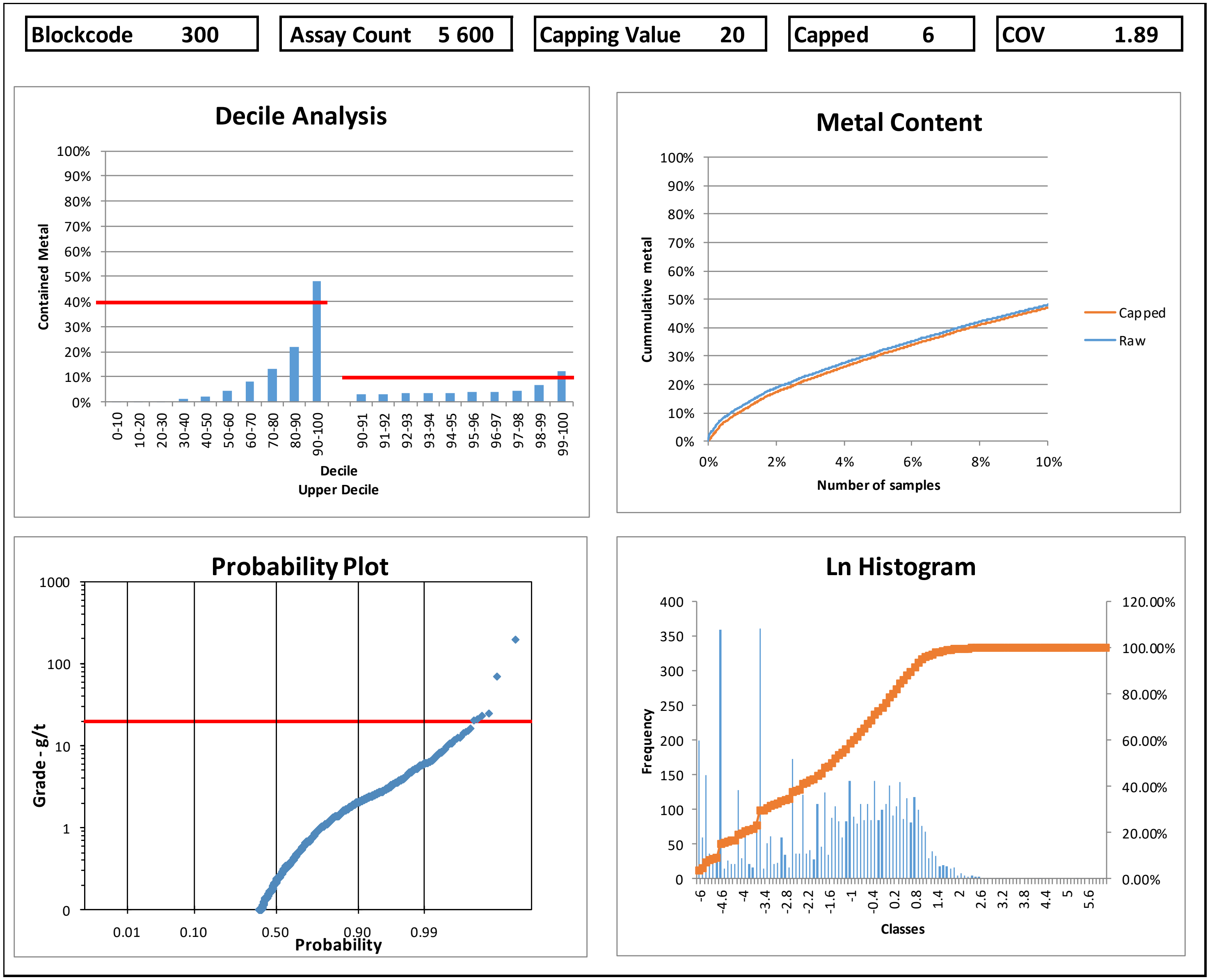

Figure 14.6 – Graphs supporting a capping grade of 20 g/t Au for the mineralized zones Z4V1 (300)

Blockcode 500	Assay Count 3 052	Capping Value 20	Capped 3	COV 2.03

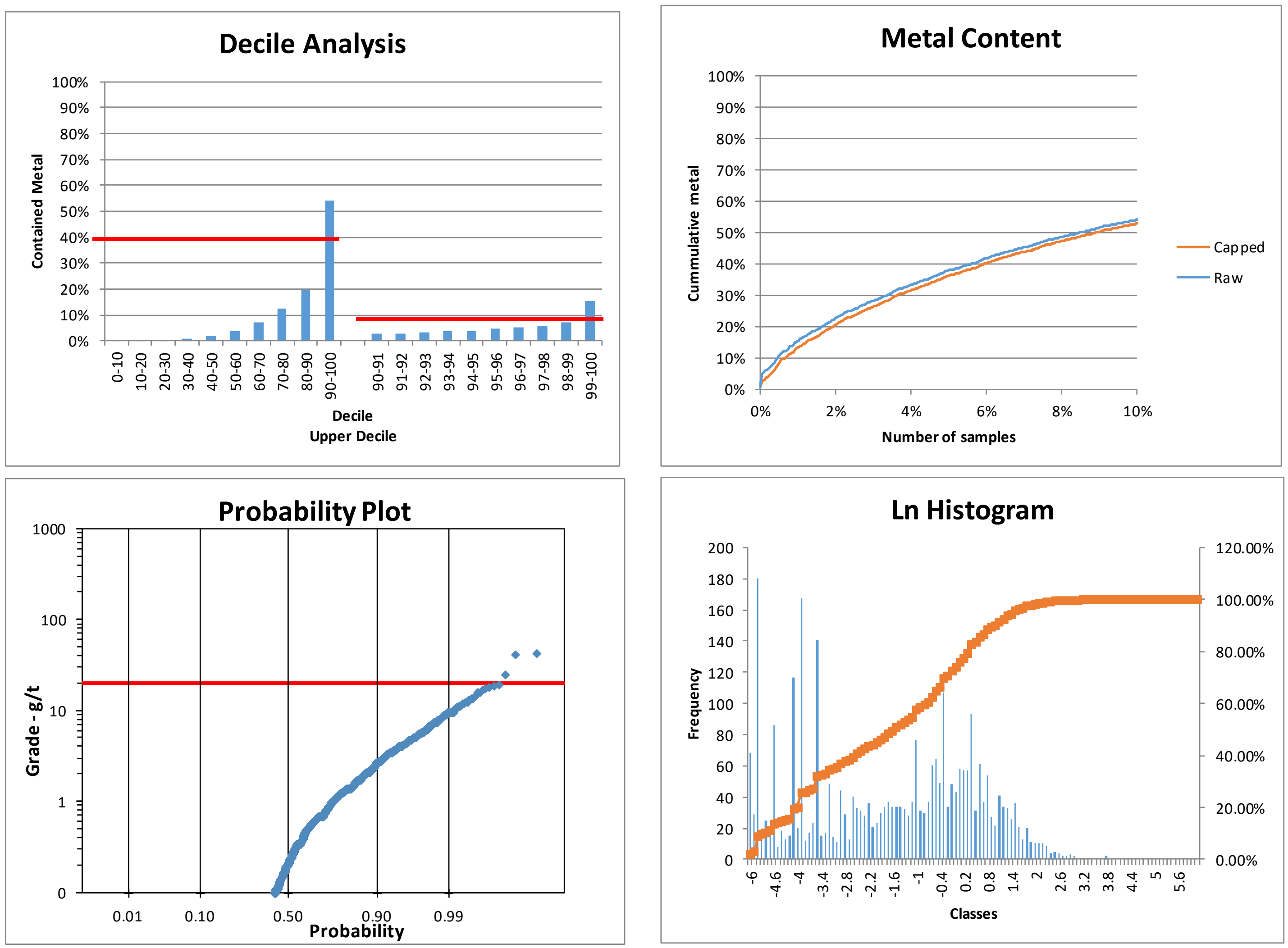

Figure 14.7 – Graphs supporting a capping grade of 20 g/t Au for the mineralized zones Z2V1 (500)

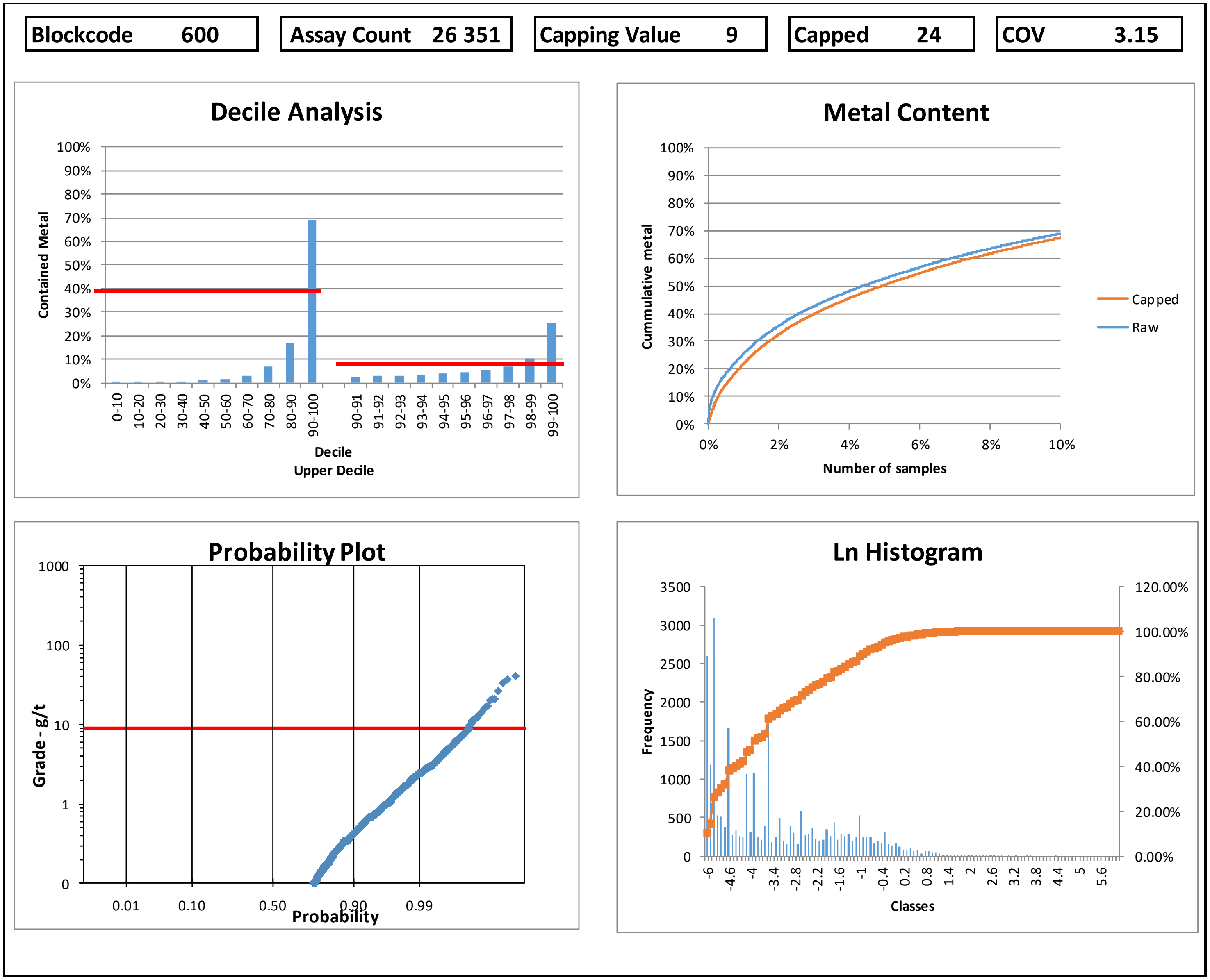

Figure 14.8 – Graphs supporting a capping grade of 9 g/t Au for the dilution envelopes

14.7 Compositing

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

Most of the samples inside the mineralized domains were collected at intervals between 1.0 m and 1.5 m (Figure 14.9). Composites of 1.5 m (down hole) with distributed tails of 0.75 to 2.25 m were generated for all mineralized veins and dilution envelopes of the Orenada deposit. This length avoids de-compositing, which occurs when a sample length exceeds composite length, and it provides a reasonable reconciliation with the raw data mean grade, while sufficiently reducing the coefficient of variation. A total of 38,629 composites were generated in the DDH database (10,896 in the mineralized veins only) using 40,971 raw assays. Any unassayed interval within a solid was assigned a value of zero during compositing. Table 14.2 summarizes the basic statistics for the gold composites.

Table 14.2 – Summary statistics for the 1.5 metre composites

Group	Blockcode	Number of composites	Max (Au_Cut g/t)	COV (Au)	Mean (Au_Cut g/t)	Standard deviation (Au)	Mean Sample Length
Z4V2	200	4261	35.00	1.62	1.78	2.89	1.55
Z4V1	300	4202	13.11	1.50	0.64	0.96	1.49
Z2V1	500	2433	19.99	1.91	0.73	1.40	1.46
Dil_Env	600	27733	9.00	3.08	0.11	0.32	1.5

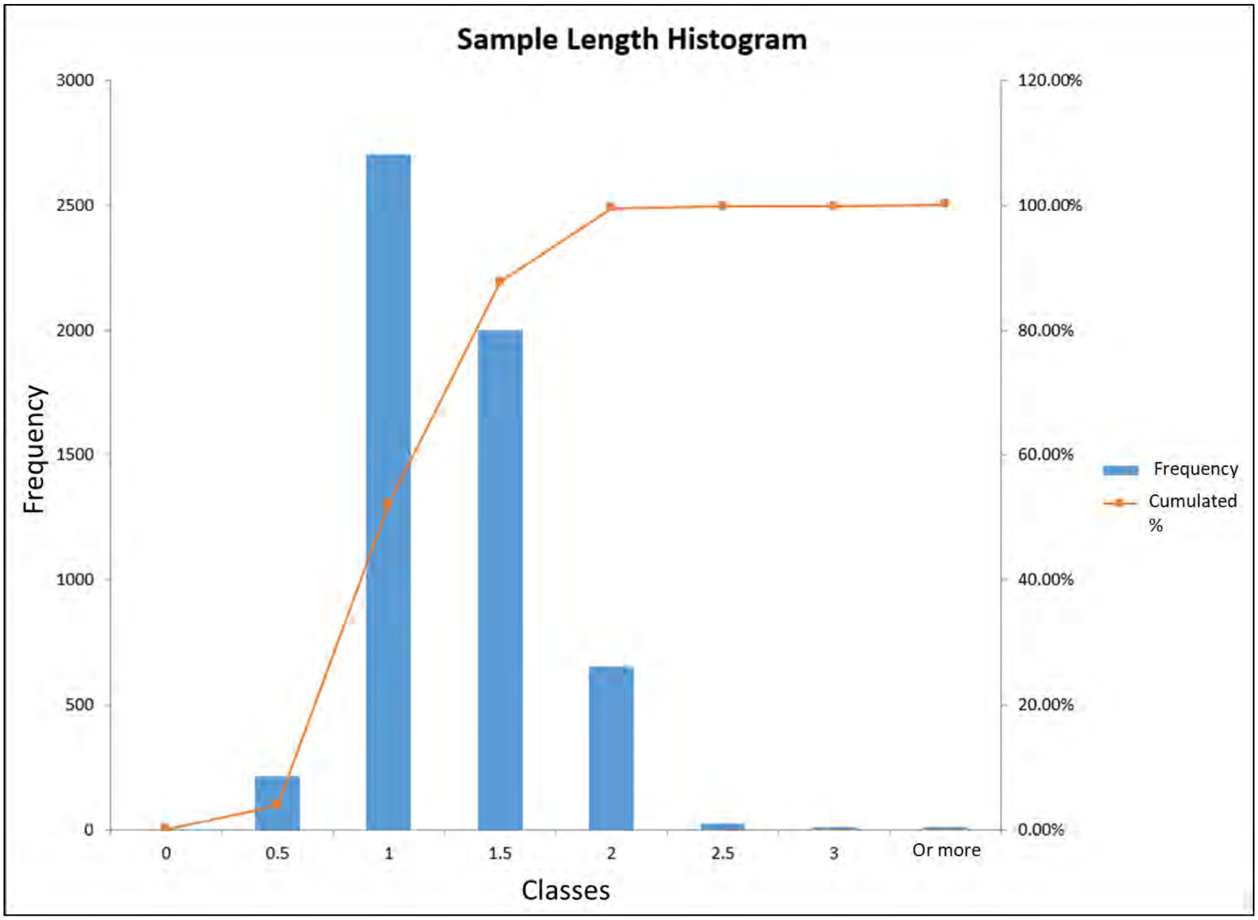

Figure 14.9 – Example of histogram of sample lengths (Z4V1)

14.8 Density

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

A total of 1,987 density measurements were provided by Alexandria and integrated into the database. Of these, 1,981 are in the mineralized zones, taken from 10 drill holes. Density measurements were obtained using the pycnometer method on pulps and were taken by AGAT and Bureau Veritas laboratories.

A fixed density value was applied to each mineralized zone based on statistical analysis of the density data.

For the dilution envelopes, two densities were applied depending on the lithological unit intersected:

- A density of 2.87 g/cm^3 applied to the part that intersects the mafic and ultramafic volcanic rocks (V3 and V4);
- A density of 2.80 g/cm^3 applied to the part intersects the tuff and sedimentary units.

The geological models of the mafic and ultramafic volcanic rocks were included in the GEMS block model (coded 900) and assigned a density of 2.87 g/cm^3. All blocks (coded 999) not falling in a mineralized zone, whether in a dilution envelope or in mafic and ultramafic volcanic rocks, were assigned a density of 2.80 g/cm^3.

A density of 2.10 g/cm^3 was assigned to the overburden and 0.00 g/cm^3 to the voids.

Summary statistics of the density data are presented in Table 14.3.

Table 14.3 – Compilation of density data for lithologies and zones used for the grade model

Dataset	Blockcode	Count	Average	Minimum	Maximum	Median	Density used
Z4V2	200	295	2.89	2.71	3.16	2.89	2.87
Z4V1	300	316	2.86	2.69	3.14	2.85	
Z2V1	500	309	2.84	2.66	3.04	2.84	2.84
V3 + V4	900	40	2.87	2.69	2.99	2.86	2.87
SED_CAD	999	83	2.80	2.57	3.02	2.81	2.80
Tuff Cadillac	999	15	2.77	2.68	2.84	2.77	
Dilution Envelopes	600	923	2.83	2.59	3.06	2.82	2.87 / 2.80

14.9 Block Model

A block model was established for the mineralized zones and the dilution envelopes for the purpose of the current resource estimate. The block model covers an area sufficiently large to host the open pit. The model has been pushed to a depth of approximately 555 m below surface. The block model was rotated 16.3° counter-clockwise (Y-axis oriented along a N016.3° azimuth). The block dimensions (5m x 5m x 5m) reflect the sizes of the mineralized zones and plausible mining methods.

Table 14.4 presents the properties of the Orenada block model.

Table 14.4 – Block model properties

Properties	X (Columns)	Y (Rows)	Z (Levels)
Origin coordinates (MTM Nad83, Zone 09)	213,985	5,323,960	3,325
Number of blocks	419	121	111
Block extent (m)	2,095	605	555
Block size (m)	5	5	5
Rotation	-16.3°		

All blocks with more than 0.001% of their volume falling within a selected solid were assigned the corresponding solid block code in their respective folder. A percent block model was generated, reflecting the proportion of each block inside every solid (each individual mineralized zone, dilution envelope, V3 or V4 unit, overburden, country rock and underground voids). Overlaps between solids were handled by the “precedence” system used by GEMS for coding the block model. The underground voids had priority over the mineralization zones, lithology wireframes and dilution envelopes (see "Precedence" column in Table 14.5).

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

Table 14.5 – Block model naming convention and codes

Folder	Rockcode	Blockcode	GEMS Solids			Precedence
			Name 1	Name 2	Name 3	
VOIDS	Voids	8	Voids_All	8	180219	8
OVB	OVB	10	OVB	Solid_50m	20180131	10
A	Z4V2_3	203	Z4V2_3	203	Clip180131	203
	Z4V2_6	206	Z4V2_6	206	Clip180131	206
	Z4V2_10	210	Z4V2_10	210	Clip180131	210
	Z4V2_19	219	Z4V2_19	219	Clip180131	219
	Z4V2_24	224	Z4V2_24	224	Clip180131	224
	Z2V1_1	501	Z2V1_1	501	180209	501
	Z2V1_3	503	Z2V1_3	503	180213	503
	Z2V1_11	511	Z2V1_11	511	180209	511
	Z2V1_13	513	Z2V1_13	513	180209	513
	Z2V1_16	516	Z2V1_16	516	180209	516
	Z2V1_19	519	Z2V1_19	519	180209	519
	Z2V1_21	521	Z2V1_21	521	180213	521
B	Z4V2_2	202	Z4V2_2	202	Clip180131	202
	Z4V2_7	207	Z4V2_7	207	Clip180131	207
	Z4V2_12	212	Z4V2_12	212	Clip180131	212
	Z4V2_13	213	Z4V2_13	213	Clip180131	213
	Z4V2_17	217	Z4V2_17	217	Clip180131	217
	Z4V2_22	222	Z4V2_22	222	Clip180131	222
	Z4V2_23	223	Z4V2_23	223	Clip180131	223
	Z4V2_26	226	Z4V2_26	226	Clip180131	226
	Z4V2_31	231	Z4V2_31	231	Clip180131	231
	Z4V2_33	233	Z4V2_33	233	Clip180131	233
	Z4V2_37	237	Z4V2_37	237	Clip180131	237
	Z4V2_40	240	Z4V2_40	240	Clip180131	240
	Z4V2_41	241	Z4V2_41	241	Clip180131	241
	Z4V2_44	244	Z4V2_44	244	Clip180202	244
	Z4V2_45	245	Z4V2_45	245	Clip180131	245
	Z4V2_48	248	Z4V2_48	248	Clip180131	248
	Z4V2_49	249	Z4V2_49	249	Clip180131	249
	Z4V2_50	250	Z4V2_50	250	Clip180131	250
	Z4V2_52	252	Z4V2_52	252	Clip180131	252

Folder	Rockcode	Blockcode	GEMS Solids			Precedence
			Name 1	Name 2	Name 3	
	Z4V2_57	257	Z4V2_57	257	Clip180131	257
	Z4V2_61	261	Z4V2_61	261	Clip180131	261
	Z4V2_63	263	Z4V2_63	263	Clip180131	263
	Z4V2_64	264	Z4V2_64	264	Clip180202	264
	Z4V2_70	270	Z4V2_70	270	Clip180131	270
	Z4V2_72	272	Z4V2_72	272	Clip180131	272
	Z4V2_73	273	Z4V2_73	273	Clip180131	273
	Z4V2_79	279	Z4V2_79	279	Clip180131	279
	Z4V2_80	280	Z4V2_80	280	Clip180131	280
	Z2V1_2	502	Z2V1_2	502	180213	502
	Z2V1_4	504	Z2V1_4	504	180213	504
	Z2V1_7	507	Z2V1_7	507	180209	507
	Z2V1_12	512	Z2V1_12	512	180209	512
	Z2V1_14	514	Z2V1_14	514	180209	514
	Z2V1_15	515	Z2V1_15	515	180209	515
	Z2V1_17	517	Z2V1_17	517	180213	517
	Z2V1_20	520	Z2V1_20	520	180209	520
C	Z4V2_1	201	Z4V2_1	201	Clip180131	201
	Z4V2_5	205	Z4V2_5	205	Clip180131	205
	Z4V2_15	215	Z4V2_15	215	Clip180131	215
	Z4V2_16	216	Z4V2_16	216	Clip180131	216
	Z4V2_21	221	Z4V2_21	221	Clip180131	221
	Z4V2_25	225	Z4V2_25	225	Clip180131	225
	Z4V2_30	230	Z4V2_30	230	Clip180131	230
	Z4V2_34	234	Z4V2_34	234	Clip180131	234
	Z4V2_43	243	Z4V2_43	243	Clip180131	243
	Z4V2_46	246	Z4V2_46	246	Clip180131	246
	Z4V2_47	247	Z4V2_47	247	Clip180131	247
	Z4V2_51	251	Z4V2_51	251	Clip180131	251
	Z4V2_66	266	Z4V2_66	266	Clip180131	266
	Z4V2_74	274	Z4V2_74	274	Clip180131	274
	Z4V2_77	277	Z4V2_77	277	Clip180131	277
	Z4V2_83	283	Z4V2_83	283	Clip180131	283
	Z4V2_84	284	Z4V2_84	284	Clip180131	284
	Z2V1_5	505	Z2V1_5	505	180213	505
	Z2V1_6	506	Z2V1_6	506	180209	506
	Z2V1_8	508	Z2V1_8	508	180213	508
	Z2V1_9	509	Z2V1_9	509	180209	509
	Z2V1_10	510	Z2V1_10	510	180209	510
	Z2V1_18	518	Z2V1_18	518	180213	518
	Z2V1_22	522	Z2V1_22	522	180213	522
D	Z4V2_4	204	Z4V2_4	204	Clip180131	204

Folder	Rockcode	Blockcode	GEMS Solids			Precedence
			Name 1	Name 2	Name 3	
	Z4V2_8	208	Z4V2_8	208	Clip180131	208
	Z4V2_9	209	Z4V2_9	209	Clip180131	209
	Z4V2_11	211	Z4V2_11	211	Clip180131	211
	Z4V2_14	214	Z4V2_14	214	Clip180131	214
	Z4V2_18	218	Z4V2_18	218	Clip180131	218
	Z4V2_20	220	Z4V2_20	220	Clip180131	220
	Z4V2_27	227	Z4V2_27	227	Clip180202	227
	Z4V2_28	228	Z4V2_28	228	Clip180202	228
	Z4V2_29	229	Z4V2_29	229	Clip180131	229
	Z4V2_32	232	Z4V2_32	232	Clip180131	232
	Z4V2_35	235	Z4V2_35	235	Clip180131	235
	Z4V2_38	238	Z4V2_38	238	Clip180131	238
	Z4V2_39	239	Z4V2_39	239	Clip180202	239
	Z4V2_42	242	Z4V2_42	242	Clip180131	242
	Z4V2_53	253	Z4V2_53	253	Clip180131	253
	Z4V2_56	256	Z4V2_56	256	Clip180131	256
	Z4V2_60	260	Z4V2_60	260	Clip180131	260
	Z4V2_62	262	Z4V2_62	262	Clip180131	262
	Z4V2_65	265	Z4V2_65	265	Clip180131	265
	Z4V2_71	271	Z4V2_71	271	Clip180131	271
E	Z4V1_2	302	Z4V1_2	302	Clip180212	302
	Z4V1_3	303	Z4V1_3	303	180129	303
	Z4V1_4	304	Z4V1_4	304	180129	304
	Z4V1_5	305	Z4V1_5	305	180129	305
F	Z4V1_1	301	Z4V1_1	301	Clip180212	301
DIL_ENV	DIL_Z2	602	DIL_Z2	602	ClipFlt	602
	DIL_Z4	604	DIL_Z4	604	ClipFlt	604
V3V4_Waste	V3V4	900	V3V4	900	180220	900
	BM	999	BM	999	180219	999

14.10 Variography and Search Ellipsoids

14.10.1 Variography

Three-dimensional directional variography was completed on the 1.5-metre DDH composites of the capped gold assay data for each group. The study was carried out in Supervisor software v.8.8.

This study was conducted on three groups (200, 300 and 500) and on the dilution envelopes (602 and 604). For Z4V1, it was decided to use the variography analysis based on the most representative vein of this group (Z4V1_1, blockcode 301).

The downhole variograms suggest a nugget effect ranging between 16% and 50%, depending on the group.

The chosen variogram model parameters presented in Table 14.6. Figure 14.10 show the continuity model obtained for the three groups.

Table 14.6 – Variogram model parameters for each group of mineralized zones and for the dilution envelopes

Dataset	Blockcode	Variography Components									
		Nugget	Model Type	First Structure				Second Structure			
				Sill	Range X (m)	Range Y (m)	Range Z (m)	Sill	Range X (m)	Range Y (m)	Range Z (m)
Z4V2	200	0.2	Spherical	0.41	14	14	5	0.39	28	22	10
Z4V1	300	0.5	Spherical	0.5	50	28	16	-	-	-	-
Z2V1	500	0.16	Spherical	0.27	38	24	15	0.57	53	32	22
Dil_Env (Z2)	602	0.36	Spherical	0.44	22	40	11	0.2	45	45	18
Dil_Env (Z4)	604	0.29	Spherical	0.23	23	13	8	0.48	41	30	14

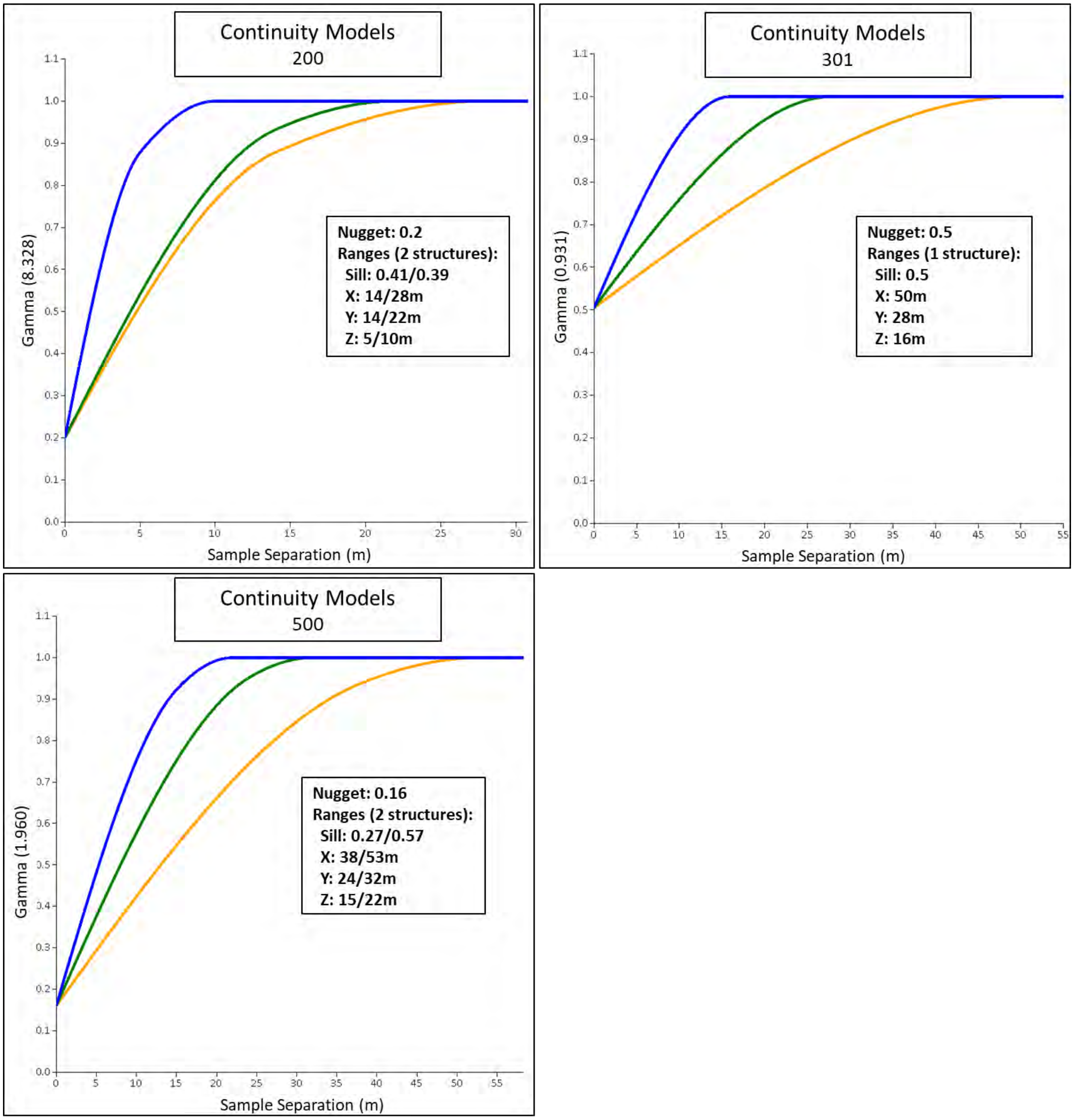

Figure 14.10 – Continuity models for the three groups of mineralized zones (Z4V2 (200), Z4V1 (301) and Z2V1 (500))

14.10.2 Search ellipsoid

The 3D directional-specific investigations yielded the best-fit model along an orientation that roughly corresponds to the strike and dip of the mineralized zones. This best-fit model was adjusted to fit the mean orientation of each group of veins.

Three sets of search ellipsoids were built using the ranges of the best fit variogram model for each group.

The ranges of the search ellipsoids for the first interpolation pass correspond to the variography range results, to 1.5x the variography results for the second pass, and to 3x the variography results for the third and last pass.

Table 14.7 summarizes the parameters of the final search ellipsoids used for composite selection and the respective weights for grade interpolation.

Figure 14.11 and Figure 14.12 illustrates examples of shapes and ranges of search ellipsoids for the first interpolation pass.

Table 14.7 – Search ellipsoid parameters

Group	Block Code	Ellipsoid	GEMS Orientation			Ranges		
			Azimuth	Dip	Azimuth	X (m)	Y (m)	Z (m)
Z4V2	200	Pass 1	113.7	-4.9	26.5	28	22	10
		Pass 2				42	33	15
		Pass 3				84	66	30
Z4V1	300	Pass 1	122.1	-4.5	41.7	50	28	16
		Pass 2				75	42	24
		Pass 3				150	84	48
Z2V1	500	Pass 1	111.3	4.8	218.7	53	32	22
		Pass 2				79.5	48	33
		Pass 3				159	96	66
Dil_Env (Z2)	602	Pass 1	113.4	9.4	227.3	45	45	18
		Pass 2				67.5	67.5	27
		Pass 3				135	135	54
Dil_Env (Z4)	604	Pass 1	112.6	-6.4	27.9	41	30	14
		Pass 2				61.5	45	21
		Pass 3				123	90	42

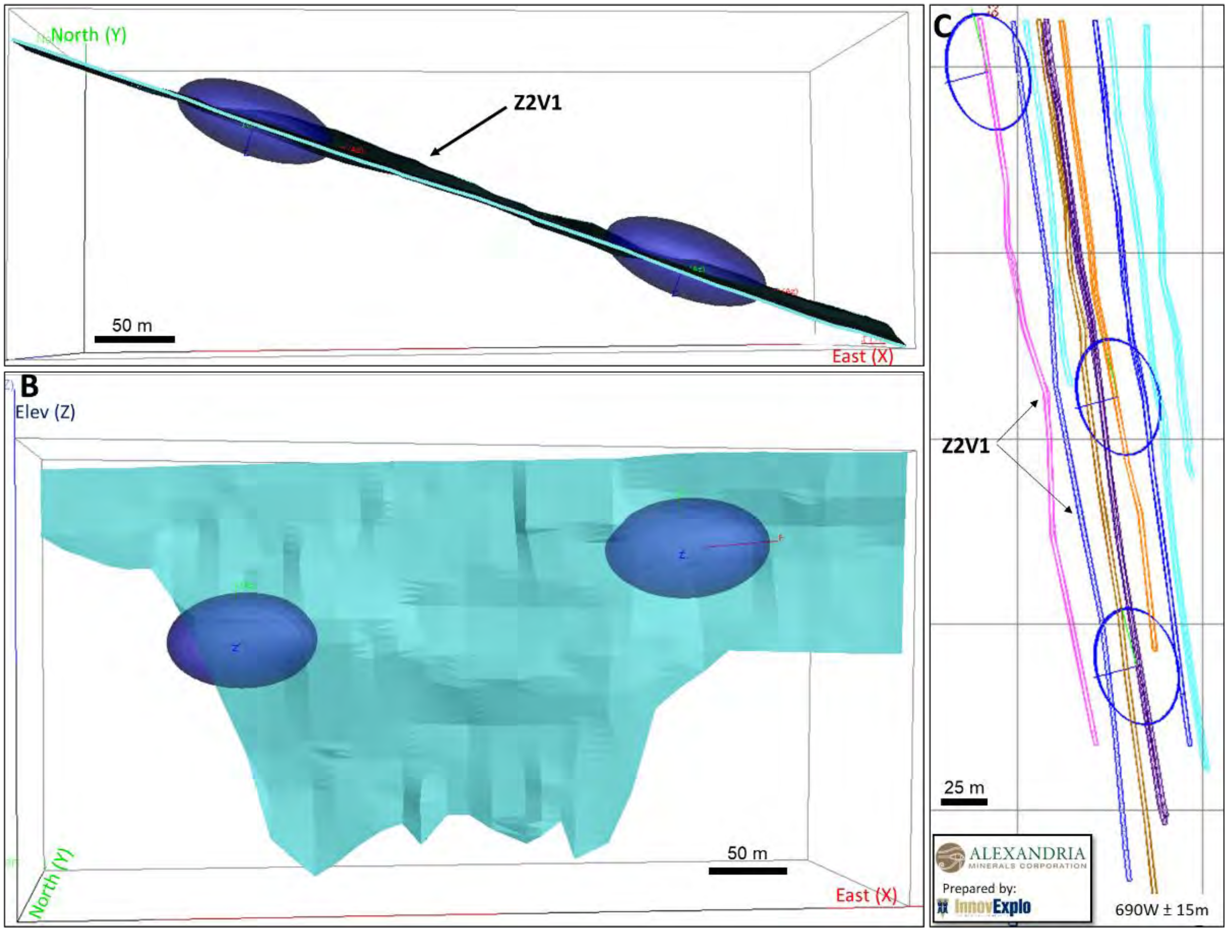

Figure 14.11 – Plan view (A) and longitudinal view (B) of Z2V1_1 and section view (C) of Z2V1 showing the search ellipsoid used for Pass 1

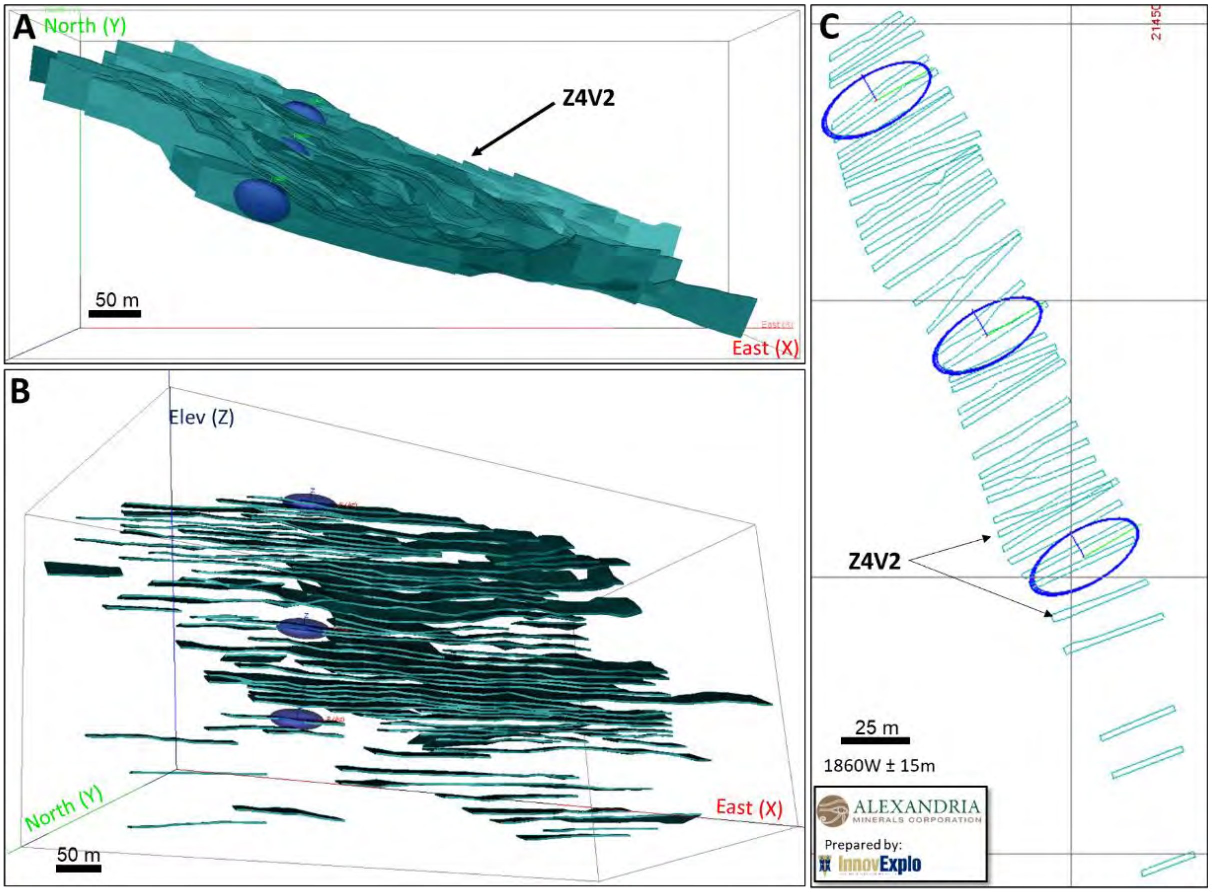

Figure 14.12 – Plan view (A), 3D view (B) and section view (C) of Z4V2 showing the search ellipsoid used for the first interpolation pass

14.11 Grade Interpolation

In order to produce the best possible grade estimate for the Orenada deposit, the geostatistical results obtained from the 3D variography was used to interpolate the grade model on the set of points providing X, Y, Z locations and the gold grades extracted from the 1.5 m composites.

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

Boundary analysis (contact plot) was performed on the composites from different group of zones in order to establish if hard or soft interpolation boundaries are more appropriate between the mineralized zones. Hard boundaries between zones has been used for grade interpolation.

The interpolation profiles were customized to estimate grades separately for each folder in the block model. The mineralized zones and dilution envelopes blocks were estimated independently. The interpolations were run in three cumulative passes characterized by increasing search ranges (Table 14.7). The first pass used a relatively small radius search ellipsoid to interpolate the mineralized blocks close to the drill holes. The second pass interpolated the blocks which were not interpolated during the previous pass. The third and last pass was defined to populate the remaining blocks within the mineralized veins and the dilution envelopes.

Three separate interpolation methods were investigated including OK, NN, and ID2. The OK method was selected for the final resource estimate.

The composite search specifications are presented in Table 14.8.

Table 14.8 – Composite search specifications

Pass	No. of composites		
	Min	Max	Max / Hole
Pass 1	4	12	3
Pass 2	3	12	3
Pass 3	2	12	2

Figure 14.13 and Figure 14.14 illustrate grade distribution examples on longitudinal and cross-section views.

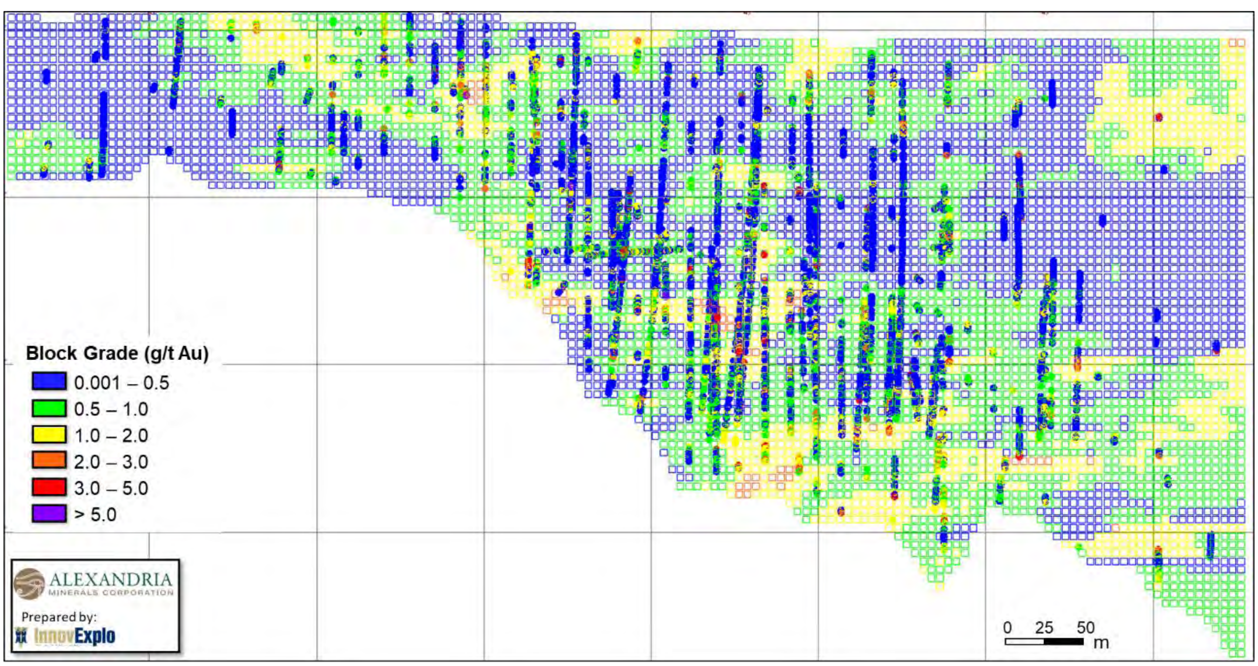

Figure 14.13 – Longitudinal view of the gold grade distribution (ordinary kriging) for Z4V1_1 (301)

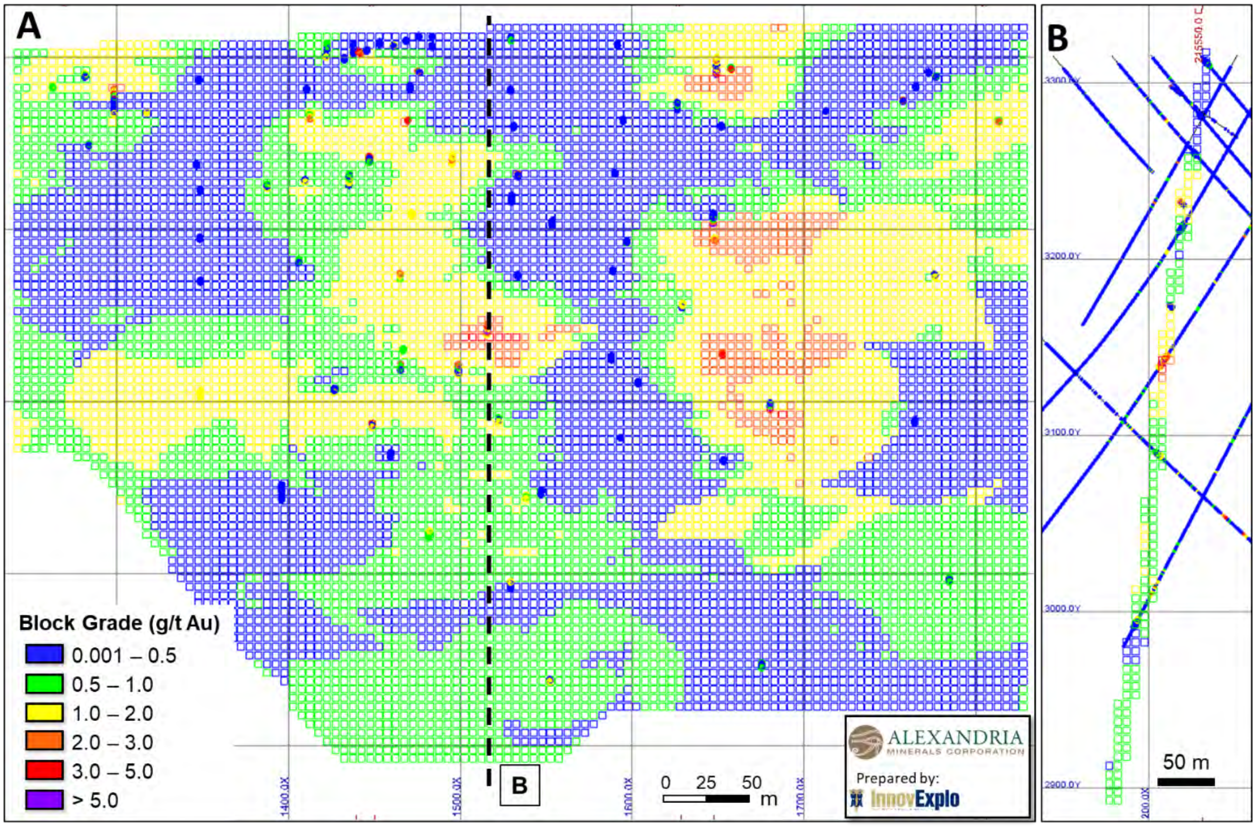

Figure 14.14 – Longitudinal view (A) and section view (B) of the gold grade distribution (ordinary kriging) for zone Z2V1_15 (515)

14.12 Block Model Validation

14.12.1 Visual validation

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

Visual comparisons were also conducted between ID2, OK and NN interpolation scenarios. The OK scenario used for the resource estimate produced a block grade distribution representative of the mineralization style observed in the deposit.

14.12.2 Statistical validation

Table 14.9 compares the global mean block for three interpolation scenarios (all inferred and indicated blocks with ≥ 50% of their volume inside a mineralized zone) and the composite grades for each mineralized corridor at a zero cut-off.

Cases in which the composite mean is higher than the block mean are often a consequence of clustered drilling patterns in high-grade areas.

Table 14.9 – Comparison of the block and composite mean grades at a zero cut-off for Inferred and Indicated blocks with ≥ 50% of their volume inside a mineralized zone

Zone	Blockcode	Number of samples	Raw assay grade (Cut g/t)	Number of composites	Composite grade (g/t)	Number of blocks	OK model (g/t)	ID2 model (g/t)	NN model (g/t)
Z4V2	200	5951	2.08	4261	1.78	1215	3.25	3.44	3.71
Z4V1	300	5600	0.74	4202	0.64	13066	0.66	0.65	0.68
Z2V1	500	3052	0.94	2433	0.73	4507	0.96	0.97	0.99
Dil_Env	600	26351	0.17	27733	0.11	279202	0.10	0.10	0.10
ALL		40954	0.58	38629	0.39	297990	0.15	0.15	0.16

Generally, the comparison between composite and block grade distribution did not identify significant issues. As expected, the block grades are generally lower than the composite grades, except for the Z4V2 group which is caused by the fact that blocks often include pieces of two or more zones in the same block (5 m block size) due to the narrow nature of the zones (2 m true width).

Figure 14.15 illustrates a cross-section swath plot example to compare the block model grades with the composite grades. In general, the model correctly reflects the trends shown by the composites with the expected smoothing effect.

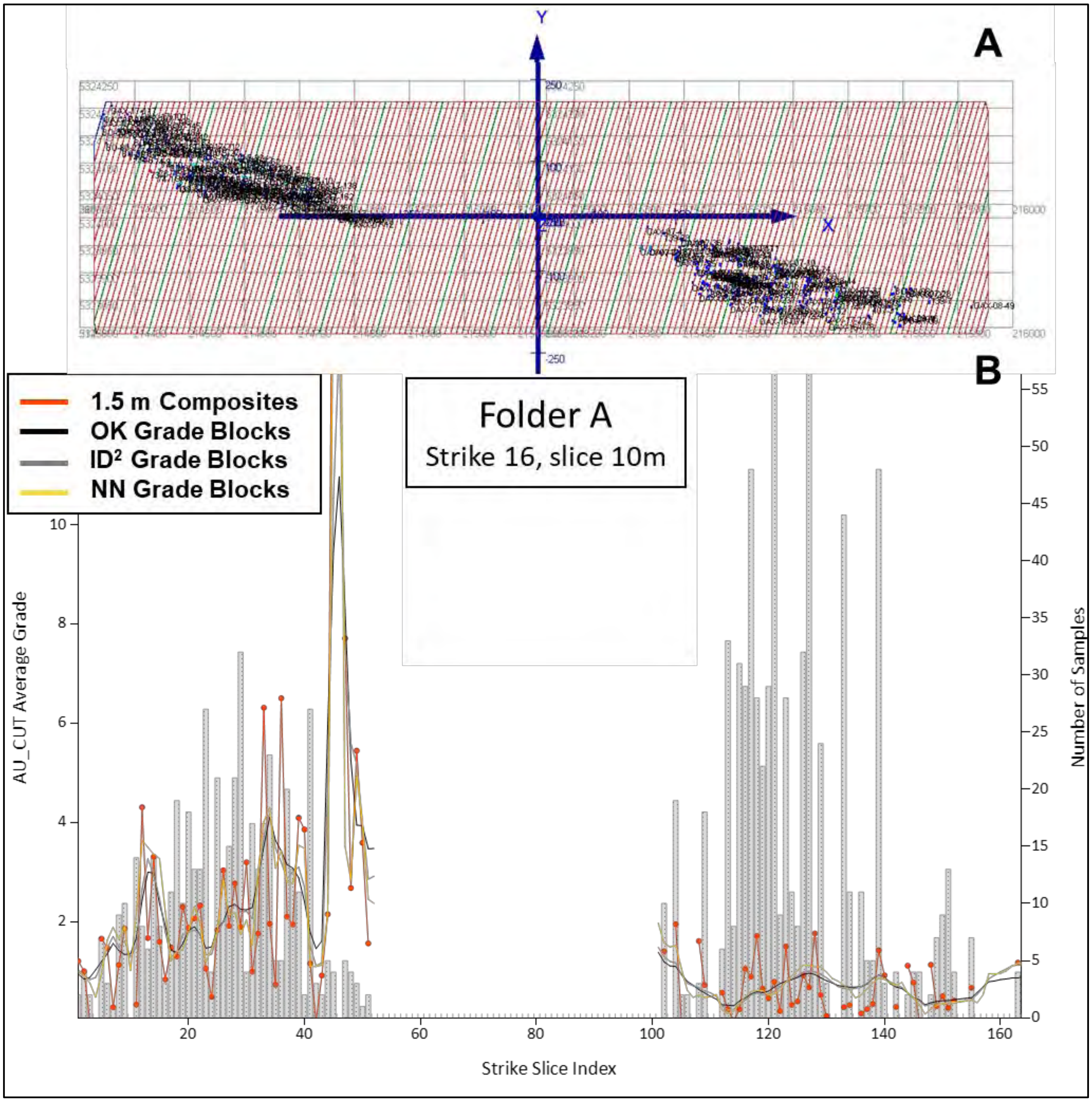

Figure 14.15 – A) Location of composites and slices; B) X-direction swath plot (slicing at N16) for Folder A

14.13 Cut-off Parameters

In-pit cut-off grade

The final selected Whittle input parameters and the cut-off grade parameters used for the in-pit resource estimate are defined in

Table 14.10.

The bedrock slope angle and the overburden slope angle were set at 50° and 30° respectively, which reflects the best approximation since no geotechnical information has been provided.

Table 14.10 – Input parameters for the in-pit cut-off grade estimation and Whittle pit shell

Parameters	Unit	Value
Gold price	CA$/ oz	1677
Sell cost	CA$/oz	5
Exchange rate	USD: CAD	1.29
Mining cost	CA$/t mined	3.50
Overburden removal cost	CA$/t excavated	2.98
G&A cost	CA$/t milled	4
Mill recovery	%	95
Mine recovery	%	100
Dilution	%	5
Processing cost	CA$/t milled	15
Ore transportation	CA$/t milled	0
Strip ratio	Waste: Ore	7.7 : 1
Slope angle in overburden	degrees	30°
Slope angle in bedrock	degrees	50°
Calculated cut-off grade	Au g/t	0.39

Using the parameters shown above, a cut-off grade (CoG_{OP}) of 0.39 g/t Au was calculated for the Whittle pit shell optimization using the following formula:

$$CoG_{OP} = \frac{(Processing\ +\ G\&A + Transportation) \times (1\ + Dilution) \times 31.1035}{((Gold\ Price -\ sell\ Cost) \times\ (Mill\ recovery)\ \times\ Mine\ Recovery)}$$

The result was rounded to 0.4 g/t Au for the official in-pit cut-off grade.

Underground cut-off grade

The underground mineral resources were estimated using different gold cut-off grades.

The estimation of the underground cut-off grade (CoG_{UG}) was based on the parameters presented in Table 14.11.

Table 14.11 – Input parameters used for the underground cut-off grade estimation

Parameters	Unit	Value
Gold price	CA$/oz	1677
Sell cost	CA$/oz	5
Exchange rate	USD: CAD	1.29
Mining cost	CA$/t mined	75
G&A cost	CA$/t milled	8
Mill recovery	%	95
Mine recovery	%	95
Refining recovery	%	99
Processing cost	CA$/t milled	15
Ore transportation	CA$/t milled	0
Calculated cut-off grade	Au g/t	2.04

The underground cut-off grade (CoG_{UG}) was calculated using the following formula:

$$CoG_{UG} = \frac{(Mining + Processing + G\&A + Transportation)\ \times\ 31.1035}{(Gold\ price\ - Sell\ cost)\ \times\ Mill\ recovery\ \times\ Mine\ recovery\ \times Refining\ recovery}$$

The result was rounded to 2.0 g/t Au for the official underground cut-off grade. The selected underground cut-off of 2.0 g/t Au allowed the mineral potential of the deposit to be outlined for the underground mining option, outside the Whittle optimized pit-shell.

14.14 Mineral Resource Classification

14.14.1 Mineral resource classification definition

The resource classification definitions used for this report are those published by the CIM in their document “CIM Definition Standards for Mineral Resources and Reserves” (“CIM Definition Standards”).

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

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

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

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

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

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

14.14.2 Mineral resource classification

By default, all interpolated blocks were assigned to the Exploration Potential category during the creation of the grade block model.

Indicated resources were limited to the Orenada Zone 4 (and its dilution envelope) and were defined for blocks informed by at least two (2) drill holes and estimated within 12.5 to 15 m of a drill hole. Inferred resources were defined for blocks estimated within 40 to 50 m of a drill hole and shows reasonable geological and grade continuity.

Resource boundaries were drawn keeping in mind that a significant cluster of blocks is necessary to delineate a resource group. In some cases, blocks that did not meet the criteria of a category were upgraded to that category to homogenize and avoid isolated blocks of lower category within the classification group. InnovExplo is of the opinion that these blocks have a sufficient level of confidence to be upgraded because many of these blocks are aligned along the mineralization plunge.

Blocks were assigned to the chosen category based on the classification clipping boundaries.

In some areas, interpolated blocks remained unclassified due to the lack of confidence in grade and/or continuity. This mainly occurs where drill hole spacing is wide. Measured resources were not defined for the Project.

14.15 Mineral Resource Estimate

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

Table 14.12 presents the combined resources (in-pit and underground) by category for the Orenada deposit at the selected cut-off grade (0.4 g/t Au for the in-pit resources and 2.0 g/t Au for the underground resources).

Table 14.12 – Orenada Zone 2 and Zone 4 Project, Indicated and Inferred Mineral Resources by Area

ORENADA	Cut-off grade	Indicated Resources			Inferred Resources		
		Tonnes (t)	Grade Au (g/t)	Ounces Au	Tonnes (t)	Grade Au (g/t)	Ounces Au
Zone 4	In-Pit (> 0.4 g/t Au)	3,563,000	1.54	176,085	865,000	1.39	38,755
	Underground (> 2.0 g/t Au)	191,000	3.00	18,437	326,000	3.34	34,955
	Total	3,754,000	1.61	194,522	1,191,000	1.92	73,710
Zone 2	In-Pit (> 0.4 g/t Au)	-	-	-	605,000	1.36	26,363
	Underground (> 2.0 g/t Au)	-	-	-	283,000	2.88	26,186
	Total	-	-	-	888,000	1.84	52,549
TOTAL	In-Pit (> 0.4 g/t Au)	3,563,000	1.54	176,085	1,470,000	1.38	65,118
	Underground (> 2.0 g/t Au)	191,000	3.00	18,437	609,000	3.12	61,141
	TOTAL	**3,754,000**	**1.61**	**194,522**	**2,079,000**	**1.89**	**126,259**

Notes to accompany the Mineral Resource Estimate:

(1) The mineral resource estimate was prepared by Alain Carrier, P.Geo., M.Sc. (InnovExplo) and Claude Savard, P.Geo. (InnovExplo), both "qualified persons" as defined by NI 43-101 and both considered to be "independent" of the issuer for the purpose of section 1.5 of NI 43-101. InnovExplo is also considered to be "independent" of the issuer under NI 43-101. The effective date of this mineral resource estimate is May 25, 2018.

(2) These mineral resources are not mineral reserves as they do not have demonstrated economic viability.

(3) Resources are presented undiluted and in situ for both open pit and underground potential scenarios and are considered to have reasonable prospects for economic extraction.

(4) The estimate encompasses two different zones (Orenada Zone 2 and Orenada Zone 4) subdivided into mineralized subdomains (i.e., V1 and V2 mineralized subdomains), each defined by individual wireframes with a minimum true thickness of 2 metres included within a broader domain (or dilution envelope).

(5) High-grade capping was done on raw assay data before compositing and established on a per zone basis: V1 domains of Zone 2 and Zone 4 at 20 g/t Au; V2 domains of Zone 4 at 35 g/t Au; and a broader domain ("dilution envelope") at 9 g/t Au.

(6) Bulk density values were applied on the following lithological basis (g/cm3): Zone 4 = 2.87; Zone 2 = 2.84; mafic and ultramafic = 2.87.

(7) The grade model resource was estimated from drill hole data using an ordinary kriging interpolation method on a block model using a block size of 5 x 5 x 5 metres.

(8) The estimate is reported at a 0.4 g/t Au cut-off for the open pit potential and at a 2.0 g/t Au cut-off for the underground potential. The cut-off grades were calculated using a gold price of USD 1,300/oz, a CAD:USD exchange rate of 1.29 (1-year trailing average), and the following parameters: (a) Open pit scenario: mining cost per tonne = CAD 3.50; processing cost = CAD 15.00; G&A = CAD 4.00; pit slope of 50° during Whittle optimization; (b) Underground scenario: mining cost = CAD 75.00; processing cost = CAD 15.00; G&A = CAD 8.00. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rate, mining cost, etc.).

(9) The estimate is categorized as Indicated and Inferred mineral resources. Indicated resources were limited to Zone 4 areas where drill spacing is 25 to 30 metres. Inferred resources were defined in Zone 2 and in the remaining areas of Zone 4 where drill spacing is less than 80 to 100 metres and there is reasonable geological and grade continuity.

(10) The estimate was prepared using GEOVIA GEMS 6.8. The estimate is based on 529 diamond drill holes. A minimum true thickness of 2.0 metres was applied, using the grade of the adjacent material when assayed, or a value of zero when not assayed.

(11) Calculations used metric units (metres, tonnes, gram per tonne). Metal contents are presented in troy ounces (tonne x grade / 31.10348).

(12) The number of metric tons was rounded to the nearest thousand. Any discrepancies in the totals are due to rounding errors.

(13) CIM Definition Standards have been followed.

(14) InnovExplo is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issue not reported in the Technical Report that could materially affect the mineral resource estimate.

Sensitivity to the minimum cut-off grade of the 2018 MRE (for both open-pit and undergournd scenarios) is presented in the following tables.

Table 14.13 displays the results of the 2018 In Situ Mineral Resource Estimate for the Whittle-optimized in-pit portion of the Orenada deposit at the 0.4 g/t Au in-pit cut-off grade and at other cut-off grade scenarios. Table 14.14 displays the results of the 2018 In Situ Mineral Resource Estimate for the underground portion of the Orenada deposit at the 2.0 g/t Au underground cut-off grade and at other cut-off grade scenarios. The reader should be cautioned that the figures provided in Table 14.13 and Table 14.14 should not be interpreted as a mineral resource statement. The reported quantities and grade estimates at different cut-off grades are presented for the sole purpose of demonstrating the sensitivity of the resource model to the selection of a reporting cut-off grade.

Table 14.13 – 2018 In-Pit Mineral Resource Estimate (Indicated and Inferred resources) at different cut-off grades

Cut-off grade	Indicated Resources			Inferred Resources		
	Tonnes (t)	Grade Au (g/t)	Ounces Au	Tonnes (t)	Grade Au (g/t)	Ounces Au
> 0.8 g/t Au	2,252,175	2.10	151,715	909,766	1.87	54,805
> 0.7 g/t Au	2,504,145	1.96	157,778	1,013,448	1.76	57,304
> 0.6 g/t Au	2,805,392	1.82	164,064	1,133,127	1.64	59,811
> 0.5 g/t Au	3,150,365	1.68	170,157	1,268,107	1.53	62,187
> 0.4 g/t Au	**3,563,408**	**1.54**	**176,105**	**1,469,268**	**1.38**	**65,086**
> 0.3 g/t Au	4,014,190	1.40	181,155	1,770,678	1.20	68,451

Table 14.14 – 2018 Underground Mineral Resource Estimate results (Indicated and Inferred resources) at different cut-off grades

Cut-off grade	Indicated Resources			Inferred Resources		
	Tonnes (t)	Grade Au (g/t)	Ounces Au	Tonnes (t)	Grade Au (g/t)	Ounces Au
> 5.0 g/t Au	8,026	6.15	1,587	37,378	7.20	8,653
> 4.0 g/t Au	26,995	4.93	4,282	107,679	5.35	18,516
> 3.0 g/t Au	71,500	3.97	9,135	239,723	4.27	32,927
> 2.5 g/t Au	118,390	3.48	13,248	355,311	3.77	43,032
> 2.0 g/t Au	**190,828**	**3.00**	**18,420**	**608,461**	**3.12**	**61,087**
> 1.5 g/t Au	333,043	2.46	26,351	1,159,663	2.45	91,396
> 1.0 g/t Au	658,763	1.84	39,048	2,465,850	1.79	142,141

Note to tables:

(1) These tables are not mineral resource statements. The reported quantities and grade estimates at different cut-off grades are presented for the sole purpose of demonstrating the sensitivity of the resource model to the selection of a reporting cut-off grade.

14.16 Comparison to Previous Mineral Resource Estimate

The previous publicly disclosed mineral resource estimate for the Project was released on October 28, 2009 ("NI 43-101 Technical Report on the Orenada Property" by Beauregard et al.) and is available on SEDAR (www.sedar.com) under the issuer's profile.

Table 14.15 presents the historical 2009 MRE results at the cut-off grade of 1 g/t Au for comparative purposes.

Table 14.16 compares the 2018 MRE to the 2009 MRE.

Many changes were made to the approaches and the key resource assumptions and parameters for the 2018 estimation (refer to Table 14.16). One of the main differences was the addition of a Whittle pit-shell constraint. This resulted in a large portion of the former resource, which was not pit-constrained, now occurring outside the Whittle pit shell and falling below the underground cut-off grade of 2.0 g/t Au.

Table 14.15 – Mineral Resource Estimate (Beauregard et al., 2009) – Orenada Project (cut-of grade of 1 g/t Au)

Mineral Resources	Tonnes (t)	Grade Au (g/t)	Ounces Au
Measured	2,592,133	1.81	150,478
Indicated	2,006,202	1.83	118,050
Total Measured & Indicated	4,598,334	1.82	268,528
Inferred	2,478,674	1.56	124,248

Notes [unmodified from Beauregard et al., 2009]:

(1) CIM definitions were followed for mineral resources.

(2) Mineral resources which are not mineral reserves do not have economic viability.

(3) Results are presented undiluted and in situ. The estimate includes 5 gold-bearing zones ("no. Z4M", "no. Z2M", "no. Z2A", "no. Z2U" and "no. Z2U1) and covers the Orenada Zones 4 and 2 respectively. A minimum of 1.5 m horizontal width was applied, using the grade of the adjacent material when assayed, or a value of zero when not assayed.

(4) Fixed densities of 2.83 t/m^3 for Zone 4 and 2.78 t/m^3 for Zone 2 was used.

(5) Capping was done on composites and set at 31.5 g/t Au on Zone 4 and on raw data the assays are cut at 63.0 g/t Au on Zone 4.

(6) Drill hole compositing was done on 1.5-m length interval. Resources were evaluated from drill hole results using a block model approach constrained within five (5) individual 3D wireframes. Interpolation results used a minimum of 1 octant with a maximum of 12 points per octant. For each mineralized drill hole intersection with lab duplicates and reassays, the average grade was calculated from results of reassays and original assay rather than using the highest assay results.

(7) Measured Resources were obtained using 1/3 of the range of the search ellipse and a minimum of 13 points (i.e. 3 holes). Indicated Resources were obtained using 2/3 of the range of the search ellipse and a minimum of 7 points (i.e. 2 holes). Inferred Resources were obtained using the full range of the search ellipse and a minimum of 2 points.

(8) Calculations used metric units (meter, tonnes and g/t Au) and results were rounded to reflect their "estimate" nature.

(9) The company is not aware of any known environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues that could materially affect the Mineral Resource estimates.

(10) Measured and indicated mineral resources are reported to a depth of 250 meters and at a cut off grade of 1.0 g/t Au. Inferred mineral resources are related to a depth of 250 meters at a cut off grade of 1.0 g/t Au.

(11) Historical production of 20,418 tonnes at 0.054 oz/t Au was mined from a small open pit at the surface of Zone 4. Gold recovery of 78.5% was obtained. In 1994, Aur Resources has milled 72,195 tonnes at 1.72 g/t Au on Zone 4. These productions were subtracted from indicated and measured resources.

Table 14.16 – Comparison of the 2018 MRE to the 2009 MRE for the Orenada deposit

Items of comparison	2009 MRE	2018 MRE		
Data used for the MRE	482 DDH (32,421 assays) / 370 chip samples	529 DDH (53,758 assays)		
Mineralized domain style and location	Zone 2: five mineralized zones trending N104°, dipping 70-80°N	Zone 2: 22 veins trending N110°, dipping 80°N		
	Zone 4: one mineralized envelope trending N103°, dipping 70°N	Zone 4: subdivided into 2 types of mineralization: - Z4V1: subvertical veins trending N110°, dipping 80°N (5 veins) - Z4V2: subhorizontal veins trending N110°, dipping 28°S (71 veins)		
Minimum width	1.5 m	Minimum true thickness of 2.0 m		
Voids model	Production subtracted from indicated and measured resources	Mined-out volumes included as voids in the block model		
Composite length	1.5 m	1.5 m		
Capping value	Zone 2: No capping	Zone 2: 20 g/t on raw assays		
	Zone 4: 63 g/t on raw assays + 31.5 g/t on composites	Zone 4: 35 g/t (V2); 20 g/t (V1) on raw assays		
Specific gravity	Zones 2 and 4: 2.78 t/m^3	Zone 4: 2.87 g/cm^3 Zone 2: 2.84 g/cm^3		
Variogram model	Not applicable	Spherical using 1 to 2 structures		
Block size (m)	5 x 2.5 x 5 (no rotation)	5 x 5 x 5 (rotation -16 °)		
Interpolator	Inverse Distance Squared	Ordinary Kriging		
Pass identification	One pass	Pass 1	Pass 2	Pass 3
Search type	Octant	Ellipsoidal	Ellipsoidal	Ellipsoidal
Minimum/Maximum composites	Min octants to interpolates: 1 Max points per Octant: 12 Min 2 / Max 20	Min 4 / Max 12	Min 3 / Max 12	Min 2 / Max 12
Maximum number of composites per drill hole	6	3	3	2
Minimum number of drill holes	1	2	1	1
Range definition	Ranges X/Y/Z	Ranges X/Y/Z		
Search ellipsoid ranges (m)	Zone 2: 100 x 25 x 50 Zone 4: 100 x 100 x 10.5	Z2V1: 53 x 32 x 22 Z4V1: 50 x 28 x 16 Z4V2: 28 x 22 x 10	79.5 x 48 x 33 75 x 42 x 24 42 x 33 x 15	159 x 96 x 66 150 x 84 x 48 84 x 66 x 30
Resource categories	Measured, indicated and inferred	Indicated and inferred		
Resource classification – Measured resources	33% of ellipse ranges, min 3 DDH	Not applicable		
Resource classification –	66% of ellipse ranges, min 2 DDH	Distance to the closest composites < 15m, minimum 2 DDH		

Items of comparison	2009 MRE	2018 MRE
Indicated resources		
Resource classification – Inferred resources	All interpolated blocks	Distance to the closest composites < 50m
Cut-off grade	1.0 g/t Au suggested (without pit shell, from surface to -250m)	Underground: 2 g/t Au
		In-Pit: 0.4 g/t Au (with pit shell)

15. MINERAL RESERVE ESTIMATES

Not applicable at the current stage of the Project.

16. MINING METHODS

The issuer has not evaluated mining methods for the Project.

17. RECOVERY METHODS

Not applicable at the current stage of the Project.

18. PROJECT INFRASTRUCTURE

Not applicable at the current stage of the Project.

19. MARKET STUDIES AND CONTRACTS

Not applicable at the current stage of the Project.

20. ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

Not applicable at the current stage of the Project.

21. CAPITAL AND OPERATING COSTS

Not applicable at the current stage of the Project.

22. ECONOMIC ANALYSIS

Not applicable at the current stage of the Project.

23. ADJACENT PROPERTIES

The Orenada Group Properties are located in a historical mining district with considerable exploration activity. Several Canadian junior exploration and mining producers are actively working in this area. At the effective date of this report, the GESTIM database contains numerous records of mineral exploration properties in the region (Figure 23.1).

InnovExplo did not verify the information in the GESTIM records or information obtained from other public sources for adjacent properties. The presence of significant mineralization on these properties is not necessarily indicative of similar mineralization on the Orenada Group Properties. Moreover, InnovExplo did not review the technical and economic parameters used to produce the mineral resource estimates for these adjacent properties.

23.1 Alexandria Minerals Corporation (Akasaba, Sleepy, Siscoe East)

Alexandria owns 460 claims along the CLLFZ, totalling 14,819 ha (Alexandria website). Alexandria owns the Akasaba Group and Sleepy Group properties directly east of the Orenada Group Properties, and the Siscoe East Property to the northwest.

The Akasaba Group Property (Figure 23.1) is positioned at the boundary between the Pontiac Subprovince and the Héva Formation. Between 1960 and 1963, the Akasaba mine produced 265,000 t with an average grade of 5.20 g/t Au and 1.7 g/t Ag (Alexandria website). In the 1970s and early 1980s, SOQUEM estimated a **historical resource** of 255,000 tonnes at 6.33 g/t Au in four lenses (Beauregard et al., 2012). The gold was thought to be associated with stratiform disseminated to semi-massive lenses of pyrrhotite-chalcopyrite hosted in mafic lapilli tuffs and brecciated basalt altered to epidote-hornblende-actinolite after skarnification. In 2014, Alexandria conducted a drilling program on the Akasaba Project to test IP anomalies on three different targets (Akasaba mine area, Kettle Zone and North Zone). In the case of the Akasaba mine area and the North Zone, the anomalies yielded significant gold values (Alexandria website).

This "resource" is historical in nature and should not be relied upon. It is unlikely it complies with NI 43-101 requirements or follows 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. InnovExplo did not review the databases, key assumptions, parameters or methods used for this estimate.

The Sleepy Group Property hosts the historical Sleepy deposit. In 1998, Cambior estimated an **historical resource** of 152,471 t @ 5.1 g/t Au (Beauregard and Gaudreault, 2014). In 2011, Alexandria drilled 16 exploration holes to explore the continuity of the deposit at depth, to explore the Vicour Sill, and to find possible extensions of the Sleepy Lake Zone to the east and west of the deposit (Alexandria website). Significant results were obtained. From 2011 to 2014, Alexandria drilled 34 holes to further explore the Vicour Sill and extend the mineralization of the Sleepy Lake Zone. In 2014, the company published a new inferred resource estimate of 1,855,300 t at 4.7 g/t Au for a total of 279,760 ounces of gold, with an effective date of September 15, 2014 (Beauregard and Gaudreault, 2014).

This "resource" is historical in nature and should not be relied upon. It is unlikely it complies with NI 43-101 requirements or follows 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. InnovExplo did not review the databases, key assumptions, parameters or methods used for this estimate.

23.2 Eldorado Gold Corporation (formerly Integra Gold Corporation)

The Lamaque Project, held by Eldorado Gold Corporation ("Eldorado"), is an advanced property which consists of the recently discovered Triangle gold deposit located 2.5 km south of the historical world-class Lamaque and Sigma mines, which are also on the property and have produced over 10 Moz of gold. The Lamaque deposit is an Archean greenstone-hosted orogenic lode gold deposit. Gold is found in quartz-tourmaline-carbonate veins, which are hosted within a series of subparallel subvertical shear zones centred around a steeply plunging cylindrical diorite porphyry (the "Triangle Plug"), which intrudes the mafic volcanic stratigraphy of the Val-d'Or Formation (Eldorado website).

On March 29, 2018, Eldorado filed a PFS technical report (Keogh et al., 2018) (www.sedar.com) declaring a maiden mineral reserve and mineral resource estimate for the Triangle Zone consisting of Proven and Probable Reserves of 893,000 ounces at 7.30 g/t Au within Measured and Indicated Resources of 1.275 Moz at 8.45 g/t Au, and Inferred Resources of 1.258 Moz at 7.29 g/t Au, as of December 31, 2017 (Keogh et al., 2018).

23.3 QMX Gold Corporation

QMX Gold Corporation ("QMX") owns several properties that host past-producing gold mines (Dumont, Ferderber and Lac Herbin with approximately 770,000 ounces of gold produced, as well as Buffadison and Bevcon), along with a milling complex (the Aurbell Mill). The QMX properties also contain exploration projects, including Bonnefond South, Southwestern Zone and Beacon Target (QMX website). Significant intercepts were discovered on the properties in 2017, such as 13.2 g/t Au over 8.8m (CL) at the Bonnefond South Plug, 2.0 g/t Au over 10.5 m (CL) at the Southwestern Zone and 6.1 g/t Au over 5.4 m (CL) at the Beacon Target (QMX news releases of January 29, 2018 and May 23, 2017).

23.4 Agnico Eagle Mines Limited

The Akasaba West Project (Figure 23.1) is a development project held by Agnico Eagle Mines Ltd ("Agnico Eagle"). As of December 31, 2017, it hosts Probable Reserves of approximately 145,000 ounces of contained gold (5.194 Mt at 0.87 g/t Au and 0.49% Cu) and Indicated Resources of approximately 49,000 ounces of contained gold (2.184 Mt at 0.70 g/t Au and 0.41% Cu) (Agnico Eagle website).

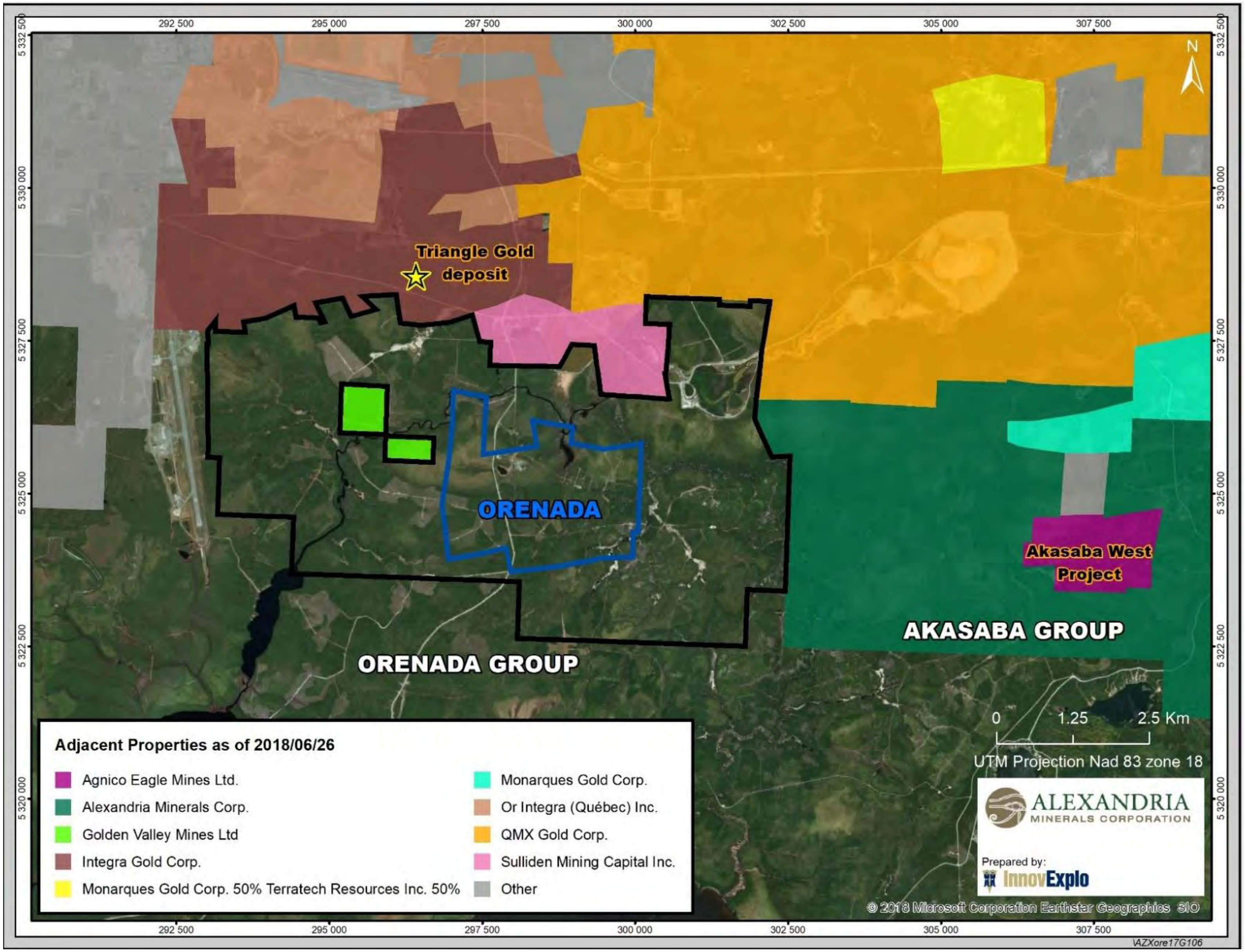

Figure 23.1 – Properties and mineral occurrences in the vicinity of the Orenada Property as of July 2018

24. OTHER RELEVANT DATA AND INFORMATION

Not applicable at the current stage of the Project.

25. INTERPRETATION AND CONCLUSIONS

The main objective of InnovExplo's mandate was to produce a mineral resource estimate for the Orenada Zones 2 and 4 Project (the "Project"; a.k.a., the Orenada deposit) using validated previous results (pre-2009) and recent diamond drill hole results (2015 to 2017; database close-out dates of January 16, 2018 (Zone 2) and December 15, 2017 (Zone 4); final drill hole QAX-17-240). This NI 43-101 compliant Technical Report and the mineral resource estimate herein meet this objective.

The resource estimation parameters and geological interpretation for the Orenada gold deposit (zones 2 and 4) were established by InnovExplo.

25.1 2018 Orenada Gold Deposit (Zones 2 and 4) Mineral Resource Estimate

The mineral resource estimate for the Orenada Zone 2 and Zone 4 (the "2018 MRE") was prepared by Alain Carrier, M.Sc., P.Geo., and by Claude Savard, P.Geo., using all available information.

The 2018 MRE is different in many aspects to the previous 43-101 mineral resource estimate (Beauregard et al., 2009). Many changes were made to the approaches and key resource assumptions and parameters, most notably to the mineralized domain interpretation, the capping assumptions, and the grade interpolation strategy. But one of the main differences is the addition of a Whittle pit-shell constraint on the 2018 MRE. This resulted in less tonnage in the open pit scenario. In addition, the gold price, project costs and exchange rate assumptions were revised to reflect 2018 market conditions.

The block model resource area measures 2,095 m along strike, up to 605 m wide, and 555 m deep. The estimate was based on a compilation of historical and recent diamond drill holes. The geological interpretation and wireframed mineralized zones were completed by InnovExplo.

The mineral resources in the 2018 MRE are not mineral reserves as they do not have demonstrated economic viability. The estimate is categorized as Indicated and Inferred Resources based on data density, type of data support, search ellipse criteria, drill hole density and specific interpolation parameters. The effective date of the estimate is May 25, 2018 based on the compilation status and cut-off grade parameters.

InnovExplo considers the 2018 MRE to be reliable and based on quality data, reasonable hypotheses and parameters that follow CIM Definition Standards.

After completing the MRE and a detailed review of all pertinent information, InnovExplo concluded the following:

- Indicated and Inferred Resources have been defined in Orenada Zone 4.
- Additional drilling and geological modelling are required on Orenada Zone 2 to potentially define Indicated Resources.
- It is likely that additional diamond drilling would upgrade some of the Inferred Resources to the Indicated category.
- It is likely that additional diamond drilling would identify more resources down-plunge or in the vicinity of known ore shoots.

The Orenada gold deposit (Zones 2 and 4) appears to be sensitive to modelling methodology, capping strategy, the approach to constrain high-grade gold values, and drill spacing.

25.2 Exploration Potential

Orenada Zones 2 and 4

At this stage, it is reasonable to believe that somewhere between 1.5 and 2.0 million tonnes of mineralization at grades between 1.5 and 2.0 g/t Au may be added by drilling the extensions of currently defined mineralized zones (Orenada Zones 2 and 4). This exploration target is not a mineral resource estimate and is conceptual in nature. There has been insufficient exploration to define this as a mineral resource, and it is uncertain if further exploration will result in the exploration target being designated as a mineral resource.

The basis for the 1.5 to 2 million tonnes with an average grade of 1.5 to 2.0 g/t Au for the exploration target includes the following:

- Two significant mineralized zones (Zones 2 and 4) have been identified on the Project and are the subject of the current mineral resource estimate. Collectively, these two zones are open at depth and have a sufficient footprint to potentially host additional mineralization.
- Drilling results from six (6) holes located west of Orenada Zone 4 and in the range of 300 to 400 m from surface potentially indicates the occurrence of a third mineralized trend.
- It is assumed that this third mineralized zones will have similar width and continuity in their western extensions. This is supported by the fact that the bulk of the current mineral resource estimate starts on surface and is within the first 250 m vertical with some drill holes encountering mineralization down to a vertical depth of 400 m.
- Drilling the gaps between some of the zones is also considered in this assumption.
- The grade range is considered reasonable based on the current mineral resource estimate.

Drilling assays received after database close-out dates

Assay results from 25 drill holes (3,778 new assays) were received after the close-out dates of the 2018 MRE database. Of these, 14 holes were drilled west of Orenada Zone 4 and illustrate the extent of the gold mineralization outside the Zones 2 and 4 resource area. The other 11 holes were drilled within the resource block model and fall into mineralized zones and dilution envelopes as follow:

- Three (3) holes within the Zone 4 resource area generally confirm the interpretation (V1 and V2 zones) and the grade interpolation;
- Five (5) holes between Zone 2 and Zone 4 encountered gold mineralization;
- Three (3) holes within the Zone 2 resource area generally confirm the interpretation and grade interpolation.

At the effective date of the Technical Report (July 6, 2018), 1,008 assays were still pending.

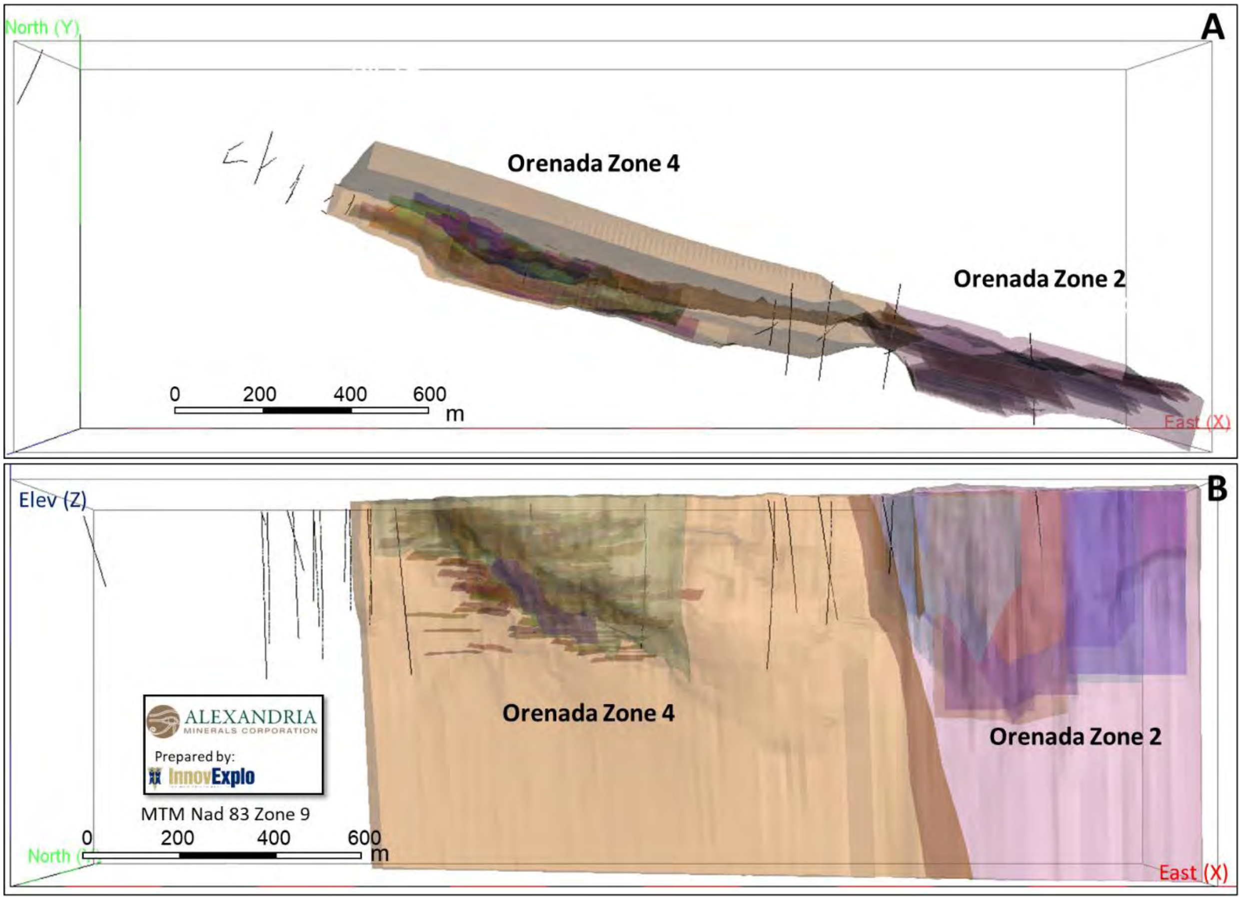

Figure 25.1 - Location of the drill holes for which assay results were received after 2018 MRE database close-out dates

Orenada Group Properties

The exploration potential remains high at the scale of the Orenada Group Properties (the "Properties"), justifying a compilation study, target generation and further exploration programs. The Properties straddle the regional-scale Cadillac–Larder Lake Fault Zone, one of the most important structural controls on gold mineralization in the Abitibi Greenstone Belt. This major structural zone and its subsidiary structures may host additional mineralized zones, discoveries and potential resources. In addition to Zone 2 and Zone 4), the Properties already host seven (7) other lode-gold occurrences (Table 25.1) The winter 2018 drilling program demonstrated the potential of the Properties by confirming significant exploration gold results just 150 m north of the known Zone 4 resource area. Furthermore, the area also hosts other types of mineralized occurrences related to the late-tectonic East Sullivan alkaline stock, such as skarn (Cu-Au) and porphyry-style (Cu-Mo±Au) mineralization (Table 25.1).

Table 25.1 – Mineral deposit types and occurrences on the Orenada Group Properties

Deposit type	Mineralization	Name
Skarn	Cu-Au	D'Aragon
		Orenada Zone 1
		Mid-Canada
		Orenada Zone 5
		Oramaque-Hogg
Porphyry	Cu-Mo±Au	East Porphyry (Ducros 1)
		West Porphyry (Ducros 2)
Late-orogenic lode gold	Au	Bourlamaque Central 1
		Centremaque
		Oramaque (Orenada Zone 3)
		Oramaque-Cadillac Zone North
		Oramaque-Cadillac Zone South
		Cadillac Break
		Airport

25.3 Risks and Opportunities

Table 25.2 identifies the significant internal risks, potential impacts and possible risk mitigation measures that could affect the future economic outcome of the Properties. The list does not include the external risks that apply to all mining projects (e.g., changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc.). Significant opportunities that could improve the economics, timing and permitting are identified in Table 25.3. Further information and study is required before these opportunities can be included in the project economics.

Table 25.2 – Risks for the Orenada Group Properties

Risk	Potential Impact	Possible Risk Mitigation
Metallurgical recoveries for Orenada Zone 2 are based on limited testwork	Recovery might be lower than what is currently being assumed	Conduct additional metallurgical tests
Environmental risk	Gold mineralization associated with sulphides (potentially acid generating) and arsenopyrite (As).	Test to confirm whether the waste is a potentially acid generating (PAG) or non-acid generating (NAG) and to assess the risk for the As content.
Potentially poor social acceptability	Social acceptability is an inherent risk for all mining projects. This could affect permitting and the Project's development schedule.	Develop a pro-active and transparent strategy to identify all stakeholders and develop a communication plan. Organize information sessions, publish information about the activities on the Properties, and meet with host communities.

Table 25.3 – Opportunities for the Orenada Group Properties

Opportunities	Explanation	Potential Benefit
Potential for a high-grade shoot west of Orenada Zone 4	The geological interpretation could still be tested and revised, which could potentially lead to the delineation of additional high-grade shoots.	Potential better understanding of mineralization and higher confidence in geological and grade continuities.
Potential conversion of Inferred resources to Indicated category in Orenada Zone 2	Further drilling and geological modelling are required on Orenada Zone 2 for potentially having Indicated Resource.	Potential to upgrade resource category.
Exploration potential of Zones 2 and 4	Potential for additional resources at depth and around Zones 2 and 4 by drilling.	Potential to increase resources.
Exploration potential of Orenada Group Properties	Exploration potential remains high at the property scale, justifying compilation, target generation and further exploration programs.	Potential for new discoveries.
Potential improvement in metallurgical recoveries	Additional metallurgical testwork can be performed to determine if recovery can be improved through flotation or cyanidation.	Would alleviate the need to achieve a finer grind to maintain metallurgical performance (potential OPEX and CAPEX reduction).

26. RECOMMENDATIONS

Based on the results of the 2018 MRE, InnovExplo recommends additional drilling programs and further review of the geological interpretation to gain a better understanding of the Orenada Zones 2 and 4 Project (the “Project”) before updating the current estimate. This is particularly applicable to Orenada Zone 2 where more drilling and geological modelling are required to potentially define an Indicated Resource.

InnovExplo recommends the two-phase work program outlined below in which Phase 2 is contingent upon the success of Phase 1.

PHASE 1

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

1.a Drilling on the potential resource extension

The objective of this drilling program would be to continue investigating untested gold areas along the trends of the Project and any potential lateral and depth extensions to Zone 2 or Zone 4.

InnovExplo recommends prioritizing lateral and deep delineation drilling to detect higher-grade subzones.

For Orenada Zone 4: (i) the direct extension at depth along its eastward-plunge, and (ii) to the west on a potential new subparallel plunge that has been detected at depth but remains poorly tested or untested closer to surface. Positive results would potentially add Inferred resources. Approximately 15,000 m should be dedicated to this purpose. Structural measurements from Televiewer surveys are recommended.

For Orenada Zone 2: increase the ratio of recent/new drill holes to historical holes.

1.b Exploration drilling

Several targets remain poorly tested or untested in the immediate area of the Orenada deposit and over the entire Orenada Group Properties. Exploration drilling on identified targets can potentially add new resources. Approximately 5,000 m should be dedicated to exploration drilling.

1.c Structural analysis and update of litho-structural/mineralization models

InnovExplo recommends reviewing the structural data and updating the litho-structural and mineralization models at the scale of the Project (the Orenada deposit) after completing the Phase 1 drilling programs. The geological interpretation could still be tested and revised, which could potentially lead to the delineation of additional high-grade shoots.

PHASE 2

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

2.a Provision for additional drilling

Assuming a positive outcome for the Phase 1 Exploration drilling program, a provision of approximately 7,500 m of delineation drilling should be considered. The objective would be to continue investigating any potential lateral and depth extensions of identified mineralized zones.

2.b Updated 43-101 MRE on the Orenada Zones 2 and 4 Project

InnovExplo recommends updating the MRE after completing the drilling programs and updating the litho-structural/mineralization models.

2.c Metallurgical tests

The tests should include a mineralogical evaluation of gold mineralization, standard characterization tests (head analysis, comminution and basic environmental testing), gold recovery by gravity separation, flotation and cyanidation of gold mineralization, and an evaluation of the gravity tailings and flotation concentrate. InnovExplo recommends conducting these additional tests in selected areas arising from the update of the litho-structural/mineralization models.

2.d Engineering studies

InnovExplo recommends initiating engineering studies, such as rock mechanics, on currently available drill core and new geotechnical drill core (approximately 5 holes). Such studies should provide sufficient information to address open pit slope angles (if applicable) as well as stope and pillar dimensions.

2.e Preliminary Economic Assessment (PEA)

In the event of a positive MRE update and positive results from metallurgical testing and engineering studies, InnovExplo recommends completing a PEA level study on the Project. This study will upgrade confidence in the Project’s economic potential.

Cost estimate for recommended program

InnovExplo has prepared a cost estimate for the recommended exploration program. Items from Phase 2 of the proposed work plan are contingent upon the success of Phase 1. The estimated cost for Phase 1, which would include the consideration of the abovementioned technical recommendations, is approximately $3,076,250 (including 15% for contingencies). The estimated cost for Phase 2 is approximately $1,940,625 (including 15% for contingencies). The grand total is $5,016,875 (including 15% for contingencies).

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

Table 26.1 – Estimated costs for the recommended work program

Phase 1 - Work Program		Budget	
		Description	**Cost (CAD)**
1a	Drilling on potential resource extension	15,000 m	$ 1,875,000
1b	Exploration drilling	5,000 m	$ 625,000
1c	Structural analysis and update of litho-structural/mineralization models		$ 175,000
	Contingencies (~ 15%)		$ 401,250
	Phase 1 subtotal		**$ 3,076,250**

Phase 2 - Work Program		Budget	
		Description	**Cost (CAD)**
2a	Provision for additional drilling	7,500 m	$ 937,500
2b	Updated 43-101 MRE on the Orenada Zones 2 and 4 Project		$ 100,000
2c	Metallurgical tests		$ 100,000
2d	Engineering studies		$ 250,000
2e	Preliminary Economic Assessment		$ 300,000
	Contingencies (~ 15%)		$ 253,125
	Phase 1 subtotal		**$ 1,940,625**
	TOTAL (Phase 1 and Phase 2)		**$ 5,016,875**

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APPENDIX I – LIST OF ORENADA GROUP PROPERTIES MINING TITLES

Title	NTS	Type	Area (ha)	Status	Issuing Date	Expiration Date	Owner	Royalties	NSR %
2439013	32C04	CDC	57,59	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Uncertain	
2439014	32C04	CDC	57,58	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439015	32C04	CDC	57,58	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439016	32C04	CDC	57,57	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439017	32C04	CDC	57,57	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439018	32C04	CDC	57,59	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Uncertain	
2439019	32C04	CDC	34,04	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439020	32C04	CDC	39,61	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439021	32C04	CDC	42,61	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439022	32C04	CDC	19,23	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439023	32C04	CDC	23,32	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439024	32C04	CDC	19,11	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439025	32C04	CDC	49,79	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Uncertain	
2439026	32C04	CDC	11,61	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439027	32C04	CDC	0,67	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439028	32C04	CDC	51,72	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439029	32C04	CDC	8,94	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439030	32C04	CDC	0,35	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439031	32C04	CDC	44,72	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439032	32C04	CDC	9,76	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5

Title	NTS	Type	Area (ha)	Status	Issuing Date	Expiration Date	Owner	Royalties	NSR %
2439033	32C04	CDC	7,69	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439034	32C04	CDC	6,52	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439035	32C04	CDC	41,40	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439036	32C04	CDC	16,39	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2439037	32C04	CDC	14,95	Active	2016-04-18	2019-07-19	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2440726	32C04	CDC	57,57	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440727	32C04	CDC	19,67	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440728	32C04	CDC	27,23	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440729	32C04	CDC	35,39	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440730	32C04	CDC	3,20	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440731	32C04	CDC	12,04	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440732	32C04	CDC	28,75	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440733	32C04	CDC	42,56	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440734	32C04	CDC	39,07	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440735	32C04	CDC	2,39	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440736	32C04	CDC	12,19	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440737	32C04	CDC	11,70	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440738	32C04	CDC	0,01	Active	2016-04-29	2019-10-14	Alexandria Minerals Corporation (20131) 100 % (responsable)	Robert	2,0
2440768	32C04	CDC	0,57	Active	2016-04-29	2020-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2440769	32C04	CDC	5,85	Active	2016-04-29	2020-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		

Title	NTS	Type	Area (ha)	Status	Issuing Date	Expiration Date	Owner	Royalties	NSR %
2440770	32C04	CDC	5,08	Active	2016-04-29	2020-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2440771	32C04	CDC	0,81	Active	2016-04-29	2020-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442336	32C04	CDC	57,59	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442337	32C04	CDC	57,58	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442341	32C04	CDC	57,60	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Uncertain	
2442353	32C04	CDC	57,59	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442361	32C04	CDC	57,58	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442362	32C04	CDC	57,58	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442363	32C04	CDC	57,58	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442364	32C04	CDC	57,58	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442365	32C04	CDC	57,58	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442367	32C04	CDC	57,57	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442368	32C04	CDC	57,57	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442369	32C04	CDC	57,57	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442370	32C04	CDC	57,57	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442371	32C04	CDC	57,57	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442372	32C04	CDC	57,56	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442373	32C04	CDC	57,56	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442374	32C04	CDC	57,55	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442375	32C04	CDC	57,58	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5

Title	NTS	Type	Area (ha)	Status	Issuing Date	Expiration Date	Owner	Royalties	NSR %
2442376	32C04	CDC	57,57	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442381	32C04	CDC	57,58	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442383	32C04	CDC	57,57	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442387	32C04	CDC	46,59	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442388	32C04	CDC	47,91	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442389	32C04	CDC	53,28	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442390	32C04	CDC	19,87	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442391	32C04	CDC	30,75	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442392	32C04	CDC	0,01	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442393	32C04	CDC	8,80	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442394	32C04	CDC	30,71	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442395	32C04	CDC	12,44	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442396	32C04	CDC	1,81	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442397	32C04	CDC	57,55	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442398	32C04	CDC	1,03	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442399	32C04	CDC	0,09	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442401	32C04	CDC	30,25	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442403	32C04	CDC	54,00	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442404	32C04	CDC	0,38	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442407	32C04	CDC	52,04	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5

Title	NTS	Type	Area (ha)	Status	Issuing Date	Expiration Date	Owner	Royalties	NSR %
2442412	32C04	CDC	3,09	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442413	32C04	CDC	31,42	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442416	32C04	CDC	18,49	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442418	32C04	CDC	33,90	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442419	32C04	CDC	29,95	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442421	32C04	CDC	46,74	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Uncertain	
2442426	32C04	CDC	0,19	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442427	32C04	CDC	38,12	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442428	32C04	CDC	32,35	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442430	32C04	CDC	4,65	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442432	32C04	CDC	57,56	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442433	32C04	CDC	43,91	Active	2016-05-03	2019-05-02	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2442531	32C04	CDC	57,60	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442532	32C04	CDC	57,60	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442533	32C04	CDC	57,60	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442534	32C04	CDC	57,60	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442535	32C04	CDC	5,55	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442536	32C04	CDC	23,69	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442537	32C04	CDC	19,48	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442538	32C04	CDC	10,86	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		

Title	NTS	Type	Area (ha)	Status	Issuing Date	Expiration Date	Owner	Royalties	NSR %
2442539	32C04	CDC	27,34	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442540	32C04	CDC	27,64	Active	2016-05-03	2019-09-27	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442545	32C04	CDC	57,59	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442546	32C04	CDC	57,59	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442547	32C04	CDC	57,59	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442548	32C04	CDC	57,50	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442549	32C04	CDC	25,25	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442550	32C04	CDC	13,68	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442551	32C04	CDC	54,50	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442552	32C04	CDC	56,91	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442553	32C04	CDC	45,97	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442554	32C04	CDC	7,80	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442555	32C04	CDC	4,12	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442556	32C04	CDC	6,90	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442557	32C04	CDC	0,37	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2442558	32C04	CDC	0,03	Active	2016-05-03	2019-09-12	Alexandria Minerals Corporation (20131) 100 % (responsable)		
2471203	32C04	CDC	5,72	Active	2016-12-22	2020-12-21	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
2471204	32C04	CDC	6,07	Active	2016-12-22	2020-12-21	Alexandria Minerals Corporation (20131) 100 % (responsable)	Osisko G. Royalities	2,5
Claim list on June 26, 2018: (118 claims for 3891.5 ha)									