



# NI 43-101 Technical Report Mineral Resource Estimation Update 2017 Granada Gold Mine Inc.

# Rouyn-Noranda, Quebec, Canada



# Submitted to: Granada Gold Mine Inc.

Effective Date: May 16<sup>th</sup> 2017 Issue Date: June 30<sup>th</sup> 2017

Prepared by:

Goldminds Geoservices Inc.



# Certificate of Qualified Person

## I, Claude Duplessis Eng., do herby certify that:

- 1. I am a senior engineer and consultant with GoldMinds Geoservices Inc. with an office at 2999 Chemin Ste-Foy, Suite 200, Quebec, Quebec, Canada, G1W 3N3;
- This certificate is to accompany the Report entitled: "NI 43-101 Technical Report, Mineral; Resource Estimation Update 2017 Granada Gold Mines Inc." dated June 30th 2017;
- 3. I am a graduate from the University of Quebec in Chicoutimi, Quebec in 1988 with a B.Sc.A in geological engineering and I have practiced my profession continuously since that time, I am a registered member of the Ordre des ingénieurs du Québec (Registration Number 45523). I am also a registered engineer in the province of Alberta (Registration Number M77963). I have worked as an engineer for a total of 27 years since my graduation. My relevant experience for the purpose of the Technical Report is: Over 20 years of consulting in the field of Mineral Resource estimation, orebody modeling, mineral resource auditing and geotechnical engineering.
- I did the personal inspection of the Granada property many times since November 2nd 2011 up to 2017 on a regular basis each year as technical consultant for GGM, I have supervised the latest drilling campaign of 2016 & 2017 and my latest site visit is June 2<sup>nd</sup> 2017;
- I am responsible for the whole report of: "NI 43-101 Technical Report, Mineral; Resource Estimation Update 2017 Granada Gold Mines Inc "dated June 30th 2017;
- I am an independent "qualified person" within the meaning of National Instrument 43-101 Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators;
- 7. I have had no prior involvement with the property that is the subject of this technical report. I certify that there is no circumstance that could interfere with my judgment regarding the preparation of this technical report;
- I have read NI 43-101 and Form 43-101F1 and have prepared and read the report entitled: NI 43-101 Technical Report, Mineral; Resource Estimation Update 2017 Granada Gold Mines Inc" dated June 30th 2017 for Granada Gold Mines Inc. in compliance with NI 43-101 and Form 43-101F1;
- That, at the effective date of this technical report, to the best of my knowledge, information, and belief, for this Report with the exception of section 20, contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Signed at Quebec this June 30th, 2017

Signed and Sealed

Claude Duplessis Eng. Effective Date: May 16th 2017





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# 1 Summary

#### 1.1 General

This technical report was prepared by GoldMinds Geoservices Inc. (GMG) for Granada Gold Mine Inc. (GGM) to support the disclosure of an updated mineral resource estimation according to the guidelines set under "Form 43-101F1 Technical Report" of National Instrument 43-101 Standards.

This technical report describes the methodology used for the modeling and estimation of the Granada Gold property mineral resource using historical data, recent data and new diamond drillhole data of the 2016 & 2017 drill campaign. The report also presents a review of the history, geology, sample preparation, QA/QC program and data verification of the Granada Gold Mine deposit and provides recommendations for future work.

The report is an updated resource estimation following the diamond drilling program of 2016-2017. The property is fully permited in accordance with the rolling start mining scenario presented in the Prefeasibility Study in 2014 by SGS and GMG. The company has its Certificate of Authorisation and all permits for the mining by open-pit of 550 tonnes of ore per day.

The current Granada Gold Mine mineral resources of 2017 are estimated by GMG for the purpose of a furture gold production at a larger scenario than the one identified in the 2014 PFS rolling start.

## 1.2 Property Description and Ownership

The Granada Gold Mine property is located 5 kilometres south of the city center of Rouyn-Noranda in northwestern Quebec and 1.5 kilometers south east of the borough of Granada.

The Property is located in the municipality of Rouyn-Noranda (Granada sector) in northwestern Québec, the area is centered at 48°10' N Latitude and 79°01' W Longitude in National Topographic Map. This property comprises NTS map sheet 32D02 and 32D03.

The property covers a total area of 2409.06 ha (24.09 km²) and comprises two (2) mining leases (number 813 and 852), forty-eight (48) CDC, twenty-five (25) CL and one (1) CLD. All these claims are 100% owned by Granada Gold Mine Inc. (TSX-V: GGM, OTC PK: GBBFF, FRANKFURT: B6D).

Claims are all in good standing with renewals at variable due dates. A total of 3 claims are up for renewal in the 2017 year, and the rest between 2018 and 2023. The claims within the Granada Property are held 100% by Granada Gold Mine Inc. (name has changed from Gold Bullion Development Corp).





The claims are valid for two-year periods and convey only exploration rights, no surface rights. The claims are in good standing according to the claim system registry of Québec (Gestim). In general, an average of \$850 work in exploration for each claim is required per year to maintain them in good standing. An assessment report must be filed with the MERN (Ministère de l'Énergie et des Ressources naturelles) with appropriate proof of exploration expenses. The mining leases BM 813 & BM 852 are under a 3% NSR payable to Mousseau Tremblay Inc. Granada Gold Mine has a MOU signed in 2015 with the Temiskaming First Nation.

#### 1.3 Local Resources and Infrastructures

The local workforce, supplies, services and equipment resources are sufficient. The neighboring town of Rouyn-Noranda houses a number of mining-related companies. The mine site is connected to the provincial hydroelectric power grid. The infrastructures on the site consist of an administrative building, a workshop, a core logging facility, covered core racks, a dry room and a steel-structure workshop.

## 1.4 Geology and Mineralization

The Granada Mine property is situated within rocks of the Temiscaming group, on the south limb of the regional east-west trending Granada synclinorium whose axial trace is located south of the Cadillac Fault. The property is underlain principally by east-west-trending, north-dipping interbedded-polymictic conglomerate, porphyry-pebble conglomerate, greywacke and siltstone-mudstone of the Granada Formation.

The Cadillac Fault traverses the northern part of the property. Within the Granada mine site itself a parallel set of shears (Granada Shear Zone) occur over a zone of 500 m+ in width. The shears are characterized by intense sericite, iron carbonate plus minor chlorite alteration with disseminated pyrite and arsenopyrite and host quartz veins and stringers. The veins comprise boudinaged or enechelon quartz lenses within the sediments and more continuous veins in the syenite intrusive bodies. A series of north-easterly trending sigmoidal faults occur between the Cadillac Fault and the Granada Shear Zone due to late shearing. This late shearing also imparted the fracturing and dilatancy in the quartz veins.

The gold mineralization is hosted by east-west trending smoky grey, fractured quartz veins and stringers. Free gold occurs at vein margins or within fractures of the quartz veins or sulphides. Late north-easterly-trending sigmoidal faults also host high-grade gold mineralization. Accessory minerals include tourmaline, carbonate, chlorite, and disseminated sulphides. Pyrite is the dominant sulphide typically occurring within the immediate wall rock to the quartz veins. Minor pyrite does occur within the veins themselves. Additional sulphides such as chalcopyrite, arsenopyrite sphalerite, and galena are present in trace amounts. Fuchsite (chromium mica) is present in the immediate wall rock to the quartz veins in some places.





The gold grade at Granada varies due to coarse free gold in the mineralized structures. Apparently discontinuous, the mineralized structures are relatively continuous; this is shown by assay grade continuity on cross section and the associated geometry of the underground workings.

The mineralized zones are being cut in blocks which are shifted in majority to the north, along the late NNE trending faults.

In a cross-sectional view near shaft #1, the east-west extent of the vein is over 250 m, supported by drillhole data and now extend downdip over 900 meters + based on the 2016-2017 drilling. An important point to mention is the fact that previous operators did not extract all the gold. It is possible to see the drift projection between recent mineralized core intersections into the foot wall vein. (historically they only pickup a single vein)

## 1.5 Exploration and Drilling

The Granada property has been explored throughout the last seven years by Gold Bullion Development Corp. Geological and structural studies were done by EarthMetrix Technologies Inc. in order to determine optimal exploration targets for the discovery of significant gold mineralization on the D2D3 group of properties from available data (Assessment work files from the MRNF), structural interpretations using the technology developed by Technologies EarthMetrix Inc. by integrating all results coming from different interpretations. Maps are defined by the property limits.

A 140,000 tonne bulk sample was processed by Gold Bullion in 2007 from an open pit at the Granada Mine, of which 30,000 tonnes were processed using an on-site mill. The average gold grade from this large sample was 1.62 g/t with a 90-percent rate gold recovery. The waste from this bulk sample, along with the waste stockpile from past bulk sampling programs at the Granada mine by previous operators were also assayed and returned an average grade of 1.75 g/t Au. This confirms the presence of gold mineralization between the vein structures, which trend east-west as one large overall structure.

In early 2013, SGS discovered shallow high-grade zones using assay results from previous exploration campaigns. In May 2013, Gold Bullion Development Corporation contracted SGS Geostat to perform channel sampling on the Granada Gold property. The campaign focused on developing the newly discovered high-grade zones identified in drillholes. Assays from channel samples taken from the trenched areas varied from 22.42 g/t Au over 1.04 metres to 0.01 g/t Au over 0.82 metres.

In September 2014, 6 trenches were dug to the east of the pit 2A. The trenches are 100m long by 1,8m to 2,5 m in width and trend N195°. The space between the trenches T14-1, T14-2, T14-3, T14-4 and T14-5 is 25 m. The trench T14-6 is located 36 m east of the Pit 2A. The work was done by Technominex and supervised by Goldminds Geoservices. A total of 334 channel samples were assayed by Accurassay Lab for Au by fire assay SAA/PCI method on 30-gram samples and by





gravimetric method on 50-gram samples for the samples with more than 10g/t Au. The control QA/QC has been applied by introducing a standard sample each 20 samples and with a blank at each 40 samples. The lab duplicates were made every 20 samples.

In 2015, two additional trenches were done (T15-11 and T15-12). The trenches are 80 m long, 1.8 m wide and 0.2 to 1.5 m deep. 119 channel samples were taken. The cleaning and channeling started on March 2<sup>nd</sup> and ended on March 18<sup>th</sup>. Two men from Technominex as well as two men from Gold Bullion worked on the trenching, which was managed by Goldminds Geoservices. The samples were assayed at Accurassay lab in Rouyn-Noranda.

In 2016, GoldMinds Geoservices Inc. was mandated to identify the drilling targets, to supervise the drilling and to analyze the results. The drill campaign started on September 20<sup>th</sup>, 2016 and the last hole was drilled on October 13<sup>th</sup>, 2016. The campaign goal was to identify a new high-grade zone and to better define the known mineralization and increase the mineral resources on the mining site.

A total of 2142 samples, not including blanks, duplicates and standards, were analyzed at Accurassay laboratory in Rouyn-Noranda. The drilling contractor selected for the 2016 campaign was Forage Orbit Garant, headquartered in Val-d'Or.

Merouane Rachidi, P. Geo, Ph. D., and Isabelle Hébert, Jr. Eng. were on-site during the campaign to supervise the drilling, to log and to supervise the sampling with site visits of Claude Duplessis Sr. Eng. And QP of the project.

In 2017, another campaign was conducted by Goldminds Geoservices in continuation to the 2016 campaign. Four new drillholes, totaling 2633m were done. Hole GR-17-04 was drilled in order to validate historic drillhole data and was drilled on top of a sterile pile. Isabelle Hébert, Jr. Eng. was on-site during the campaign to supervise the drilling, to log and to supervise the sampling under guidance of Claude Duplessis Sr.Eng. P of the project.

A granitic intrusion has been identified based on historical information to the North-west of the property and may have act as the heat sources for the mineralized fluid circulation and could be the genesis of the a portion of the gold at Granada.

Previous to recent drilling the Company has carried out three phases of exploration starting in 2009, another in 2010, the third in 2011. All exploration work, especially drilling, was completed under supervision and management of the Company's previous consultant. The drilling was done by diamond-drill using NQ core size.

• Phase 1: The Company drilled 25 shallow holes from December 2009 to January 2010 at the Granada Gold Property. A total of 2,817 metres was drilled.





- Phase 2: The Company launched a 20,000 metres drill program at the Granada Gold Project in early May 2010, which was extended by 5,000 metres in September due to encouraging early results.
- Phase 3: Gold Bullion Development completed nearly 11,000 metres of drilling at its Granada Gold Property to the end of 2011, with intersecting new mineralized structures throughout the LONG Bars Zone (main Granada mineralized structure package). From that drilling mineralization remains open in all directions at Granada.

The deep and shallow drilling programs were initiated in 2012 under Claude Duplessis recommendation to test structures and gold mineralization presence on the north and west extension of the Granada Property. The spring 2012 drilling program was intended to enlarge the gold mineralization envelope of the expanded LONG Bars zone resource to the north at depth and near surface to the west. A total of 8339.25 metres in 23 holes was drilled on the Granada Property in 2012.

# 1.6 Historical Tailings and Waste Pile

Part of the Property is recovered by historical tailings and there are tailings in one of the old open pits, now filled with water. The old tailings belong to the "Ministère de l'Énergie et des Ressources naturelles, secteur Mines" (orphan site). Granda Gold Mine is taking actions to take care of them in direct communication with the MERN and MDDELCC. A plan has been submitted but not accepted.

Regarding the onsite waste pile, legacy of previous open-pit operations, Granada Gold Mine can use the rock for access road construction and it is also being used by local contractors for fill. Galarneau (Contractor from Rouyn-Noranda) has its C of A to crush and screen these for aggregate reuse. He has a contract 70,000 tonnes and to the author's knowledge has a C of A for this independent operation. The waste pile was screened by GGM (about 450,000 tonnes) to remove fines and set apart as requested by the MDDELCC.

The property is outside Joannès wildlife preserve located to the east. A potential risk exists with a proposed Bill n°14 (An Act respecting the development of mineral resources in keeping with the principles of sustainable development) that gives more power to Municipalities and MRC. Since these entities do not have qualified persons to review mineral projects it is one of the main concerns of the mineral industry. This situation applies to all mining and exploration projects in the Province of Québec and is not specific to the Granada property.

#### 1.7 Mineral Processing, Metallurgical Testing and Recovery Methods

The rolling start of the Granada Gold Mine (GGM) project was scheduled to be processed at the Iamgold-Westwood mill (IMG-formerly Doyon) with the ore to be transported a distance of





approximately 43 km from Granada and stockpiled at Westwood-Doyon mill. Unfortunatly extensive delays in permitting with the Ministyry of Environment of Quebec (MDDELCC) has delayed the project over 2 years where IMG filled the mill availability with another project. Once GGM was ready with its permits in hand, there was no more room and IMG put an end to the custom milling agreement. The company still pursue discussions with other mills for custom milling.

Metallurgical testing done at SGS Lakefield and at the URSTM of Rouyn-Noranda on the Granada ore suggests that 95% gold recovery is easily attainable by gravity separation followed by cyanidation of the gravity tailings. Additional testing with flotation has been done at COREM to assess recovery and also test of neutralization with addition of calcite to potentially bring the ore to non-acid generating and non-metal leachable. Moreover preconcentration tests have been done at Gekko to enable gold recovery from low grade material.

#### 1.8 Mineral Resources Estimate

GoldMinds Geoservices Inc. has prepared for Granada Gold Mine Inc. an updated Mineral Resource Estimation using the existing drilling data (873 holes and wedges totalling 114,591 meters, and 42 channel samples totalling 354 meters) and the new drilling data from 2016-2017 drilling campaign including 18 holes, 1 wedge, totalling 7,311 meters used in the mineral resource estimation. The drill hole datatbase has more data.

Two resource models were produced for each scenario (2 for resource model 1 and 2 for resource model 2) using model with blocks dimensions of 10 m (EW) x 05 m (NS) x 05 m (Z) on the surface and 10 m (EW) x 03 m (NS) x 03 m (Z) below 135mZ for the first model and 10 m (EW) x 05 m (NS) x 05 m (Z) for the second model.

#### 1.8.1 Granada Resources Summary Base Case

#### High-Grade Discovery with Maiden Inferred Resource

The "heat engine" for Granada mineralization is believed to exist in the northwest part of the property, a high priority untested area now referred to as the "Genesis Target" that includes a large granite intrusion and intense shearing immediately south of the Cadillac fault.

An initial Inferred underground resource of **10,386,500** tonnes grading **4.56** g/t Au at a cut-off grade of **1.5** g/t Au (**1.5** million oz. Au) has been outlined along **600** m of strike **east** of Genesis based on drilling by Granada Gold in late 2016 and early this year. This is a major development in the evolution of the Granada Property and even higher grades are being targeted in the discovery area and to the west-northwest at Genesis which has never been previously drilled.

## Granada In-Pit Constrained Measured & Indicated Resources





Measured open-pit constrained resources in the LONG Bars Zone are 17.1 million tonnes grading 1.14 g/t Au for total contained gold of **625,000** ounces. Indicated open-pit constrained resources are 4.5 million tonnes grading 1.26 g/t Au for total gold ounces of **182,700**.

The parameters chosen for the open-pit constrained resources are similar to parameters previously used. However, the inclusion of historical holes has reduced Measured and Indicated ounces. Certain historical intervals that weren't assayed have been set to zero grades, an approach GoldMinds considers to be conservative. A slightly higher cut-off grade of 0.39 g/t Au was also applied to this estimate. Rounded numbers in tables may not add up.

Note that mineral resources are not mineral reserves and do not have demonstrated economic viability. However, the reported mineral resources are considered by the qualified persons to have reasonable prospects for economic extraction as per new CIM 2014 definitions.

Granada May 2017			
Mineral Resource Estimate			
Category	Tonnage	Au g/t	Au oz.
Measured in-pit constrained	17,068,500	1.14	625,000
Indicated in-pit constrained	4,507,000	1.26	182,700
Total M&I	21,575,500	1.16	807,700
Inferred Underground	10,386,500	4.56	1,523,800

Measured & Indicated open-pit constrained at 0.39 g/t Au cut-off (\$21.30 per tonne).

Inferred underground north of open-pit at 1.5 g/t Au cut-off (\$81.99 per tonne).

Resource estimate by GoldMinds Geoservices Inc.

Mineral resources are not mineral reserves and do not have demonstrated economic viability.

Notes to resource table above are detailed in section 14 of this report.





For comparative purposes, GoldMinds GeoServices Inc., Granada Gold's geological consultants, have updated the Granada Global Classified Block Model first released in November 2012 (report of 2013). The Block Model incorporates 934 diamond drill holes and trenches comprising 122,257 meters, including approximately 30,000 meters of historical drilling that weren't part of the original 2012 Block Model. The Inferred total comes from an area up to 1 km north of the open-pit constrained resource, east of Genesis, where mineralization has been outlined from surface to a depth of 1 km with grades increasing at depth. The 233% increase in the Inferred category is attributed to new information obtained from Granada Gold drilling in 2016 and 2017. This highlights the potential of the entire Granada system for hosting broad envelopes of near-surface mineralization in addition to high-grade underground deposits that formed in the north and could extend to the south underneath the identified near-surface resources.

Granada Global Classified Block Model Granada in situ Comparative, 2017 vs. 2012 (0.40 g/t cut-off)							
	2017 2012						
Category	Tonnage	Au g/t	Au oz.	Tonnage	Au g/t	Au oz.	
Measured	22,585,000	1.09	791,500	28,735,000	1.02	946,000	
Indicated	20,019,000	1.15	742,600	18,740,000	1.09	659,000	
Total M+I	42,605,000	1.12	1,534,000	47,475,000	1.05	1,605,000	
Inferred	81,691,000	1.31	3,436,400	29,975,000	1.07	1,033,000	





#### 1.9 Mineral Reserves Estimate

Since this report is not a feasibility or prefeasibility study, no mineral reserves can be defined. However, mineral reserves were disclosed in May 6<sup>th</sup>, 2014 in a prefeasibility study which is available on Granada Gold Mine website and SEDAR from which specific extracts are presented in additional information section of this report.

#### 1.10 Interpretation and Conclusions

GoldMinds Geoservices considers the resource estimate to have been reasonably prepared and conform to the current CIM standards and definitions for estimating resources, as required under NI 43-101 "Standards of Disclosure for Mineral Projects".

GoldMinds believes that the Granada property is highly prospective.

At the Granada property, the mineralized fluids have circulated in the major shear. Additional exploration and geological works are required to increase the amount of mineral resources laterally and at depth.

The mineral resources update at Granada shows interesting numbers using different sceanrios of reasonable prospect of economic extraction by open pit and by underground method.

The property has not been drilled totally and extension are possible in many directions. The resources at depth are open and the Eastern portion of the property is still waiting for permits to carry exploration.

Depending on the scenario of development elected by the company, the project offers several possibilities as project can start mining now as fully permitted for the rolling start. The company can also start application for a larger mining scenario with an on-site mill and continu develop the mineral resources or a different combination of the options highlighted. As permitting in the province of Quebec are extremely long and not easily achievable quickly as the Ministry of environment puts moving targets to achieve, the company may elect to build a mill in Ontario instead of an onsite mill to enable extraction of the ore identified in the rolling start.

Significantly, only a fraction of the total area (1.8 km north-south x 2.1 km east-west) north of the LONG Bars Zone Measured and Indicated near-surface resource has been drill-tested, further solidifying Granada as one of the premier exploration and development opportunities along the prolific Cadillac Trend.





The base case mineral resource sat Granada stands at:

Granada May 2017							
Mineral Resource Estimate							
Category	Tonnage	Au g/t	Au oz.				
Measured in-pit constrained	17,068,500	1.14	625,000				
Indicated in-pit constrained	4,507,000	1.26	182,700				
Total M&I	21,575,500	1.16	807,700				
Inferred Underground	10,386,500	4.56	1,523,800				

Measured & Indicated open-pit constrained at 0.39 g/t Au cut-off (\$21.30 per tonne).

Inferred underground north of open-pit at 1.5 g/t Au cut-off (\$81.99 per tonne).

Resource estimate by GoldMinds Geoservices Inc.

Mineral resources are not mineral reserves and do not have demonstrated economic viability.





#### 1.11 Recommendations

There is potential in the Granada Gold Project to increase the mineral resource in addition to the increase of its lateral extension.

The recent drilling at the Granada Gold Mine Project has shown that additional drilling can increase mineral resources and in order to convert portion of these inferred mineral resources into indicated or measured it is necessary to plan an extensive surface drilling campaign on the property in the range of 100,000 meters where 80,000 meters should aim the extention at depth and the identified favorable geological context of th granitic intrusion ( maybe Genesis of the gold circulation to the north west ) and 10,000 to the west of existing resource open pit outline and the remaining 10,000m to test the movement and identify mineralized structures displacement to the East.

The exploration work program & others -2017/2018 is estimated as follow:

## Exploration Budget on the Granada Project (CAN\$)

•	Estimated total cost	\$21,2	275,000
•	Deep drilling program targeting mineralization depth (400-1000m)	\$15,0	000,000
•	Supervision and Technical reports, studies	\$ 1,1	150,000
•	Laboratory met testings, preconcentration optimization	\$	50,000
•	Geotech Drilling (try to increase pit slope)	\$	75,000
•	Drilling (definition, exploration (0-400m))	\$ 5,0	00,000

With such a program, the company should aim at a potential target of 10 to 15 Million tonnes at 4 to 6 g/t in complement of the existing mineral resources.

Note: The quantity and grade is conceptual in nature, that there has been insufficient exploration to define a mineral resource and that it is uncertain if further exploration will result in the target being delineated as a mineral resource. This amount is a projection of the intersections over the untested by drilling arear on the claim to the north of the mining leases.





# 2 Introduction

## 2.1 Terms of Reference – Scope of Work

This technical report was prepared by Goldminds Geoservices (GMG) for Granada Gold Mine (GGM) to support the disclosure of mineral resources for the Granada property ("Property" or "Project") compliant to the National Instrument 43-101. The report describes a review of the history, geology, sample preparation and data verification of the Granada deposit and provides recommendations for future works. The report presents also the basis and methodology used for modeling and estimation of the resources of the Granada gold deposit from historical and new data. The reader must be advised that the content of this technical report is an update of the previously filed report on May 6<sup>th</sup> 2014. Some sections remain the same and the new information has been added in the respective sections.

This technical report was prepared according to the guidelines set under "Form 43-101F1 Technical Report" of National Instrument 43-101 Standards and Disclosure for Mineral Projects. The original certificate of qualification for the Qualified Persons responsible for this technical report have been supplied to Granada Gold Mine as separate documents and can also be found in the first pages of the report.

The scope of work as defined in the mandate of September 2016 includes the supervision of the drilling campaign, identification of drilling targets, geological logging and sampling, data integration, design of the updated mineral resource model for gold mineralization.

- 1. Site visit;
- 2. Compilation and verification/validation/integration of the historical and recent data;
- 3. Drilling targets identification;
- 4. Drilling supervision, geological logging and sampling;
- 3. Data integration and modelling of the mineralized zones;
- 4. Pit optimization;
- 5. The preparation of the updated mineral resource estimation and NI 43-101 compliant technical report.





#### 2.2 Source of Information

The information presented in this technical report comes from the previous technical report and the new information was developed during the 2014-2015 trenching campaigns as well as the 2016-2017 drilling campaigns.

Drillholes were surveyed by Mazac, an independent surveyor.

Historic holes from 1990 and later have been integrated in the database. All drillholes older than 1990 have not been integrated in the resource estimation. The most recent campaigns have aimed to drill holes in order to validate historic data with new, NI 43-101 compliant data. For instance, hole GR-17-04 was located on top of a sterile pile, in a sector that hadn't been explored since 1989 but had shown high grades.

Historical holes were integrated into the database in 2012, however decision was made by the author not to use the historical data of the 90's for resource estimation since drill cores were not sampled in full and it was not possible to carry a QA/QC program at that stage. Moreover, the new GGM drilling program covered the 90's drilling area and much more. Information in this report is based on critical review of the documents, information and maps provided by the personnel of GGM and independent 3rd parties like commercial laboratories, Quebec Ministry of Natural Resources and surveyors. The holes of the 1990's have been integrated after independent sampling and location validation while stripping for the rolling start was ongoing.

#### 2.3 Personnal inspection of the property by qualified person

Mr. Claude Duplessis, Eng., Senior Engineer, GoldMinds Geoservices Inc. visited Granada Gold Mine on numerous occasions as an independent Qualified Person as defined in the NI 43-101. Mr. Duplessis started working with GGM (formerly Gold Bullion Development Corp.) in 2012 and was the QP for both a PEA and a PFS. Furthermore, Mr. Duplessis was present at the beginning of the 2016 exploration campaign and visited the site during the 2017 campaign. Most recently, Mr. Duplessis visited the site on June 2<sup>nd</sup> 2017 and is responsible for all sections of this report.

Mr. Merouane Rachidi Ph D. P.Geo and Qualified Personvisited the site from September 20<sup>th</sup> for few days and again from October 4<sup>th</sup> to October 13<sup>th</sup> and he returned to site from December 8<sup>th</sup> until the 20<sup>th</sup>. During that time, he supervised drilling, geological logging and he established the sampling procedure and QA/QC program with Claude Duplessis and Isabelle Hebert.

Isabelle Hebert Jr. Eng., was present at the Granada property from September 18<sup>th</sup> to October 4<sup>th</sup>, December 1<sup>st</sup> to December 8<sup>th</sup> and for the drilling campaign starting January 5<sup>th</sup> until Febuary 9<sup>th</sup> 2017. During that time, she supervised drilling, geological logging and she established the sampling procedure and QA/QC program under the direction of Claude Duplessis and Merouane Rachidi.





# 2.4 Units and Currency

All measurements in this report are presented in "International System of Units" (SI) metric units, including metric tonnes (tonnes) or grams (g) for weight, metres (m) or kilometres (km) for distance, hectare (ha) for area, and cubic metres (m³) for volume. All currency amounts are Canadian Dollars (\$) unless otherwise stated. Abbreviations used in this report are listed in Table 1.

Table 1: List of abbreviations

Table 1. List of abbiteviations						
GMG	GoldMinds Geoservices Inc.					
GGM	Granada Gold Mine Inc.					
tonnes or t	Metric tonnes					
kg	Kilograms					
g	Grams					
km	Kilometres					
m	Metres					
μm	Micrometres					
ha	Hectares					
$m^3$	Cubic metres					
km/h	Kilometre per hour					
%	Percent sign					
t/m³	Tonnes per cubic metre					
\$	Canadian Dollars					
0	Degree					
°C	Degree Celsius					
NSR	Net smelter return					





ppm	Parts per million			
ppb	Parts per billion			
NQ	Drill core size (4.8 cm in diameter)			
SG	Specific Gravity			
NTS	National Topographic System			
UTM	Universal Transverse Mercator			
NAD	North America Datum			
Ga	Billion years			
Au	Gold			
g/t	Gram per metric tonne			
Oz	Troy ounce			
Oz/t	Troy once per short ton			
Moz	Million ounces			
SM	Screen Metallic			
FA	Fire Assay			
Ma	Million years			





# 3 Reliance on Other Experts

The authors of this technical report are not qualified to comment on issues related to legal agreements, royalties, permitting, taxation and environmental matters. The authors have relied upon the representations and documentations supplied by Granda Gold Mine Inc. The authors have reviewed the mining titles, their status, the legal agreements and technical data supplied by Granada Gold Mine, and public sources of relevant technical information.

This report was prepared by GoldMinds Geoservices Inc. using the database prepared by SGS Geostat for the PFS 2014 and also the new database from the drilling campaign of 2016-2017 compiled by GMG. Information, conclusions, opinions and estimates contained in this document are based on the information available to GoldMinds Geoservices at the time of writing this report.

This report is to be used by Granada Gold Mine as a technical report in conformity with the Canadian Securities Regulatory System. Use in whole or of any part of this document by a third party for purposes other than those of the Canadian Provincial Securities Act Legislation will be at the risk of the user.

As for common metals, precious metals like gold are sold on public exchanges and evaluating their prices is relatively straightforward. Prices of metals tend to fluctuate strongly due to 1) market conditions; 2) European & USA debt crisis; 3) speculation as to the future demand.

Comparisons were made with other recent technical reports and price assumptions available which showed that the price assumptions were well within range of other experts. These prices were used to establish a minimum cut-off grade for the gold.

The author relies on independent surveyor (Mazac Geoservices Inc.) for the accuracy of the diamond drillhole positions and gyroscopic down-hole orientation surveys for the deep holes.

The author relies on the commercial Laboratories used for the assays results.





# 4 Property Description and Location

## 4.1 Property Location

The Granada Gold Mine property is located 5 kilometres south of the city center of Rouyn-Noranda in north-western Québec and 1.5 kilometres south east of the borough of Granada.

The Property is located in the municipality of Rouyn-Noranda (Granada sector) in north-western Québec, the area is centered at 48°10' N Latitude and 79°01' W Longitude in National Topographic Map. This property comprises NTS map sheet 32D02 and 32D03.

Figure 1 presents the location of the property in the regional context (source from Granada Gold Mine Web site).

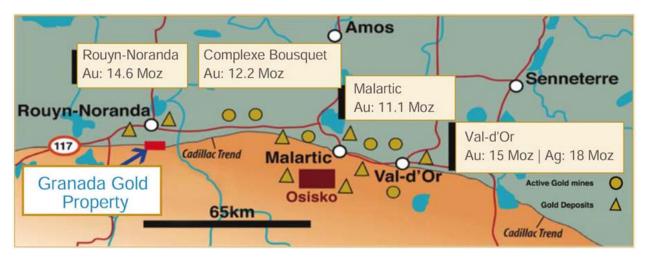


Figure 1: Location of Granada property: Abitibi region, Québec.







Figure 2: Regional map of Granada

# 4.2 Property Description, Ownership and Royalty

The property covers a total area of 2409.06 ha (24.09 km²) and comprises two minig leases (BM 813 and BM 852), forty-eight (48) CDC, twenty-five (25) CL and one CLD. All 100% of the claims are owned by Granada Gold Mine (TSX-V: GGM). The map of the property is shown in Figure 3.





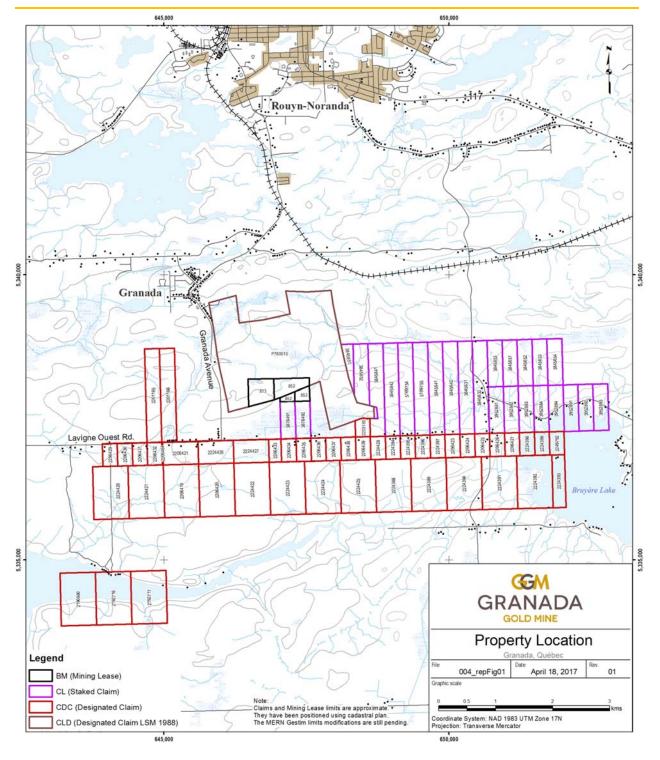


Figure 3: Claims of the Granada property





Table 2: Claims information of the Granada Gold Mine property.

				Required Required		
Sheet	Туре	No titre	Area (Ha)	work (\$)	Fee (\$)	Expiry date
SNRC 32D03	BM	813	21,12			2023-09-19
SNRC 32D03	BM	852	22,47			2020-03-29
SNRC 32D03	CDC	2190880	57,44	1170	64,09	2017-10-05
SNRC 32D03	CDC	2192716	57,44	1170	64,09	2017-10-25
SNRC 32D03	CDC	2192717	57,44	1170	64,09	2017-10-25
SNRC 32D03	CDC	2201165	42,8	1170	64,09	2018-01-17
SNRC 32D03	CDC	2201166	42,78	1170	64,09	2018-01-17
SNRC 32D03	CDC	2203160	8,22	487,5	32,77	2018-01-25
SNRC 32D03	CDC	2206419	57,43	1170	64,09	2018-02-21
SNRC 32D03	CDC	2206420	57,43	1170	64,09	2018-02-21
SNRC 32D03	CDC	2206421	24,94	487,5	32,77	2018-02-21
SNRC 32D02	CDC	2206423	10,62	487,5	32,77	2018-02-21
SNRC 32D02	CDC	2206424	10,62	487,5	32,77	2018-02-21
SNRC 32D02	CDC	2206425	10,64	487,5	32,77	2018-02-21
SNRC 32D02	CDC	2206426	10,64	487,5	32,77	2018-02-21
SNRC 32D02	CDC	2206427	10,64	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206429	10,47	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206430	10,48	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206431	10,49	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206432	10,5	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206433	8,76	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206434	10,57	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206435	10,57	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206436	10,57	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206437	10,59	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206438	10,6	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206439	10,59	487,5	32,77	2018-02-21
SNRC 32D03	CDC	2206464	0,57	487,5	32,77	2018-02-21
SNRC 32D02	CDC	2224388	57,43	1170	64,09	2018-04-29
SNRC 32D02	CDC	2224389	57,43	1170	64,09	2018-04-29
SNRC 32D02	CDC	2224390	57,43	1170	64,09	2018-04-29
SNRC 32D02	CDC	2224391	57,43	1170	64,09	2018-04-29
SNRC 32D02	CDC	2224392	57,43	1170	64,09	2018-04-29
SNRC 32D02	CDC	2224393	20,88	487,5	32,77	2018-04-29
SNRC 32D02	CDC	2224394	10,6	487,5	32,77	2018-04-29
SNRC 32D02	CDC	2224395	10,61	487,5	32,77	2018-04-29
SNRC 32D02	CDC	2224396	10,61	487,5	32,77	2018-04-29
SNRC 32D02	CDC	2224397	10,61	487,5	32,77	2018-04-29





Sheet	Туре	No titre	Area (Ha)	Required work (\$)	Required Fee (\$)	Expiry date
SNRC 32D02	CDC	2224398	10,64	487,5	32,77	2018-04-29
SNRC 32D02	CDC	2224399	10,63	487,5	32,77	2018-04-29
SNRC 32D03	CDC	2224420	57,43	1170	64,09	2018-04-29
SNRC 32D03	CDC	2224421	57,43	1170	64,09	2018-04-29
SNRC 32D03	CDC	2224422	57,43	1170	64,09	2018-04-29
SNRC 32D03	CDC	2224423	57,43	1170	64,09	2018-04-29
SNRC 32D03	CDC	2224424	57,43	1170	64,09	2018-04-29
SNRC 32D03	CDC	2224425	57,43	1170	64,09	2018-04-29
SNRC 32D03	CDC	2224426	24,98	487,5	32,77	2018-04-29
SNRC 32D03	CDC	2224427	25,03	1170	64,09	2018-04-29
SNRC			20,00			
32D02,32D03	CDC	2224428	10,6	487,5	32,77	2018-04-29
SNRC 32D02	CDC	2249792	10,63	487,5	32,77	2018-09-13
SNRC 32D03	CLD	P780010	350	2340	97,15	2019-03-24
SNRC 32D02	CL	3845631	40	1625	64,09	2019-10-20
SNRC 32D02	CL	3845632	40	1625	64,09	2019-10-20
SNRC 32D02	CL	3845641	40	1625	64,09	2019-10-19
SNRC 32D02	CL	3845642	40	1625	64,09	2019-10-19
SNRC 32D02	CL	3845651	20	650	32,77	2019-10-20
SNRC 32D02	CL	3845652	20	650	32,77	2019-10-20
SNRC 32D02	CL	3845653	20	650	32,77	2019-10-20
SNRC 32D02	CL	3845654	20	650	32,77	2019-10-20
SNRC 32D02,32D03	CL	3845841	39	1625	64,09	2019-10-19
SNRC 32D02	CL	3845842	40	1625	64,09	2019-10-19
SNRC 32D03	CL	3845851	16	650	32,77	2019-10-19
SNRC 32D03	CL	3845852	28	1625	64,09	2019-10-19
SNRC 32D02	CL	3845853	20	650	32,77	2019-10-19
SNRC 32D03	CL	3878491	20	650	32,77	2018-01-20
SNRC 32D03	CL	3878492	20	650	32,77	2018-01-20
SNRC 32D02	CL	3952881	20	650	32,77	2019-10-15
SNRC 32D02	CL	3952882	20	650	32,77	2019-10-15
SNRC 32D02	CL	3952883	20	650	32,77	2019-10-15
SNRC 32D02	CL	3952884	20	650	32,77	2019-10-15
SNRC 32D02	CL	3952891	20	650	32,77	2019-10-15
SNRC 32D02	CL	3952892	20	650	32,77	2019-10-15
SNRC 32D02	CL	3952893	20	650	32,77	2019-10-15
SNRC 32D02	CL	3952894	20	650	32,77	2019-10-15
SNRC 32D02	CL	5109754	40	1625	64,09	2019-08-20
SNRC 32D02	CL	5109755	40	1625	64,09	2019-08-20





Table 2 was Modified after GESTIM (Gestion des titres minier – Gouvernement du Québec) download: June 07, 2017.

In writing of this report update, Goldminds Geoservices is not aware of any additional royalties, back-in rights, payments or other agreements, encumbrances and environmental liabilities to which the Property could be subject except the Mousseau Tremblay Inc. royalty and First Nation discussions.

Part of the Property is covered by historical tailings and there are tailings in one of the old open pits, now filled with water. The old tailings belong to the "Ministère de l'Énergie et des Ressources naturelles, secteur Mines" (orphan site). GGM is taking actions to take care of them in direct communication with the MERN and MDDELCC.

Regarding the onsite waste pile, legacy of previous open-pit operations, Granada Gold Mine can use the rock for access road construction and it is also being used by local contractors for fill with material above 20mm.

The property is outside Joannès wildlife preserve which is located to the east.

## 4.3 Royalty Obligations

• The Mousseau Tremblay Inc. Agreement/Royalty.

This agreement applies on Mining Leases BM#813 & BM #852 (the property under agreement) and states that all ores mined from the Granada Mine has a 3% NSR on gross value (on gold & silver) payable to Mousseau Tremblay Inc.

## Temiskaming First Nation

Granada Gold Mine is keeping within process of a former signed Communication Protocol Agreement of August 2014 and a following January 2015 Memorandum of Understanding entered into by Gold Bullion Development Corporation of with Timiskaming First Nation. Granada Gold Mine entered into these agreements based on the fact that Timiskaming First Nation communicated that the Granada project is located within their First Nation's traditional territory. Granada Gold Mine continues to communicate with the First Nation in the hopes of arriving at an acceptable exploration agreement that will be consistent with the company's goals of having mutually beneficial relations with First Nations that have communicated an interest for consultation in the development project.

The reader must be aware that the Supreme Court of Canada in its judgement of June 26<sup>th</sup> 2016 in the file of the Nation Tsilhqot'in regarding first nation rights and territorial claims has set as compulsory to have an agreement with the first nation in any resources development on Canadian territory in order to proceed.





#### 4.4 Permits and Environmental Liabilities

On the 26<sup>th</sup> of May 2016, GGM released a statement confirming that the MDDELCC certificate of authorization had been obtained for mining approximately 75,000 ounces of gold.

A reclamation deposit has been paid to the MERN on the property and has to be increased to the required value before the rolling start to fully take place.

A portion of the property is covered by tailings due to previous production. The tailings currently located on the mine site are considered an orphan site and therefore belong to the MERN. GGM is in communication with the MERN and the MDDELCC to try to find a solution to this environmental liability.





# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Parts of this section were summarized from previous reports after validation for accuracy.

## 5.1 5.1 Accessibility

Access to the property is provided by the Rouyn-Granada asphalt road, which is adjacent to the property and is 630 m west away from the existing gate. The connection to the road is gained by a gravel road. Regional snowmobile trails in winter and ATV trails in summer also exist on the Property

## 5.2 Topography and Physiography

The topography is characterized by low-lying lightly forested areas separated by low ridges. The property is traversed by rare creeks which occupy swampy, shallow valleys. Relief is low, ranging from 274 m to 315 m above sea level, predominantly gentle sloping (Figure 4).

The property is located within the Abitibi clay belt, the remnant of the glacial Ojibway Lake. Clusters of isolated rock outcrops are found locally. In the main active exploration area, natural overburden is thin; typically ranging from 0 to 5 m in zones of interest.

#### 5.3 Climate

The Granada property area and vicinity has a subarctic climate an intermediary between the temperate and polar climate (Dfb: Humid Continental Climate according to the Köppen climate classification). Summers are hot and winters are more severe than in most temperate climates. The vegetation is mostly boreal and mixed in some places. The average temperature ranges between -18° C and -19° C in January to between 16° C and 17° C in July with cold and hot records such as -49.5° C in 1984 and 34.5° C in 1995.

Average annual rainfall is approximately 976 mm and snowfall 258 cm. Winters are harsh and often lead to poor flying conditions. The practical field season is from May through October. Snowfall in November, December, January and February generally exceeds 55 cm per month and the wettest summer months are August and September with average rainfalls of 100 mm. Lakes usually thaw in early April, and freeze up in November. These are normal climatic conditions for the Abitibi region, where exploration work is usually conducted year-round.







Figure 4: Aerial view of the Property





#### 5.4 Local Resources and Infrastructures

All the required services are provided on the property. Depending on the required volume, water supply is available from either Pelletier and/or Beauchastel Lake. Most necessary services and manpower for a mining operation are already offered in Rouyn-Noranda and its vicinity. Rail transportation is also available. Rouyn-Noranda is also serviced by an airport located 13 km from the old pit.

A 25,000-volt transmission line runs parallel to the Rouyn-Granada road and can provide up to 12,000 kW to the property. An electrical sub-station in the range of 3,000 kW should be installed if additional power is required in the future. A natural gas pipeline services the borough of Granada and the headwaters to the La Bruere River originate along the western margin of the property. This being said, it is also known that additional electric power investment by Hydro-Québec for the region is required due to the booming of large-scale high-energy consuming projects and other high-tonnage/low-grade ventures at the development stage which may come to production in the coming years, depending strongly on gold price and market conditions.

The area of the property is sufficient for an eventual mining operation with all required installations for mining personnel, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant site. An aerial view of the existing infrastructures (2010 photograph) is presented in Figure 5. The RSW-Beroma's (UMCO) mobile gold mill used in 2000 has been recently dismantled and removed (2013-2014).

The existing office administrative building and conference room are made of mobile trailers. A core logging facility with garage and dry with washroom exist as a separate building.

The sanitary system has been damaged by diamond drilling under responsibility of previous consultant and will require some changes prior to extensive operation.







Figure 5: Air view of infrastructures looking South-East (in 2010)

# 6 History

Parts of this section were summarized from the 2014 prefeasibility study authored by Claude Duplessis, Eng. filed on June 19<sup>th</sup>, 2014 on SEDAR.

The Granada Mine was one of the three first gold mining ventures in the Abitibi Belt of Northwestern Quebec along with O'Brien in Cadillac and Siscoe mine near Val D'Or.

1922-1923: WA and RC Gamble marked out the property. During these two years, exploration work was done, leading to the discovery of the vein #1.

1924-1925: McIntyre Porcupine Mines Limited dug several trenches and exploration wells to better define the veins, but dropped the option in 1925.

1927-1929: Granada Rouyn Mining Company Ltd resumed the option. The company drilled a first shaft on a dark vein #1; it reached a depth of 129 m. The vein was developed on five levels. In 1929, a mill with a capacity of 63 tonnes per day was built. Vein #2 is discovered.





1930-1935: Granada Gold Mines Ltd replaced Granada Rouyn Mining Company Ltd and deepened the first Shaft up to 200 m. Shaft #2 on the vein #2 was built in 1933. Latter was inclined and reached a vertical depth of 488 m. Lateral work stretched out 7,925 m and 11 levels. In 1934, the mill capacity was increased to 181 tonnes per day. From 1930 to 1935, Granada Gold Mines extracted 164,816 tonnes of ore at an average grade of 9.7 g/t Au and 1.5 g/t Ag. This ore came primarily from vein #2. Tailings of this ore were deposited in a tailings pond covering an area of approximately 50,000 m² and located just north of the old mill

1935-1947: During this period, the Owners carried out minor surface works with a limited surface drilling program

1947-1950: Old Mill Gold Mines Limited carried out geophysical surveys. In 1950, shaft #1 was dewatered down to the 5<sup>th</sup> level, but no work was performed.

1967-1968: In 1967, the claims were submitted to the Crown (failure to pay taxes) and were then acquired by several individuals who formed the company Stanford Mines Limited. In 1968, The Gamble acquired claims and conducted geophysical surveys and exploratory surveys.

1972-1980: Goldsearch acquired ownership and made some exploration work. New reserves of 294,835 tonnes at 12 g/t Au in the vein #2 were then calculated.

1981-1991: In 1981, Kewagama Gold Mines (hereinafter by KWG Resources Inc.) and Goldsearch signed an agreement that allows Kewagama Gold Mines to acquire a 50% stake in the project Granada. In 1982, the mine was dewatered and underground and surface rehabilitation works were made. In 1983, Goldsearch obtained a certificate of approval for the development of the mine and reported to the vein #2 reserves 102,512 tonnes to 13.37 g/t Au and 3.43 g/t Ag. During the years 1989-1990, 27 surface drill-holes were performed as well as geophysical surveys throughout the property. In 1991, SEG Exploration Inc. acquired Goldsearch stakes.

1992: At the beginning of the taxation year 1992, KWG Resources drilled 69 holes totalling 2,973 m on the veins #1 and veins #2. During the same summer, KWG Resources and Exploration SEG performed stripping works of 4,078 m<sup>2</sup> in order to make a bulk sample.

1993: July 16, 1993, MRN issued to KWG Resources Inc. and SEG Resources Inc. Mining Lease 813 which covers most of the mineral resources of the Granada mine.

In July 1993, Granada Resources becomes 100% owner of the Granada property by buying Exploration SEG and KWG Resources' stakes. In May 1994, the agreement was signed giving exploitation operation to KWG Resources.

Between 1992 and 1994, an overall assessment of the economic potential of Granada mine took place, along a resource estimate of the property undertaken by the firm A.C.A. Howe (1990, 1993a, 1993b and 1994).





1994: Granada Resources extracted a bulk sample of 87,311 tonnes grading 5.17 g/t Au from pit #1. This generated 139,856 tonnes of waste that have been piled on sterile tailings located east of the pit #1.

1995: Met-Chem Pellemon produced an assessment of an operating vein #2 project through two shallow open pits (26 m). The amount of ore contained in these pits is estimated at 105,000 tonnes at an average grade of 3.45 g/t Au.

1996: Granada Resources extracted a bulk sample of 22,095 tonnes grading 3.46 g/t Au from pit #2. This has also generated 4,309 tonnes of waste that have increased the size of a sterile dump to 1.2 hectares. In addition, 8,822 tonnes of ore were crushed and used in a trial separation using an optical sorting machine ("ore sorter," rented from a firm in Denver, Colorado). In principle, based on the color of crushed fragments, the unit separates fragments of quartz veins (high gold content) and fragments of rock (low gold content). The results of this trial have not been reported and the unit was returned to Denver. The crushed material resulting from this test was placed in the sterile dumps located northwest of the pit #1.

1997: KWG Resources Inc. sold 100% of Granada Resources Inc. (a subsidiary company of KWG Resources Inc.) to Mousseau Tremblay Inc. (MTI).

1998: August 16<sup>th</sup>, 1998, a commercial contract of sale and purchase of ore was made by Mousseau Tremblay Inc. to the company RSW-Béroma. The latter wished to use the Granada mine site to demonstrate its concept Factory Modular Concentration ore Gold (UMCO).

1999: On August 31<sup>st</sup> 1999, RSW-Béroma and MTI applied to the Ministry of Environment Quebec for a certificate of authorization (C of A) in order to install a UMCO on Granada mine site and to conduct the following operations:

- extract 105,000 tonnes of ore pits #2 (55,000 tonnes) and #2A (50,000 tonnes);
- treat ore in the UMCO;
- carry out cyanides destruction (by S0<sub>2</sub>/air method) in the final waste before its release in the pit #1.

On September 21<sup>st</sup> 1999, the certificate of authorization 7610-08-01-70063-24 was issued to this effect.

From September 1999 to January 2000, RSW-Béroma built its UMCO prototype. It is a plant with a capacity of 175 tonnes per day, using the method of direct cyanidation with gold precipitation by zinc powder (Merrill-Crowe process). Concurrently with the construction of the UMCO, operation of the pit #2 took place between October 1999 and January 2000. This generated 55,000 tonnes of ore and 121,000 tonnes of waste. Added sterile rock extended the tailings pond to an area of 1.8





hectares. The ore was processed in the newly installed UMCO to demonstrate its effectiveness. On 16 September 1999, a plan to restore the Granada mine site at the end of the planned operations was submitted to the Ministry of Natural Resources of Quebec. This plan was approved by the MRNQ November 7, 2000.

2000: From February to October 2000, 27,313 tonnes of ore were processed in I'UMCO Granada. The total production was 2,032 ounces of gold at an average grade of 2.51 g/t Au with a recovery of 92.2%. The UMCO had demonstrated its ability to achieve excellent recovery, despite a relatively low mineral content.

On 19 July 2000, an initial agreement for the sale of sterile Mousseau Tremblay Inc. operated between RN and Aggregates Inc.

On 23 July 2000, the MRN issues in Granada Resources mining lease 852 adjacent, east 813 mining lease. 852 mining lease contains extensions to the east of all the veins of the Granada mine.

2001: January 1, 2001, the company merged Granada society Mousseau Tremblay Inc. Granada mining property was transferred to Mousseau Tremblay Inc. and becomes the sole owner of said property.

Fall 2001, the UMCO capacity was increased from 175 to 250 tonnes per day following addition of larger semi-autogenous mill. From December 2001 to March 2002, 24,638 additional tonnes of ore from the pit #2 were treated in the UMCO. Total production was 1,122 ounces of gold at an average grade of 1.80 g/t Au with a recovery of 78.6%. The lower recovery than during the first phase of processing is explained by the lower ore grade.

2003: an intensive waste testing program was instituted to obtain a Certificate of Authorization to operate waste rock. This certificate was received on May 29, 2003. Certificate contained certain covenants that limit the use of waste, especially fine particles less than 2 mm.

2005: the agreement between Mousseau Tremblay Inc. and Agrégats R-N, which allows the latter to exploit the mine tailings of Granada, was renewed on March 1<sup>st</sup> 2005 for a period of five years, until March 1<sup>st</sup>, 2010.

2006: the Granada UMCO remained inactive from March 2002 to May 2006. Due to a rise in gold prices, the firm Consolidated Big Valley Resources (CBVR) approached RSW-Béroma to buy the UMCO, in early 2006. An agreement was signed in July 2006. Meanwhile, in March 2006, a lease-purchase of the property was signed by Mousseau Tremblay Inc. and CBVR. This agreement allowed CBVR to resume activities that RSW-Béroma had interrupted in 2002. The agreement also provides to CBVR the possibility of buying mining leases 813 and 852 which represent the main Granada mine site. The contract provides use of all facilities available on site (including pit #1 to store the residues resulting from the treatment of ores in CBVR plant) by CBVR.





It should be noted that the firm CBVR changed its name to Gold Bullion Development Corporation (GBDC) in February 5, 2007.

Mining activities resulting from the agreement signed in 2006 between Mousseau Tremblay Inc. and Gold Bullion Development Corporation were as follows:

The UMCO was put into operation on May 23<sup>rd</sup> 2006, with the start shakedown testing. At first, it dealt with a small amount of ore from the pit #2 (approximately 3,000 tonnes) which had been left behind by RSW-Béroma at the end of its operations in March 2002;

At the same time, GBDC began operating Vein #2 in the open pit #2A, located in Test Pit #2 operated by RSW-Béroma in 1999-2000. Originally, pit #2A exploitation would generate 50,000 tonnes of ore and 70,000 tonnes of waste. However, GBDC decided to use a broader and deeper pit in order to recover some gold veins presenting high in the roof and the wall of the main mineralized zone. Consequently, pit #2A exploitation produced 30,000 tonnes of ore and 110,000 tonnes of waste. Ore from pit #2A was treated in the UMCO at the rate of 250 tonnes per day;

Plant rejects were pumped into the pit #1, after cyanide destruction. At the end of operations RSW-Béroma in March 2002, the pit #1 contained approximately 52 000 tonnes of solid waste occupying a volume of 16,800 m<sup>3</sup>. This corresponds to approximately 21% of the volume of the pit #1 (80 000 m<sup>3</sup>) as measured by RSW-Béroma, who performed the complete dewaterig of September 21<sup>st</sup> to November 21<sup>st</sup> 1999. This means that at the resumption by GBDC in May 2006, the pit #1 could still accept nearly 196,000 tonnes of treatment plant rejects;

In addition to the ore from Granada property, GBDC planned to eventually treat ore from other mining properties located in Abitibi. To do so, the firm filed, in February 2007, a Certificate of Authorization for the collection of a bulk sample of 40,000 tonnes of the Val St-Gilles property, located north of La Sarre. Got the C of A but never did the bulk sample.

In May 2007, the MRN accepted the Mousseau Tremblay and RSW-Béroma restoration plan. Gold Bullion paid the deposit guarantee of \$ 171.800 on January 23<sup>rd</sup>, 2011.

On June 3<sup>rd</sup>, 2009, at the request of Gold Bullion, the 7610-08-01-70063-24 C of A for the operation of the treatment plant was revoked.

On November 25<sup>th</sup> 2010, Mousseau Tremblay Inc. transfers to Gold Bullion Development Corp. GBDC) all of its 26 mining claims (claims) and its two mining concessions on the Granada mining property.

On November 7<sup>th</sup>, 2011, Mousseau Tremblay Inc. wrote a letter to Gold Bullion in which it transferred the rights and privileges conferred by the Certificate of Authorization 7610-08-01-70063-25 for recovery of waste on the Granada property.





On November 21<sup>st</sup>, 2011, Mousseau Tremblay Inc. sent to the MDDEP an assignment of the Certificate of Authorization. The application closed before conclusion due to lack of information.

On April  $2^{nd}$  2012, SGS Canada Inc. produced a Resources Estimation of the Granada gold project that was obtained by adding resources in blocks with an estimated grade above any given cut-off. Resource tonnage of a block was:  $5m \times 5m \times 2.8t/m^3 = 350t$  for a full block (100% below overburden/topo surface).

Granada gold deposit In-Situ Resources Estimates are presented in Table 3.

Table 3: 2012 Global classified resources at various cut-offs

Class	Tonnage	Au g/t	Au	Cut-off
	(,000) tonnes	Grade	Oz	
	100	4.56	14,400	3.0+
	300	3.24	26,300	2.0+
	900	1.88	56,300	1.0+
	1,100	1.74	61,100	0.9+
Measured	1,300	1.59	67,500	0.8+
Measured	1,600	1.46	73,100	0.7+
	1,900	1.30	80,700	0.6+
	2,400	1.16	88,600	0.5+
	3,000	1.01	97,700	0.4+
	4,000	0.85	108,100	0.3+
	600	4.67	97,500	3.0+
	1,400	3.41	161,000	2.0+
	4,600	1.99	306,300	1.0+
	5,400	1.84	329,700	0.9+
Indicated	6,500	1.67	361,500	0.8+
Indicated	7,700	1.52	392,400	0.7+
	9,800	1.34	436,400	0.6+
	12,500	1.17	485,200	0.5+
	16,400	0.99	543,400	0.4+
	22,700	0.81	614,500	0.3+
	1,700	4.48	255,800	3.0+
	2,900	3.60	346,700	2.0+
	6,500	2.35	513,600	1.0+
	7,600	2.16	545,700	0.9+
Inferred	9,500	1.90	600,700	0.8+
	10,900	1.74	636,800	0.7+
	13,500	1.53	692,200	0.6+
	17,800	1.30	768,800	0.5+
	23,100	1.10	846,600	0.4+
	33,200	0.87	961,300	0.3+

Note: Rounded numbers, base case cut-off >0.4 g/t shadowed. The historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 are included in the resource statement (cannot physically remove from measured, indicated or inferred).





The In-Situ measured resource was 97,700 ounces (3.02 million tonnes grading 1.01 g/t), indicated resource was 543,400 ounces (17.04 million tonnes grading 0.99 g/t), inferred resource was 846,600 Oz Au (23.93 million tonnes grading 1.10 g/t Au) using a cut-off grade of 0.40g/t.

An in-pit resource within a Whittle-optimized pit shell was estimated using a base-case gold price of CAN\$1300 per ounce. Table 4 summarizes the in-pit resources with the selected base case in Whittle optimizations:

**Table 4: 2012 In-pit resources** 

Classification	Tonnage	Au g/t	Au	
	inpit	Grade	Oz	
Measured	2,902,000	1.02	95,300	
Indicated	12,490,000	1.08	435,600	
Inferred	3,403,000	1.24	135,600	
Mea+Ind	15,392,000	1.07	530,900	

The in-pit estimate was based on a mining cost of CAN\$2.00 per tonne and a processing cost of CAN\$16.00 per tonne (including G&A), assuming gravity cyanidation treatment of the mineralized material, giving a base cost of CAN\$29.30 per tonne including stripping. Other assumptions included 94.1% recovery of gold, and a pit wall slope angle of 45 degrees in the south footwall and 50 degrees in the north hanging wall.

The selected base case in-pit measured resource was 95,300 ounces (2.9 million tonnes grading 1.02 g/t), indicated resource was 435,600 ounces (12.49 million tonnes grading 1.08 g/t), inferred resource was 135,600 ounces of gold (3.4 million tonnes grading 1.24 g/t Au) using a cut-off grade of 0.40g/t based on a Whittle-optimized pit shell simulation using estimated operating costs, a gold price of CAN\$1300 per ounce and a corresponding lower cut-off grade of 0.4 grams per tonne gold.

The remaining underground resources under the selected base case in-pit surface above a cut-off grade of 2.0 g/t is 273,200 ounces (2.32 million tonnes grading 3.66 g/t) are inferred.

Again: previous small open-pits had been taken into account and were starting surfaces of optimization while the historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 were included in the resource statement. (the author cannot physically remove from measured, indicated or inferred).

In December 21<sup>st</sup> 2012, SGS Canada Inc. produced a second resource estimate for the Granada gold project. Estimated mineral resources of the Granada gold project were simply obtained by adding resources in blocks with an estimated grade above any given cut-off. Resource tonnage of a block





was:  $5mN \times 10mE \times 5mZ \times 2.7t/m3 = 675t$  for a full block (100% below overburden/topo surface).

Table 5: 2012 Global classified resources at various cut-offs

#### Granada gold deposit In Situ Resource Estimates

Cut-off 0.4 g/t	Tonnage	Au g/t	Au Oz	
Measured	28,735,000	1.02	946,000	
Indicated	18,740,000 1.09		659,000	
Total M+I	47,475,000 1.05		1,605,000	
Inferred	29,975,000	1.07	1,033,000	
Cut-off 1.0 g/t	Tonnage	Au g/t	Au Oz	
Measured	7,810,000	2.14	536,000	
Indicated	5,347,000	2.32	398,000	
Total M+I	13,157,000	2.21	934,000	
Inferred	8,600,000	2.23	617,000	
Cut-off 2.0 g/t	Tonnage	Au g/t	Au Oz	
Measured	2,533,000	3.76	306,000	
Indicated	1,869,000	4.07	245,000	
Total M+I	4,402,000	3.89	551,000	
Inferred	3,030,000	3.89	379,000	

The in situ measured resource was 946,000 ounces (28.735 million tonnes grading 1.02 g/t), indicated resource was 659,000 ounces (18.740 million tonnes grading 1.09 g/t), inferred resource was 1,033,000 ounces gold (29.975 million tonnes grading 1.07 g/t Au) using a cut-off grade of 0.40 g/t.

The resource took into consideration the same open-pit shell than the one used on the previous resource estimation report (April 2nd, 2012). In order to have an appraisal of resources within a potential open pit, a Whittle pit optimizer has been run with the following parameters. An in-pit resource within a Whittle-optimized pit shell was estimated using a base case gold price of CAN\$ 1450 per ounce. The Table 6 summarizes the in-pit resources with the selected base case in Whittle optimizations:





In-pit Estimates\* Grade CoG Ore Au g/t M tonnes g/t oz 0.36 Measured 24,992,000 1.01 811,300 Nov 2012 Indicated 0.36 9,336,000 1.18 354,600 (within claims & Au = 1450 Inferred 0.36 449,800 0.77 11,100 \$/oz) 1,166,000 Mea+Ind 0.36 34,328,900 1.06 \*Rounded numbers

**Table 6: 2012 In-pit resources** 

The in-pit estimate is based on a mining cost of CAN\$2.00 per tonne and a processing cost of CAN\$16.00 per tonne (including G&A), assuming gravity cyanidation treatment of the mineralized material. Other assumptions include 94.1% recovery of gold and a pit wall slope angle of 45 degrees in the south footwall and 50 degrees in the north hanging wall.

The selected base case in-pit measured resource was 811,300 ounces (24.992 million tonnes grading 1.01 g/t), indicated resource was 354,600 ounces (9.336 million tonnes grading 1.18 g/t), inferred resource was 11,100 ounces gold (0.449 million tonnes grading 0.77 g/t Au) using an effective cutoff grade of 0.36 g/t based on a Whittle-optimized pit shell simulation using estimated operating costs, a 3 year trailing average gold price of CAN\$1450 per ounce and a corresponding lower cut-off grade of 0.36 grams per tonne of gold.

Again; previous small open-pits had been taken into account and were starting surfaces of optimization while the historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 were included in the resource statement. (the author cannot physically remove from measured, indicated or inferred).

On May 14th 2013, Mousseau Tremblay asked the MDDEFP for a new transfer of certificate of authorization to Gold Bullion. Gold Bullion refused the transfer in order to reapply for a new certificate of authorization for the treatment of the tailings with dimensions of less than 2mm by gravity.

During the summer of 2013, RSW-Béroma finished dismantling its factory in accordance with the terms of the agreement of November 14th 2006 concerning the rental of its factory in Gold Bullion.

On May 15th 2013, the company Galarneau sent a certificate request for a crushing and enhancement of the mine site tailings stored on the Granada property. C of A Galarneau was granted in May of 2014.





On April 8<sup>th</sup> 2014, Gold Bullion Development Corp. it signed a Memorandum of Understanding with IAMGOLD Corporation (IMG) with respect to IMG processing ore emanating from the Granada mine site at its Westwood Mill.

On May 6<sup>th</sup>, Gold Bullion announced that it received its Pre-feasibility Study (PFS) for the Rolling start at Granada

In September 2014, GBB dug 6 trenches to the east of the pit 2A. In total, 230 channel samples were sent for analysis.

In January 2015, Gold Bullion signed a Memorandum of Understanding with Timiskaming First Nations,

In March 2015, GGM dug two additional trenches to the west of the Pit #1. 119 channel samples were sent for analysis

In may 2016, GBB obtained a Certificate of Authorization from the Québec Government's Ministry of Environment for gold mining at Granada as set out in the Company's 2014 Prenliminary Feasibility Study. (several technical & environmental complementary studies at the request of the MDDELCC were done to obtain the C of A.)

In September 2016, GGM started diamond drilling as part of a new exploration program aimed at expanding its gold mineral resources near surface. 15 drillholes were completed in 2016 and 4 more in 2017.

In January of 2017, Gold Bullion Development Corp. (GBB) announces plans to change its name for Granada Gold Mine Inc. (GGM).

In February 2017, GGM signed a Letter of Intent (LOI) with the Temagami First Nation and Teme-Augama Anishabai that would provide Granada Gold Mine the opportunity to evaluate brownfield sites on traditional territories for the potential of redevelopment.





# 7 Geological Setting and Mineralization

Parts of this section were summarized from previous reports mainly (D. Robinson, October 2006 and Couture, et al., 1997) after validation for accuracy with addition of the author.

## 7.1 Regional Geology

The Granada Mine property lies within the Abitibi Greenstone Belt of the Superior Province (Figure 6 and Figure 7). The oldest rocks in the immediate area are schists and migmatites belonging to the Pontiac Group. These are located from 100-200 metres south of the property. They are overlain by conglomerates, sandstones and siltstones of the Temiscaming Group. The contact between the Pontiac Group and the Temiscaming sediments is exposed for over 400 m as an intensely altered 10-75 m wide shear zone. This group is capped by the Larder Lake Break rocks comprising carbonate rocks, talc-chlorite and chlorite, and minor sandstone interbeds. The Larder Lake Break rocks were laid down on Temiscaming paleosurfaces and thus belong to that group. The Temiscaming Group is in contact to the north with the Blake River Group. The contact area is composed of clastic sedimentary rocks (source to the south) with intercalated volcaniclastics and sediments derived from Blake River volcanism.





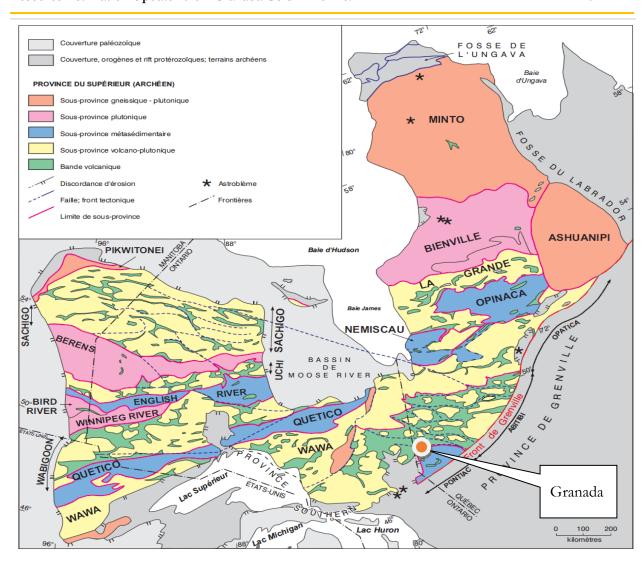


Figure 6: Geological map of the Superior Province showing the position of the Property

The base map was taken from the MERN website.





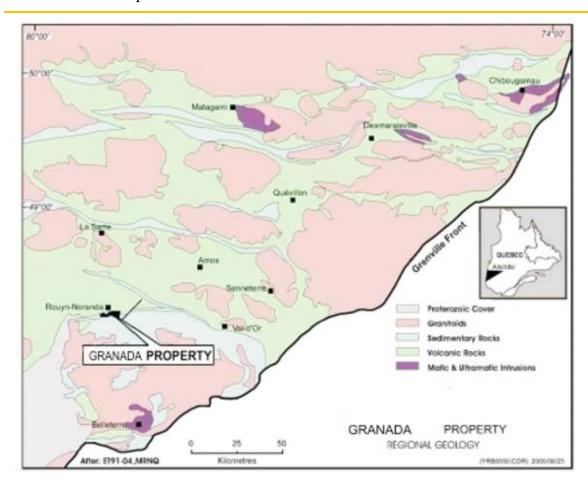


Figure 7: Regional geology (after ET91-04, MRNQ)

#### 7.2 Local geology

The Granada Mine property is situated within rocks of the Temiscaming group, on the south limb of the regional east-west trending Granada synclinorium whose axial trace is located south of the Cadillac Fault (Figure 7). The property is underlain principally by east-west trending, north-dipping interbedded-polymictic conglomerate, porphyry-pebble conglomerate, greywacke and siltstone-mudstone of the Granada Formation. It has been reported by Wilson in 1962 that the conglomerate units had different fragment compositions on opposing limbs of the Granada synclinorium. Conglomerate on the north limb (La Brure Formation) is characterized by jasper fragments which are absent from the south limb and contain scattered magnetite pebbles (Granada Formation).

The Granada Formation is intruded by northerly-trending Proterozoic diabase dykes, felsic dykes, sills and stocks. Sill-like syenitic bodies are concentrated throughout the immediate area of the mine property. The syenite bodies are aphyric to porphyritic with up to 10% tabular centimetre-scale feldspar phenocrysts in an aphyric to slightly porphyritic groundmass. The syenite bodies are slightly oblique (040°-050°) to bedding (050°-060°) and exhibit schistosity (045°-060°). On alkali-silica





diagrams the syenitic bodies show four compositional facies: monzonite, syenite, quartzmonzonite and granite, similar to that of most other Temiscaming intrusive rocks from Ontario as sourced from Siriunas, 1994, in a previous report. The principal structural feature in the area is a penetrative schistosity affecting all lithologies. This fabric is usually parallel to the stratigraphy. The flattening intensity of pebbles and cobbles increases from south to north towards the Cadillac Fault. Locally, the intensity of the regional schistosity strengthens into discrete shear zones that are emphasized by hydrothermal alteration. In the area of the mine workings, there is a prominent zone of deformation, hydrothermal alteration and quartz veining (Figure 8, Figure 9 and Figure 10) which extends over 5 km. Figure 11 presents the local geology with the property outline.

Structural analysis from outcrop data indicates that the Temiscaming sedimentary rocks are isoclinally folded about east-west trending axes, with fold axes gently plunging east (Figure 13). This early fold pattern has been subsequently modified by a set of north-westerly trending folds. A series of late northeast trending faults horizontally offsets the stratigraphy, the quartz veining and the alteration by a magnitude of 30-50 m typically displaying a dextral motion but sinistral is also observed. All the lithologies in the area of the Granada property, with the exception of the Pontiac Group, are metamorphosed to greenschist facies.



Figure 8: Large smoky quartz veins oriented E-W locally affected by NNE dextral faults.







Figure 9: Porphyry with large phenocrysts of feldspars.



Figure 10: Visible gold within smoky quartz vein at the surface.





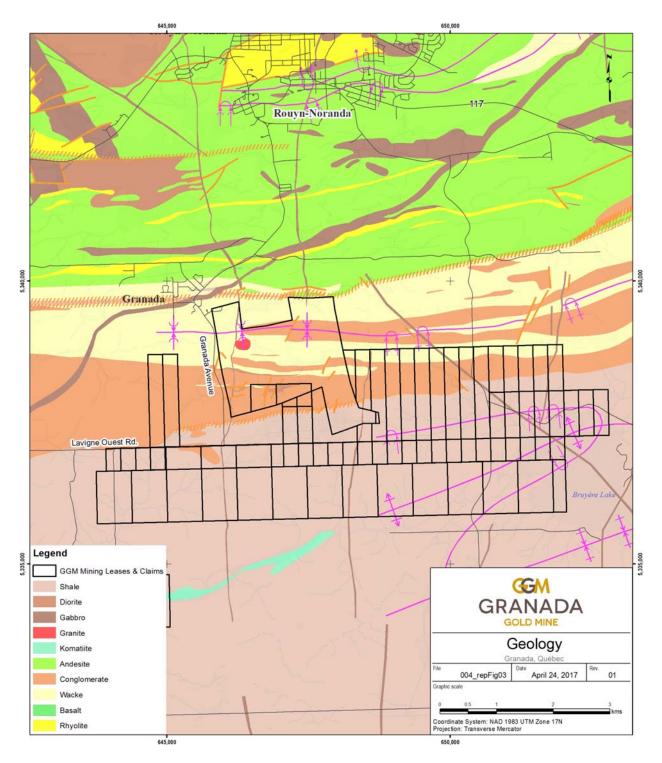


Figure 11: Regional geology of the Granada mine site





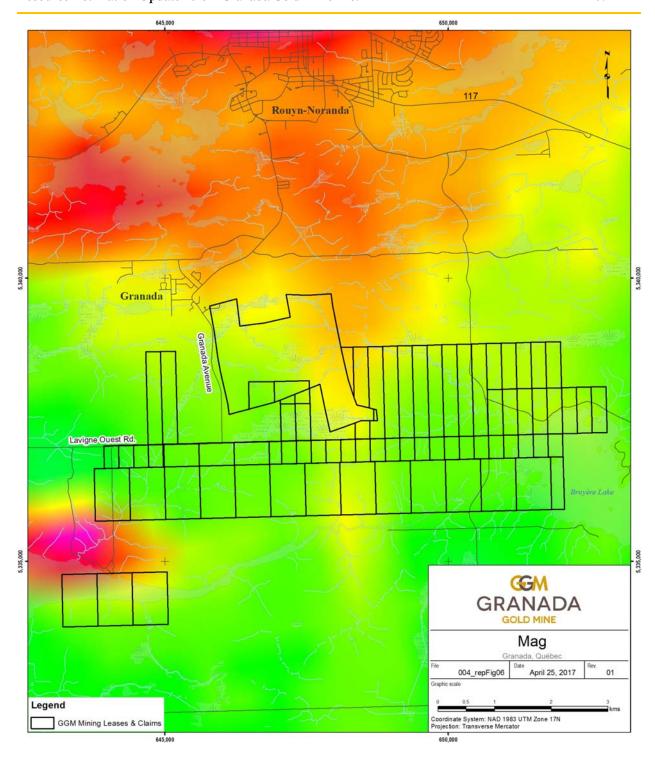


Figure 12: Map of magnetic susceptibility, Granada property





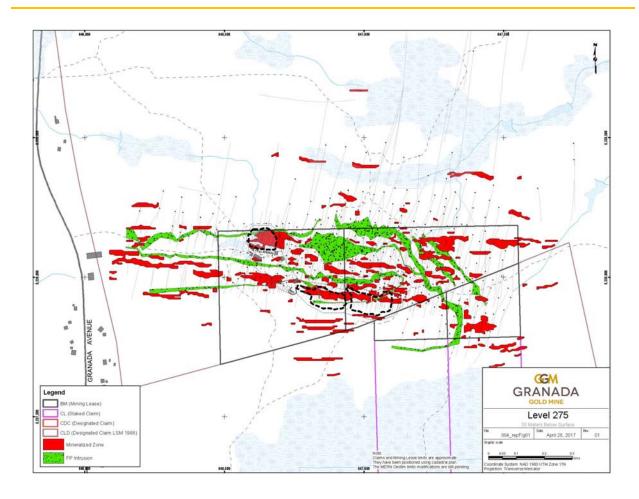


Figure 13: Mineralized zones on the Granada property 50 meters below the surface





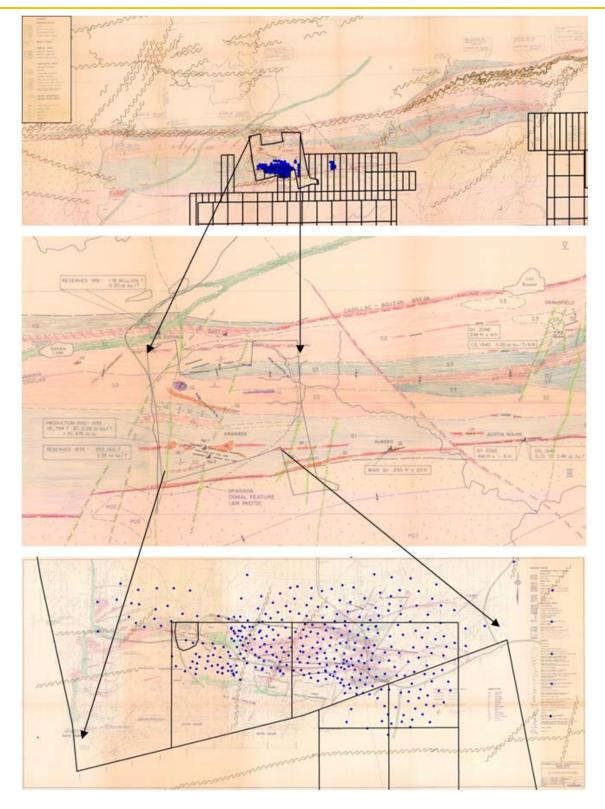


Figure 14: Local geology from historical compilation map with GGM holes and property





### 7.3 Property

The Cadillac Fault traverses the northern part of the property. Within the Granada mine site itself, a parallel set of shears (Granada Shear Zone) occur over a zone of 500 m in width. The shears are characterized by intense sericite, iron carbonate plus minor chlorite alteration with disseminated pyrite and arsenopyrite and host quartz veins and stringers. The veins comprise boudinaged or enechelon quartz lenses within the sediments and more continuous veins in the syenite intrusive bodies. A series of northeasterly trending sigmoidal faults occur between the Cadillac Fault and the Granada Shear Zone due to late shearing. This late shearing also imparted the fracturing and dilatancy in the quartz veins (Howe, 1994). The following figure presents mapping and geological interpretation of individual veins and mineralized zones with the trace of the NNE faults showing with displacement of the mineralized zones accordingly.

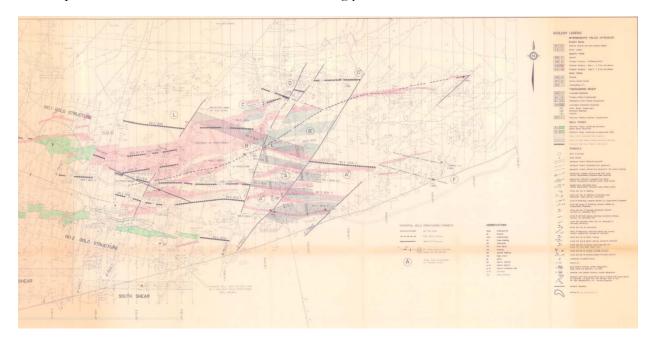


Figure 15: Detailed mapping and geological interpretation in plan by KWG in 1992

Exploration works prior to Granada Gold Mine acquisition aimed at defining resources with the individual veins and thin mineralized structures.









Figure 16: Core reference library (partial) as prepared by previous consultants

#### 7.4 Mineralization

#### 7.4.1 General

Gold mineralization is hosted by east-west trending smokey grey, fractured quartz veins and stringers. Free gold occurs at vein margins or within fractures of the quartz veins or sulphides. Late north-easterly-trending sigmoidal faults also host high-grade gold mineralization. Accessory minerals include tourmaline, carbonate, chlorite, and disseminated sulphides. Pyrite is the dominant sulphide typically occurring within the immediate wall rock to the quartz veins. Minor pyrite does occur within the veins themselves. Additional sulphides such as chalcopyrite, arsenopyrite sphalerite and





galena are present in trace amounts. Fuchsite (chromium mica) is present in the immediate wall rock to the quartz veins.

#### 7.4.2.1 Vein #1

Vein # 1 was the original discovery vein on the property. It extends for 600 m across the property. The vein's width can vary from greater than 1 m to a couple of centimetres. Gold grades are very erratic from nil to greater than 100 g/t Au. Shaft #1 was sunk to exploit this vein during the underground operations of 1930-1935. The vein only contributed to approximately 5% of the gold production during this period due to the vein's erratic grade. The vein was later the target of open pit operations by KWG Resources during 1993 and 1994.

#### 7.4.2.2 Vein #2

Vein #2 is more correctly described as a mineralized zone of two parallel quartz veins, one in the hanging wall and the other in the footwall, separated by a zone of millimetre-scale quartz veinlets in altered conglomerate. The two main veins are lenticular, locally greater than 1 m in width with metre-scale portions thinning to several centimetres. The hanging wall vein is generally thicker, more continuous and of higher grade (6 to 10 g/t Au) than the footwall vein. The hanging wall vein, plus associated veinlets and pyritic alteration haloes average 3 m in thickness. The intervening zone of quartz veinlets averages 5 m in width and is locally auriferous in the order of 0.7 to 0.8 g/t Au. The footwall vein is generally boudinaged with associated veinlets and pyritic alteration haloes averaging 2 m in thickness yielding on average assay grades of 4 to 5 g/t Au. The entire vein #2 zone averages 10 m in width averaging 3.5 to 4 g/t Au. This vein system was the principal sources of ore for the historical underground operations and open pit production for KWG Resources. The bulk of the historical underground production came from this zone. The heterogeneous distribution of gold grade along strike within the Vein #2 zone resulted in the selective mining of the zone from two shallow pits by RSW-BÉROMA in the year 2000. A western extension of the #2 zone was partially drilled and defined by KWG Resources in 1995 with the proposed pit referred to as 2B. RSW-BÉROMA calculated a non-NI 43-101 compliant geological resource of 28,501 tonnes at 2.4 g/t Au (Trudel, 2000).

#### 7.4.2.3 Vein #3

Vein # 3 was discovered during underground exploration by KWG Resources while drifting on the fifth level between Vein #1 and #2. It is described as a large shear zone containing numerous quartz veinlets hosting free gold.

#### 7.4.2.4 Vein #5

Vein #5 is the most continuous vein of the Granada property. It has been traced by drillholes from surface to the seventh level of the mine (213 m vertical). It is hosted within the conglomerate along the northern contact with a porphyritic syenite sill. On surface, trench samples of Vein #5 yielded





weakly anomalous assays of 0.51 g/t Au over 15 m. Underground development reported visible gold when the vein was encountered.

#### 7.4.2.5 Vein A & B

Both Veins A and B were discovered after underground operation ceased. Little descriptive information is available for these zones. Vein A outcrops on surface just east of the waste rock pile at 900E and 425N in a trench.

#### 7.4.2 The New Approach – the GGM Approach

Granada Gold Mine's first approach was to look at developing the property as an open-pit large tonnage with lower grade operation instead of mining individual veins. The higher value of gold supports this approach. The drilling and exploration focused on drilling the whole mineralized package and analyzing all material between the veins. An Example of coarse gold observed in a small vein at Granada in drillhole GR-10-62 is pictured in Figure 17.

The mineralization zones in this report include the veins, the stockworks and the alteration zones with disseminated gold in sulphides is shown in the typical cross-sections in the following figures.

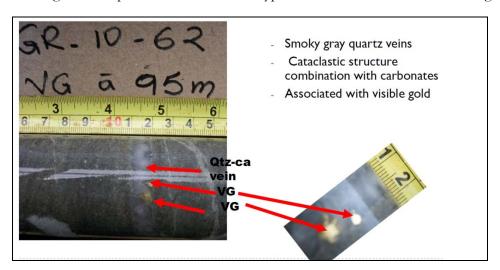


Figure 17: Gold mineralization in Quartz vein

The gold grade at Granada varies due to coarse free gold in the mineralized structures. Apparently discontinuous, the mineralized structures are relatively continuous as demonstrated by assay grade continuity on the following cross section and the geometry of the underground workings.

Most of the economic mineralization on the Granada property is related to late quartz veining. Several sets of veins have been recognized on the property. The veins trend generally east-west





direction and dip between 35° to 50° to the north. They are sub-concordant with sedimentary contacts. Quartz veins within syenite dykes and sills tend to follow the trend of the unit. The author has observed gold grains along a cobble from conglomerate surface outcrop within a dilatation zone across the schistosity. Mineralization is also associated with the adjacent presence of porphyry.

A portion of the gold occurs as free coarse gold while the remaining is mostly associated with sulphides. Additional discussion on the gold characteristics can be found in the section 13 of this report.

# 8 Deposit Types

The Granada deposit is a quartz-vein mesothermal gold deposit hosted by late Achaean Temiscaming sedimentary rock and younger syenite porphyry dykes dated at 2673±3 Ma as per works by Davis in 1991. The dykes belong to a late tectonic alkaline magmatic suite that hosts the mesothermal gold mineralization in the Kirkland Lake and Timmins gold camps of Ontario and also of Duparquet which is north of Rouyn-Noranda, in the Province of Quebec. The mineralization is mainly confined to the conglomerate/greywacke package of event S1 of the Granada.



Figure 18: Typical conglomerate S1 unit on surface

A granitic intrusion has been identified based on historical information to the North-west of the property and may have act as the heat sources for the mineralized fluid circulation and could be the genesis of the a portion of the gold at Granada.





# 9 Exploration

The company had requested an analysis of the mineral potential across the property by spectral analysis. The company carried out geological and structural studies of its D2 D3 group which are Granada Gold Mine properties in Rouyn-Noranda area. These studies were performed by EarthMetrix Technologies Inc.

Photonic Knowledge studied Granada drill cores with the objective of assisting in the interpretation and localization of mineralized and alteration zones using spectrometry. Gold Bullion also completed a bulk sample in 2007.

# 9.1 Geological and Structural Study by EarthMetrix

Earth Metrix Inc. conducted a geological and structural study on a number of GBB properties in the Rouyn-Noranda region, not only Granada Gold Mine property. Earth Metrix used the assessment work file from MRNF, satellite imagery and data from their sensor.

The three studied claim blocks consist of Kekeko South (12.95 km²), Beauchastel Syenite (49.23 km²) and Adanac Extension (45.15 km²). These three properties are located south of Rouyn-Noranda.

This study's objective was to determine exploration targets for the discovery of major gold mineralization outside of the Granada Gold Mine site.

# 9.2 Bulk Sample 2007

A 140,000 tonnes bulk sample was processed by GGM in 2007 from an open pit at the Granada Mine, of which 30,000 tonnes were processed using an on-site mill. The average gold grade from this large sample was 1.62 g/t with a 90-percent rate gold recovery. The waste from this bulk sample, along with the waste stockpile from past bulk sampling programs at the Granada mine by previous operators were also assayed and returned an average grade of 1.75 g/t Au. This confirms the presence of gold mineralization between the vein structures, which trend east-west as one large overall structure.

The Company management claim that the bulk sample and Phase 1 drill results confirmed that gold at Granada is not just confined to the quartz-carbonate vein network but is also present in significant amounts within the iron-rich sulphurized wall rock (the material between the veins).

The details of the bulk sample were not provided to the author and the numbers could not be verified.





However, the author agrees with this disclosure of the company regarding the occurrence of gold mineralization between the main veins at Granada as observed in assay results and visible gold found in drill core.

# 9.3 **2014-2015** trenching Works

In September 2014, 6 trenches have been done to the east of the pit 2A. The trenches are 100m long by 1,8m to 2,5 m in width and trend N195°. The space between the trenches T14-1, T14-2, T14-3, T14-4 and T14-5 is 25 m. The trench T14-6 is located 36 m east of the Pit 2A. The work has been done by Technominex and supervised by Goldminds Geoservices.

A total of 230 channel samples has been assayed by Accurassay Lab for Au by fire assay SAA/PCI method on 30-gram samples and by gravimetric method on 50-gram samples for the samples with more than 10g/t Au. The control QA/QC has been applied by introducing a standard sample each 20 samples and with a blank at each 40 samples. The lab duplicates were made every 20 samples.

The gold mineralization is found within the quartz veinlets through the syenite porphyry and the conglomerate of the Granada Formation in the Timiskaming Group. The conglomerate shows a chlorite alteration in the footwall of the zone, while it is rather sericitic and ankeritic inside the ore zone. Those trenching works outlined the mineralization zones that were cut by the previous diamond drill hole and give important information on where to start the surface mining operation.

The trench T14-1\_36\_38, from 0 to 3 m, returned 3 m @1.535 g/t Au. In T14-1\_11\_21, from 0 to 5 m, returned 1.548 g/t over 5 m.

The trench T14-2 did not cut any significant ore zones, with the highest grade being in T14-2\_1\_14 from 1 to 2.3 m which returned 1.3 m @ 0.859 g/t Au.

The zone T14\_3\_1\_17, between 14 and 16.5 m, returned 2.5 m @ 1.716g/t Au. The second zone, in T14\_3\_26\_31 between 0 and 3 m, returned 3 m @ 3.922 g/t Au. This zone includes a very high value of 108.6 g/t Au on 1 m channel cutting a quartz veinlet inside the altered conglomerate. A high value is found in T14-3\_34 between 0 and 1 m, returning 4.834 g/t Au.

In the trench T14-4\_15\_32, an ore zone from 12 to 15 m who returned 3 m @ 1.754 g/t Au.

The trench T14-5\_18\_32 also cut an interesting ore zone between 4 m and 9 m which returned 5 m @ 3.456 g/t Au.

In the trench T14-6\_9\_18, an ore zone from 8.2 to 10.4m returned 2.2, @ 1.442 g/t Au. This indicates the possibility to extend the ore zone from the Pit 2A, but other surface works would confirm that point.





In the trench T14-6, a high-grade interval was identified between 18 and 24 m, showing 1.566 g/t over 5.2 m. The high value of 6.78 g/t, between 18 and 19 m (GBB sample number 3238), was removed from the access database.



Figure 19: Location map of the 2014 trenching works on the Granada property

In 2015, two additional trenches were done (T15-11 and T15-12). The trenches are 80 m long, 1.8 m wide and 0.2 to 1.5 m deep. 119 channel samples were taken. The cleaning and channeling started on March 2<sup>nd</sup> and ended on March 18<sup>th</sup>. Two men from Technominex as well as two men from Granada Gold Mine Inc. (formely Gold Bullion Development Corp.) worked on the trenching, which was managed by Goldminds Geoservices. The samples were assayed at Accurassay lab in Rouyn-Noranda.

In the trench T15-11\_S, located west of the pit #1, an interval returned 6.054 g/t over 7 m from 18 to 25 m, with a high value of 32.467 g/t Au on 1 m at 23 m.

In the trench T15-12, an interval from 26 m to 30 m returned 0.5192 g/t over 4 m.





The main alteration type is albitization of the plagioclase and alteration by muscovite/sericite. Some of the samples show biotite alteration, while carbonate alteration varies across the samples.



Figure 20: Location map of the 2015 trenching works on the Granada property





Table 7: highlights of the 2014-2015 trenching works

Hole Name	From	То	Sample Number	length	Au (g/t)
T14-1_11_21	0	5	3651	5	1.5482
T14-1_36_38	0	3	3674	3	1.535
T14-2_1_14	1	2.3	3676	1.3	0.859
T14-2_1_14	0	6.3	3680	6.3	0.311333
T14-3_1_17	14	16.5	3163	2.5	1.715667
T14-3_26_31	1	4	3175	3	0.596667
T14-4_15_32	12	15.5	3130	3.5	1.3765
T14-5_18_32	0	9	3223	9	1.8446
T14-6_9_18	0	1.2	3239	1.2	
T14-6_9_18	0	3.2	3241	3.2	0.452333
T14-6_9_18	7.2	10.4	3248	3.2	1.077667
T15-11_S1	16	25	1378452	9	5.384556
T15-12_13	15	19	1378385	4	0.5855





# 10 Drilling

List of diamond drill holes and trenches is presented in the table below.

Table 8: Summary of data

	Nivenhauaf	Distance dvilled		Othor
	Number of	Distance drilled		Other
Year	holes	(m)	Assays	info
1990	7	2156	857	
1992	137	6169	4148	
1993	207	6963	4227	
				6
1994	75	6659	4049	wedges
1995	123	4266	3092	
2009	11	1027	841	
2010	179	3520	26056	
2011	211	41181	30349	
2012	23	8339	5710	7 DUP
2014	6	235	230	trenches
2015	2	119	119	trenches
2016	14	4678	2967	1 wedge
2017	4	2633	826	

In reality, there was 978 collars from which 43 before 1990 were excluded and the GR-10-17 & GR-10-17A were corrected as one to finally have a 934 collars database. Not all the holes are within the resource model see chapter 14 for details. It should be noted that a single trench may have more than one collar entry as coded as a drill hole in segments.

# 10.1 Pre-1990 drilling works

Since the discovery of the mine site in 1922, exploration work has been done on the site. For this report, only drillhole data from 1990 and later has been used. Older data are present in the data base but were not included in the resource estimation update because the Author considered them unreliable.





## 10.2 1990 to 1995 drilling works

In 1990, 7 holes were dug totaling 2156m. 857 samples were assayed (not including blanks, standards or duplicates). In 1992, 137 holes were dug, totaling 6169m. 4148 samples were assayed. In 1993, 107 holes were dug, for a total of 6963m. 4227 samples were assayed. In 1994, 75 holes were dug including 6 wedges. In total, 6659m were drilled and 4049 samples assayed. In 1995, 123 holes were drilled totaling 4266m. 3092 samples were assayed.

#### 10.3 Exploration 2009-2010

In 2009, 11 holes were drilled totaling 1027m. 841 samples were assayed. In 2010, 179 holes were drilled totaling 35240m. 26056 samples were assayed. In 2011, 211 holes were drilled for a total of 41181m. 30349 samples were assayed.

The holes GR-10-17 and GR-10-17A have been merged together as one hole, since they share the same collar and follow the same dip and direction. Hole GR-10-17 is 116.35 m deep and is fully assayed. Hole GR-10-17A is 309.05m deep and is only assayed after 116m. Merging these two holes together gives a single fully assayed 309.05m-deep drillhole. The A was the extension of the original 17.

The program was also successful in identifying a possible new shallow zone located northeast of the historic pit 2A and pit 2B. This exploration campaign was divided in three phases.

In May 2010, GBB launched phase 2 of its exploration campaign. The company aimed at increasing its confidence in the geology model of the main zone by conducting infill drilling and expanding the size of the deposit by testing new mineralized structures. Phase 3 had primarily the same goal as phase 2 in addition to expand the continuity of the feldspar porphyry and quartz veining.





#### 10.4 2012 Drilling Program – North and West Extension 2012 Project

The deep and shallow drilling programs (Figure 21) were initiated by GGM in 2012 under Claude Duplessis recommendation to test structures and gold mineralization presence on the north and west extension of the Granada Property. The spring 2012 drilling program was intended to enlarge the gold mineralization envelope of the expanded LONG Bars zone resource to the north at depth and near surface to the west.

The original drill plan on the northern deep drilling area was designed to have three deep holes (DUP-12-01, DUP-12-02 and DUP-12-03) each hole with one wedge. The program commenced with planned drillhole DUP-12-03. Due to excessive deviation, this hole was consequently abandoned at 378m. In order to continue the drill program, hole DUP-12-03A, located 400 metres NNE (12° North) of hole GR-11-390 was drilled 25 metres to the west of DUP-12-03 to a final depth of 1347 m. Following this, three wedge holes W1, W2 and W3 were placed into DUP-12-03A.

Hole DUP-12-02, located 830 metres NNE (24° North) of hole GR-11-390 was drilled down to 1593 m with one wedge added, W1.

These deep drillholes have expanded the mineralization by 650 metres to the north and an additional 600 metres in depth where the mineralization envelope remains open for expansion.

Due to the success of DUP-12-03A, DUP-12-02 and the associated wedges demonstrating continuation at depth of gold mineralization the drill was reassigned to the western extension to further evaluate near-surface mineralization. Planned hole DUP-12-01 was put on hold for these reasons. The observation of visible gold and typical alteration zones present in the western extension holes GR-11-375 and GR-11-363 from the backlog program have helped to establish the new targets in this area.





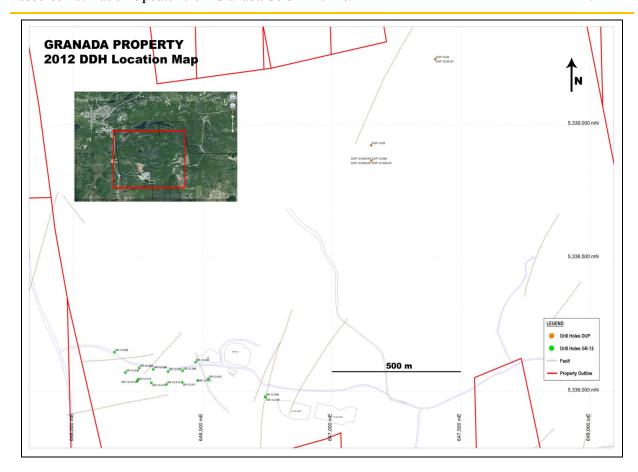


Figure 21: New 2012 diamond drillholes location map on Granada property

A total of 8339.25 metres in 23 holes was drilled on the Granada Property. The drilling contractor was Landdrill International Ltd. of Notre-Dame-Du-Nord, Quebec, which provided two surface diamond drill rigs (Marcotte Hydraulic model). 5710 samples (not including blanks, standards or duplicates) were assayed.

The drilling started on March 5<sup>th</sup>, 2012 and concluded on July 6<sup>th</sup>, 2012. All the drillholes were orientated south and drilled with different ranges of dip and length. Deep holes were spotted and surveyed by Mazac Geoservices Inc and the GR-12 holes were located by SGS Geologists using a handheld GPS. Down-hole oriention surveys were carried out by both Gyro and Reflex EZ-trac for the deep holes and only Reflex EZ-trac for the western extension holes.

#### 10.5 2016-2017 Drilling Campaign

Granada Gold Mine inc. started a diamond drilling campaign in September of 2016. Fourteen NQ diamond holes were collared (GR-16-01, GR-16-03 to GR 16-15) and 1 hole was wedged to hit two different targets (GR16-02 wedge) for 4305 meters. Samples taken from diamond drillholes (2967 samples not including blank, duplicates and standards) were analyzed at Accurassay laboratory in





Rouyn-Noranda (Quebec). The drilling contractor was Forages Orbit Garant, who provided one surface diamond drill rig.

In 2017, four additional holes were drilled for a total of 2633m. 826 Samples (not including blanks, standards or duplicates) were sent to Accurassay laboratory in Rouyn-Noranda for assaying. Blank and duplicate samples were integrated every 20 samples. Accurassay declared bankruptcy before the end of the job, and assayed and unassayed samples were retrieved from the laboratory. These samples were then sorted, and all samples from holes GR-17-02, GR-17-03 and GR-17-04 were sent to SGS Lakefield for assaying. Samples from the end on hole GR-17-01 were also sent (from 947m to 1277m). Some samples (GR-16-15 and GR-17-04) have thus been sampled in both labs, allowing a comparison of results from both labs.

The hole GR-17-01 was drilled deep in order to cross the Pontiac zone and hit the underlying lithology. The hole GR-17-04 was drilled on top of a waste pile in order to confirm the presence of a high-grade zone that was observed in historic a non-NI 43-101 compliant drillhole. Table 9 presents the list of the hole from drilling campaign 2016 and 2017 with the collar caracteristics (esting, northing, elevation, azimuth, dip, length and end date). Table 10 presents a summary of relevant results from campaign 2016 and 2017.

Table 9: Diamond drill holes data, campaign 2016 and 2017 (UTM coordinates, NAD 83 zone 17).

Hole Name	Easting	Northing	Elevation	Azimuth	Dip	Length	End date
GR-16-01	648149.264	5338287.891	304.024	105	-44	762	2016-09-28
GR-16-02 (Wedge)			372.82 (Collar depth)	131	-41	374.81	2016-10-03
GR-16-03	647048.379	5338156.097	315.501	203	-45	75	2016-10-04
GR-16-04	647018.080	5338163.251	315.624	199	-44	159	2016-10-05
GR-16-13	647069.041	5338174.622	314.391	200	-44	159	2016-10-06
GR-16-12	647108.014	5338174.653	314.550	198	-46	159	2016-10-07
GR-16-11	647138.193	5338172.525	315.240	201	-43	165	2016-10-08
GR-16-08	647225.540	5338108.096	313.486	172	-43	54	2016-10-09
GR-16-07	647299.190	5338181.773	307.615	156	-45	105	2016-10-10
GR-16-05	647350.179	5338189.243	308.062	169	-44	105	2016-10-10
GR-16-06	647622.775	5338317.477	302.716	170	-45	165	2016-10-11
GR-16-09	647436.938	5339255.408	301.216	211	-46	78	2016-10-12





Hole Name	Easting	Northing	Elevation	Azimuth	Dip	Length	End date
GR-16-10	647437.376	5339256.108	301.410	211	-75	129	2016-10-13
GR-16-14	647516.785	5338875.690	298.964	191	-65	924	2016-12-10
GR-16-15	647392.1854	5338810.059	301.975	188	-67	892	2016-12-20
GR-17-01	646995,5499	5339182,749	307,8102	196	-79	1278	2017-01-24
GR-17-02	647314,803	5338669,478	302,4693	189	-64,1	596	2017-01-31
GR-17-03	646855,6372	5338649,794	302,5582	182	-64,6	642	2017-02-08
GR-17-04	646755,0003	5338127,736	316,4298	263	-42,2	117	2017-02-02

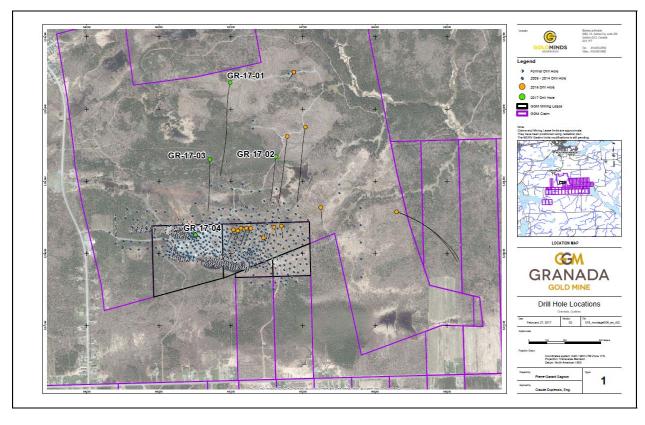


Figure 22: Drill holes location, 2017 (green) and 2016 campaign (orange).





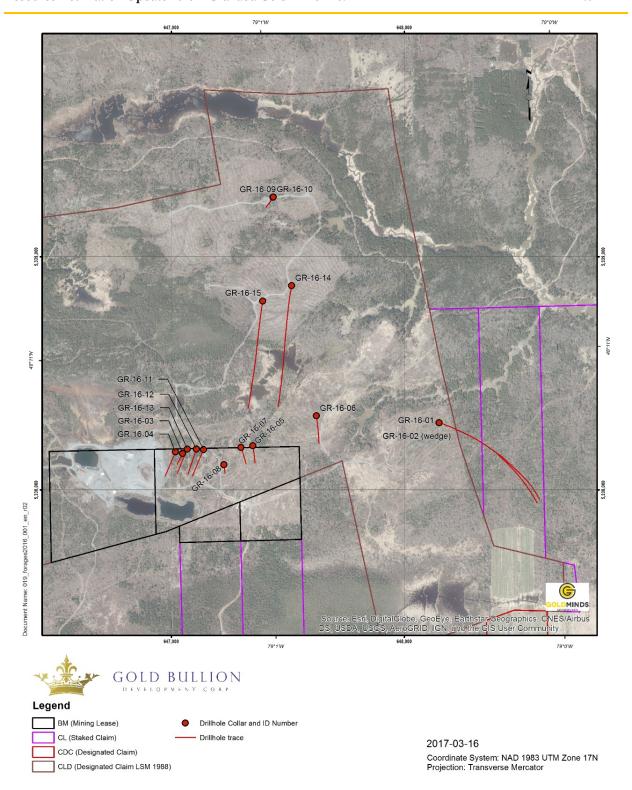


Figure 23: Drill holes location, 2016 drilling campaign.





Table 10: 2016-2017 Drilling campaign relevant results

			Sample		
Hole Name	From	То	Number	length	Au (g/t)
GR-16-01	197	200	6612	3	0.503333
GR-16-02 Wedge	529	533	7283	4	0.47425
GR-16-02 Wedge	556	560	7310	4	0.26475
GR-16-03	3	7	7515	4	0.442
GR-16-03	31	42	7553	11	0.173909
GR-16-03	53	60	7573	7	1.456857
GR-16-03	65	70	7584	5	8.8188
GR-16-04	2.9	12	7599	9.1	0.717
GR-16-04	58	73	7666	15	0.5546
GR-16-04	121	136	7736	15	0.287067
GR-16-05	56	60	8679	4	1.064
GR-16-05	80	85	8706	5	0.707
GR-16-05	95	99	8722	4	0.46225
GR-16-06	141	145	8596	4	0.39125
GR-16-07	24	31	8360	7	0.320286
GR-16-07	51	71	8404	20	0.65525
GR-16-07	95	105	8442	10	0.5532
GR-16-08	7	13	8284	6	0.556
GR-16-08	33	46	8321	13	0.581615
GR-16-11	17	43	8141	26	0.990615
GR-16-11	65	68	8169	3	0.042
GR-16-11	84	87	8190	3	0.608333
GR-16-11	92	95	8198	3	0.759333
GR-16-11	103	106	8211	3	1.530333
GR-16-11	128	134	8241	6	0.706833
GR-16-12	12	16	7942	4	6.94975
GR-16-12	20	28	7955	8	0.411
GR-16-12	34	39	7967	5	1.216
GR-16-12	55	61	7991	6	0.628167
GR-16-12	67	71	8002	4	1.173
GR-16-12	83	88	8021	5	0.3406
GR-16-12	108	112	8047	4	0.57075
GR-16-12	118	121	8057	3	1.315
GR-16-12	133	147	8086	14	1.146857
GR-16-13	71	74	7836	3	0.543333
GR-16-13	120	124	7891	4	0.21125





			Sample		
Hole Name	From	То	Number	length	Au (g/t)
GR-16-13	132	138	7907	6	0.370333
GR-16-14	669	674	4263	5	0.4028
GR-16-14	709	716	4307	7	1.146
GR-16-14	766	769	4363	3	0.452667
GR-16-14	782	785	4379	3	0.352333
GR-16-14	793	796	4391	3	0.781667
GR-16-14	861	867	4466	6	0.353167
GR-16-14	873	877	4476	4	0.392
GR-16-14	880	885	4484	5	11.634
GR-16-14	890	893	4493	3	0.481333
GR-16-14	902	907	4508	5	0.6032
GR-16-14	915	918	4519	3	0.541667
GR-16-15	582	585	4661	3	0.533
GR-16-15	623	626	4684	3	0.671333
GR-16-15	650	656	4700	6	0.452333
GR-16-15	661	667	4708	6	0.514667
GR-16-15	672	685	4722	13	0.959615
GR-16-15	687	692	4729	5	0.3534
GR-16-15	789.3	796	4826	6.7	0.48
GR-16-15	826	829	4843	3	1.970667
GR-16-15	860	863	4878	3	0.465333
GR-16-15	876	882	4898	6	0.294167
GR-17-01	834	840	8957	6	0.784833
GR-17-01	845	848	8965	3	1.424333
GR-17-01	915	919	9005	4	0.385333
GR-17-01	1051	1054	9062	3	0.613333
GR-17-01	1078	1081	9067	3	5.716667
GR-17-02	494	503	9287	9	1.238889
GR-17-02	508	511	9295	3	1.353333
GR-17-02	523	527	9311	4	0.73
GR-17-02	531	564	9348	33	0.65
GR-17-03	285	287	9471	2	4.31
GR-17-03	384	387	9503	3	0.45
GR-17-03	415	418	9510	3	1.12
GR-17-03	439	443	9527	4	5.71
GR-17-03	463	468	9553	5	0.51
GR-17-03	577	585	9656	8	0.41875





			Sample		
Hole Name	From	То	Number	length	Au (g/t)
GR-17-03	616	619	9665	3	0.646667
GR-17-03	636	638	9673	2	1.575
GR-17-04	24	35	9389	11	1.417273
GR-17-04	39	42	9393	3	0.443333
GR-17-04	59	65	9401	6	1.711667
GR-17-04	69	72	9408	3	0.683333
GR-17-04	93	96	9426	3	0.783333

# 10.6 Core Recovery

In this project, the core recovery is pretty good above 96% with some losses generally occurring in the beginning of the hole and also near shears or faults zones. Rock Quality Designation (RQD) measurements indicate that the rocks units observed in the Granada property are very competent.





# 11 Sample Preparation, Analyses and Security

Several holes were diamond drilled on the Granada property and rigorous QA/QC program was in place during the 2016-2017 campaign. This procedure includes the systematic addition of certified standards, blanks and duplicates. The sampling preparation described in the next section was done under the supervision of GMG (Figure 25, Figure 26). The independent quality control program of the assay results (QA/QC) adopted by GoldMinds consists of controlled core & assays being conducted by Accurassay Laboratories in Rouyn-Noranda, Québec and SGS in Lakefield, Ontario.

## 11.1 Sampling approch and methodology

## 11.1.1 **2016-2107** drilling campaign

During the drill campaign, a consistent methodology was used for the samples preparation. The core sampling protocol was established by GoldMinds Geoservices and is described below.

Once the drilling core was extracted, the sampling method was as follows:

- a) The geologist takes photos of dry and wet core boxes (Figure 24);
- b) The geologist matches the different pieces of the core to determine the direction of veins and faults;
- c) Once the geology is described, the geologist marks the beginning and the end of the sample directly onto the core with a yellow-colored wax crayon;
- d) The core is sampled over regular intervals of 1 m;
- e) GoldMinds tags are placed at the beginning of each sample interval and the tag numbers are integrated within the database (Figure 25);
- f) Blanks and standards tags are inserted after every tenth samples (and every twenty samples in holes GR-16-14 and GR-16-15 and in 2017 campaign);
- g) Samples are cut into two parts at the Granada mine site, one part of each sample is sent for analysis by fire-assay to Accurassay laboratory and the other part is stored on-site for the archives.
- h) The half-core meter-long samples are placed in plastic bags with their tag and closed. The remaining half-cores are kept at the company's core-shack for future assay verification or any other further investigation;





i) The plastic bags are placed into rice bags. Each rice bag is then sealed closed with a tie-wrap and identified prior to being transported to the laboratory (Figure 26);



Figure 24: Photos of cores taken from holes GR-16-07, GR-16-12 and GR-16-13.







Figure 25: Sample placed in plastic bag with tag.



Figure 26: Rice bags filled with samples ready to be transported to the laboratory.





#### 11.1.2 **2013 Channel Sampling Protocol**

During the 2013 channel sampling campaign, core samples were systematically assayed for gold with multi-element package by Accurassay laboratory in Rouyn Noranda. The sampling procedure included insertion of standards and blanks. The channel samples were made with a mechanical saw and sectioned in 1 metre long samples. Samples were identified, packaged and sent to Accurassay laboratories. Each sample was surveyed by a surveyor (location of "from" and "to").

- The trench locations were identified by the geologist.
- The trenches were dug by a shovel operator.
- The bedrock was cleaned using water hoses.
- The channels were set by technician and sectioned into metres.
- Photos of the channel were taken using a digital camera.
- Rock samples were cut using a rock saw.
- Samples were bagged at the project site and delivered directly to the lab facilities by the technician.
- The sampling procedure included the insertion of commercially prepared standards and property specific blanks collected from similar geological units, at regular intervals.

## 11.2 Samples Preparation

The 2016 and 2017 samples were sent to Accurassay Laboratories. In 2017, Accurassay laboratory went bankrupt. The samples from the 2017 campaign that were not assayed were retrieved from Accurassay and shipped to SGS Lakefield.

#### 11.2.1 Accurassay Laboratories

For the 2016 drilling campaign at the Granada mine two types of assays were done on the cores, fire assays (GR-16-01 to GR-16-13) and screen metallic (GR-16-14 and GR-16-15).

Fire assay analysis

A total of 2142 samples (from GR-16-01 to GR-16-13) were weighed, dried, crushed, split and pulverized to -200 mesh. Pulps were assayed by fire assay and gravimetric analysis for fire assay that returned grades above 5 g/t. Table 4, presents the number of samples sent to the laboratory per hole as well as the number of blanks, standards #1 and standards #2 inserted in the shipments to the laboratory.

Given the results of drill holes GR-16-01 to Gr-16-13 from the fire assay method of analysis, it was decided to target specific mineralized intervals from those same drill holes and use the screen





metallic method of analysis on the rejects. Then, the screen metallic analysis method was kept for drill holes GR-16-14 and Gr-16-15.

### Screen metallic analysis

A total of 1342 samples (516 samples from drill holes GR-16-01 to GR-16-13 and 826 samples from drill holes GR-16-14 and -15) were assayed using screen metallic method. The screen metallic analysis is one of the methods able to overcome the gold nugget effect by increasing the sub-sample size to 1,000 g and physically collecting the free gold within the system. The subsample is pulverized to  $\sim$ 90% -150 mesh (106 $\mu$ ) and subsequently sieved through a 150-mesh (106 $\mu$ ) screen. The entire +150 metallics portion is assayed along with two duplicate subsamples of the -150 pulp portion. Results are reported as a weighted average of gold in the entire sample.

#### 11.2.2 SGS Lakefield

A total of 855 samples (239 samples from drill hole GR-16-15 and 612 samples from drill holes GR-17-01 to GR-17-04) were assayed using the screen metallic method. Normally, samples received are dried then crushed to achieve a nominal sample size (~9 mesh). In this case, samples were already crushed and dried by Accurassay. Then, samples are split using a 14 slot, <sup>3</sup>/<sub>4</sub> inch splitter that divides the sample into 2 portions (pulp and reject). A representative head sample of which is within ~10% of the required sample weight is riffled.

The entire head sample is pulverized then screened using a Ro-tap assembly to a specified micron size (based on scheme selected) to ensure target weight is obtained. The entire plus fraction is submitted to the lab for analysis to extinction. Two aliquots are riffled from the minus fraction and submitted for analysis (weight of these aliquots may be 30g or 50g; weight may be client specified). Final assays are weight ratioed back to the representative sample weight.

## 11.3 Quality Assurance/Quality Control (QA/QC) Program

The 2016-2017 drilling campaign consisted of 19 diamond drill holes (including one wedge) and a rigorous QA/QC program was established by the GMG geologist. This procedure includes the systematic addition of certified standards, blanks and duplicates in the assayed core. The sampling preparation described here was performed under the supervision of GMG.

<sup>&</sup>lt;sup>1</sup> Accurassay Laboratory Precious Metal Analysis » Web. February 23, 2017.





Because Accurassay went out of business during the process of campaign 2017, only 6 Blanks out of 19, 3 Standard 1 out of 10 and 4 Standard 2 out of 12 were analyzed. Limited statistical analysis was done on campaign 2017.

But, holes GR-16-15 (240 samples) and GR-17-04 (62 samples) were analysed in both laboratories. Therefore, there are 301 duplicates for the 2016-2017 campaign.

#### 11.3.1 **2016 Drilling Campaign**

A total of 127 blanks, were inserted and consist of coarse pure white quartz sand (Figure 27).

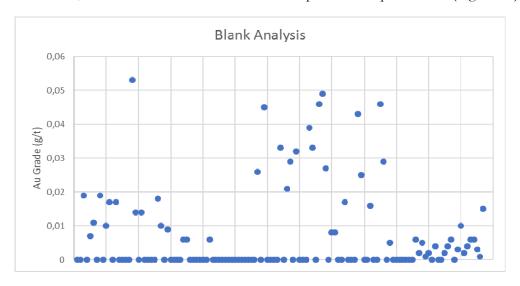


Figure 27: Distribution of blank samples used for the 2016 drilling campaign (ppm).

The results of assay blank samples showed that there are no anomalous values with values less than 0.06 ppm (Figure 27). Usually zero in grade despite a weak gold trace background with non significant results.

Two types of standards were used (STD1 and STD2 (Figure 28)). The author sent a total of 127 standards (66 STD1 and 58 STD2), to Accurassay laboratory. It is possible to see in Figure 29 that a STD1 was probably mistaken for a STD2 by the technician who bagged the samples. For the following statistics, the mistaken standard is considered as STD2.

STD1 shows a minimum value of 1.67 g/t, a maximum of 2.27 g/t and an average of 2.04 g/t. STD2 shows a minimum value of 3.07 g/t, a maximum of 4.68 g/t and an average of 3.81 g/t.







Figure 28: Standards 1 and 2.

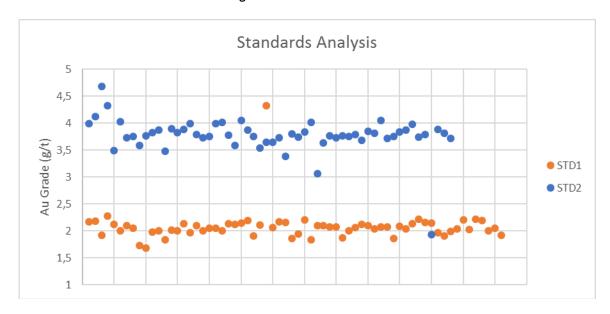


Figure 29: Distribution of standards (Au g/t) used in the 2016 drilling campaign.

In addition to blanks and standards, Accurassay laboratory added a quality control program of the assay results that consist of the duplicates analysis to measure the repeatability of the procedure. The graphic shows one STD 1 and one STD2 were mislabelled obviously. The results are considered reliable.





A total of 196 duplicates (Figure 30, Figure 31) were analyzed. Excluding the one high grade assay, the slope of the regression line and the correlation coefficient are close to unity (Figure 32), indicating a good reproducibility of the results.

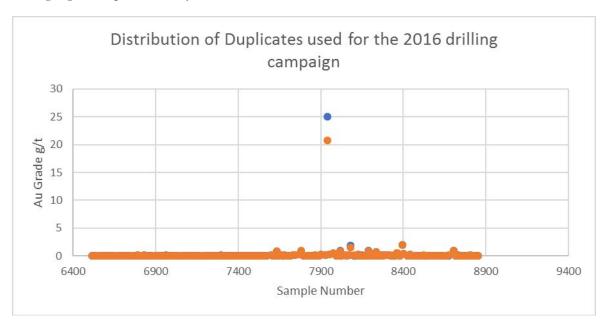


Figure 30: Distribution of Duplicates (Au g/t) used for the 2016 drilling campaign.

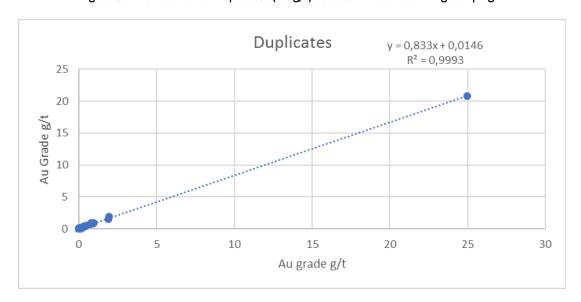


Figure 31: Sample Duplicate vs. Original Assays.





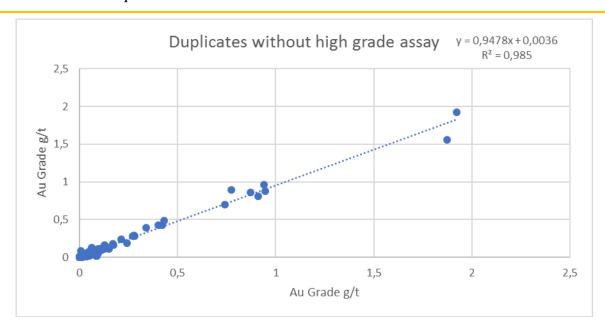


Figure 32: Sample Duplicate Vs Original Assays excluding the high-grade assay.

The integration of blank and standard samples by GMG allowed the verification of the quality of the results provided by Accurassay laboratory. The author did not carry an extensive visit of Accurassay laboratory, however, it has a good reputation, assays are controlled with our QA/QC and the work has been done in a professional way. Furthermore, the laboratory is independent from Granada Gold Mine Inc. and GoldMinds Geoservices. The compilation of blanks, standards and duplicates shows that Granada Gold Mine Inc. can rely on the results provided by the Accurassay laboratory for the purpose of mineral resources in the Granada context.

The GMG geologist and team took all possible actions to ensure the integrity and security of the samples from the drill sites to Accurassay laboratory. The samples and methods used by GMG's technical team, the laboratory analytical procedures and the management of the data are adequate and reliable.

GMG is satisfied with the drilling operations and no incidents or errors related to his responsibilities have been identified.

#### 11.3.1.1 Fire assay versus screen metallic

A total of 1342 samples (not including blank, duplicates and standards) were analyzed with the screen metallic method by Accurassay Laboratory in Rouyn-Noranda. A total of 516 samples from drill holes GR-16-01 to GR-16-13 and 826 samples from drill holes GR-16-14 and GR-16-15.





Figure 33, presents the distribution of gold content according to the analyzing methods (fire assay or screen metallic) used by the laboratory. Figure 34, presents the variation in gold content between the screen metallic and the fire assays method.

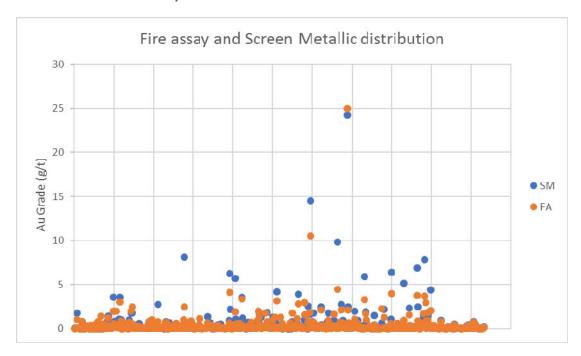


Figure 33: Fire assay results (FA) compared with screen metallic results taken from the same drill holes samples.





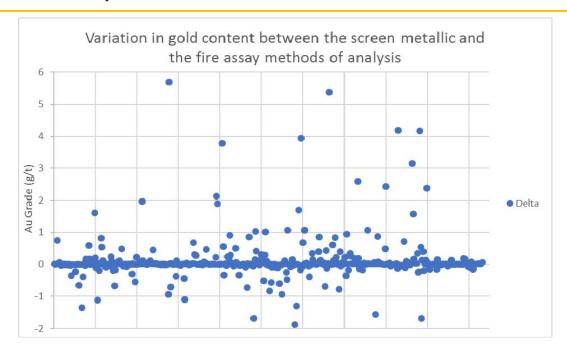


Figure 34: Variation in gold content between the screen metallic and the fire assays methods of analysis.

Figures 18 and 19, shown that the difference between the screen metallic and fire assay analyses can reach a maximum of 5.68 g/t, and a minimum of -1.88 g/t.

The screen metallic method allows a greater recovery and measurement of gold content than a single fire assay method. Therefore, the screen metallic method was used for drill holes GR-16-14 and GR-16-15 and is used for all the 2017 drilling campaign.

#### 11.3.2 **2017 Drilling Campaign**

Granada Gold Mine adhered to a quality control procedure, including inserting two different standards and blanks. This section represents a comment of the QAQC data available to the author at the moment of the update resource estimation.

In 2017, 19 blanks were sent to Accurassay, as well as 20 standards (9 STD1 and 11 STD2). The blanks and standards were inserted every 20 samples, with one blank every forty samples and a STD1 or STD2 alternating every 40 samples (blank, STD1, Blank, STD2, Blank, etc.). However, since the lab went bankrupt before the assaying was done, not all these samples have been assayed. The decision was taken to not send any additional blanks and standards to SGS Lakefield, because of the complexity of the task and the time constraints.





A total of six (6/19) blanks were assayed by Accurassay and consist of pure quartz sand. The average grade is 0.0033 g/t Au, with a maximum of 0.005 g/t and a minimum of 0.001.

Two types of standards were used (STD1 and STD2). 7 standards (3/10 STD1 and 4/10 STD2) were assayed at Accurassay laboratory.

STD1 shows a minimum value of 1.962 g/t, a maximum of 2.120 g/t and an average of 2.024 g/t. STD2 shows a minimum value of 3.852 g/t, a maximum of 4.100 g/t and an average of 3.938 g/t.

No blanks or standards have been sent to SGS Lakefield. The assay results from Accurassay lab show no significant outlier and are very similar to the assay results from the 2016 assay results.

## 11.4 Security

The integration of blank and standard samples by GMG allowed the verification of the quality of the results provided by Accurassay laboratory. The author did not visit Accurassay laboratory or SGS Lakefield, however, they have a good reputation and the work has been done in a professional way. Furthermore, the laboratory is independent from Granada Gold Mines and GoldMinds Geoservices. The compilation of blanks and standards shows that GGM can rely on the results provided by the Accurassay laboratory and SGS Lakefield. The similarity in the results between Accurassay and SGS Lakefield indicate that the analytical results from SGS Lakefield are also reliable. Assay results from SGS Lakefield were integrated instead of Accurassay results for samples assayed at both labs.

The GMG geologist and team took all possible actions to ensure the integrity and security of the samples from the drill sites to Accurassay laboratory. The samples and methods used by GMG's technical team, the laboratory analytical procedures and the management of the data are adequate and reliable.

Even though no blanks or standards have been sent to SGS Lakefield, the assay results for the same samples are close enough for GMG to have confidence in the SGS Lakefield assay results. This comparison will be discussed in the Data Verification section.

It is important to mention that GoldMinds personal recovered the samples from Accurassay facility in an independent manner.

GMG is satisfied with the drilling operations and no incidents or significant errors related to his responsibilities have been identified.





# 12 Data Verification

#### 12.1 Previous data verification

In 2011, SGS conducted a data verification. A selection of holes and intersections throughout the deposit was done; a quick log of the cut witness core with checking of the assay tags took place. Afterward the half core samples were bagged, sealed and sent to SGS laboratory in Toronto. Both 50-gram gold fire assays followed by a screen metallic on 500g to 1 kg sample were requested for each individual sample. Photographs of the core were taken prior to sampling. In addition to this program, sample pulps from the four (4) laboratories were selected for reanalysis. It is important to mention that sample selection was done prior to the final preparation of the database. This has led to the discard of control data could not be matched at the moment of writing the report.

#### 12.1.1 The database

The following details the required steps to produce a usable geological database from the received information sets.

After receiving basic information, a field inspection took place to verify the location of drillhole collars in the field. There were two collar information files from the independent surveyor Mazac Geoservices. One was from August 2011 and the second from October 2011. These files have been used as the base for the creation of the new drillhole database. The Geotic file received from Gold Bullion dated September 2011 was incomplete and errors between the drillhole names were observed, in particular between the field survey files and the Geotic log. Moreover, coordinates for some holes in the Geotic file had discrepancies over 1000 m in position while several were in the 5 to 10 meters range. The errors may have occurred by using a combination of the planned collar positions and final surveyed positions from Mazac, particularly in the case when inclinations (dips) were not surveyed and the FlexIT data was not available. Validation of the deviation data along the hole in the Geotic database could not be completed due to the absence of magnetic field measurements.

It was also observed in the assays of Geotic that gold (Au) and beryllium (Be) columns were interchanged. Ian Lafrance from SGS Geostat initiated the tedious quest of rebuilding the database from assay certificates and a partial list in a key Excel file of from-to values, to accurately match the proper gold values to depth.

The blanks and standards reference list were not available. In the file provided approximately 80% of from-to's was relocated and appropriate assay result from original assay certificate have been matched. However, approximately 18,000 m of assays results could still not be matched. The investigation work was performed between November 2011 and February 2012. In February 2012, the company received additional information in paper form of non-validated logs from the previous





consultant. Some of this added information was used to extend the database. SGS geologists were sent to the site for quick logging and retrieval of from-to values for certain drillholes to complete the database for the first resource estimate. Even though geological logs were limited, combining the information from the paper logs supplied in February 2012, SGS could remove the incomplete and/or doubtful non-validated holes bringing the count of usable holes from the 400's to the 300's.

An additional difficulty arose in the preparation of the assay database: the same sample numbers were used for different holes with different from-to values and from different laboratories. The date of results from the laboratory and drillhole drilling timing was used to organize the data. Partial FlexIT data was provided in February 2012 which helped the validation of certain deviation surveys in some of the holes.

#### 12.1.2 Database Validation 2014

Between Jan 24 2014 and Feb 05 2014 Matthew Halliday GIT from SGS Geostat conducted further validation on the geological database. The database contained some overlapping assay data and, as such, informed decisions had to be made to better prepare and eliminate overlapping assays from entering block model. Twenty-three samples were identified as potential errors. Eleven samples appear to be simple transcription errors causing very small overlaps, after confirming with excel drillhole logs these values were corrected. Hole number GR-10-17 had multiple overlaps because there were duplicate assays from the analytical lab, the newest values were kept except for one value which came from a larger, more representative sample. Samples numbered 30058-30061 were removed from GR-10-17. Three more assays were deleted from three other holes for similar reasons. These changes are assumed to not cause any significant changes to the dataset in terms of grade. Additional overlap checks and collar depths were checked to verify no end-of-hole depths were smaller than the last assay. This validation was performed by incorporating techniques within the GeoBase Validation tool, Access, and Excel.

Using the information from the current validation, minor changes were made to the deviations and lithology tables. For the deviations table, a review of possibly erroneous deviations was conducted and compared to nearby surveys, 80 particular deviations were selected. Of those 80, only a small fraction was selected to be "inactive". Similarly, the modifications to the Lithology table were equally minor, most modifications were to change the geological level of lithologies to avoid any potential overlaps, and some faults were given a 1 cm dimensionality. Most of these errors were minor overlap issues, however 19 errors were outside the drillhole limits, in such cases the drill logs were consulted and the appropriate changes made, typically this discrepancy type was within 3m or 1 drill run.

At this time, only the changes to the assays table have been used in the 3d modelling environment, however the other corrections are available for future use.





## 12.1.3 **The Pulp**

A decision was made in 2011 to perform a random selection of the pulps stored at site from the four (4) different laboratories. Initially, 646 pulps were selected and taken for 50-gram gold fire assay and even pulp from screen metallic of Accurassay. The wood crates filled with pulp were brought inside the logging facility where pulps were sorted, recorded in a computer and bagged for shipping to the SGS Laboratory in Toronto.

In the process of trying to connect the pulp assay numbers with reliable data in the database, we ended up with only 588 pulps for comparison for which we could trace with confidence.

The average gold grade of the pulps from the four (4) labs is 252 ppb whereas SGS produced 266 ppb. The bias could not be demonstrated with the sign test on these pairs.

#### 12.1.4 **The core**

A decision was made in 2011 to select continuous samples representing zones instead of selecting individual random samples. Holes and depth intervals were selected from the Geotic based on coverage of the deposit independently of which lab made the analyses. A total of 1,393 assays including inserted blanks were sent to the SGS laboratory in Toronto for sample preparation followed by both a 50-gram fire assay and a Screen metallic on 500 to 1kg depending on sample size.

Removing the samples unmatched with originals or blanks, the initial 1,393 assays is reduced to 1,341 usable assays for comparison. A total sample length of 1,598.31 meters was taken for independent sampling in this phase of the program. This represents nearly 4% of the drill core used in the resource estimate for that part only. If the pulp and the total gold tests' core lengths are added to this, then over 5% of drill core in the resource estimate has been tested in the author's independent sampling program. If the previous consultant had completed their work in full, a significantly smaller amount of independent control samples would have been required.

In comparing all the original assays with the controls, no bias has been detected with the Sign test.

 Sign Test
 667
 Negative
 685

 637
 Positive
 655

 37
 Null

 1341
 Pairs

Table 11: Sign test and statistics of comparison independent cores

By use of the sign test 685 is the sum of the sign indicators from a total of 1341 pairs, number of pairs divided by 2 is 670.5. The inferior limit is 0.472692, the superior limit is 0.527308. The sign test





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value calculated is 0.510713. Since the sign test value is between the inferior and superior values there is no significant bias detected with this method.

Table 12 Correlation between original sample and control sample half-core

	GGM Original	SGS Control
Average	0.42	0.65
Sum grams	559.95	865.59
Sum above 0.3 gpt	490.66	672.77
Average above 0.3 gpt	1.80	2.46

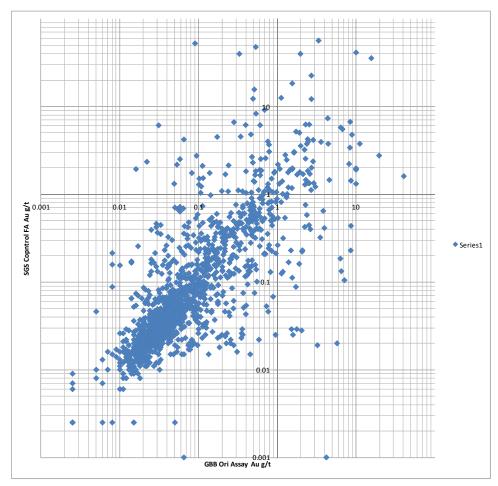


Figure 35: Correlation between original sample and control sample half-core





The independent sampling of the witness core shows that the original data can be used to produce resource estimates. The author is aware of the variation from taking the second half of core and being in a context of gold with presence of coarse grains.

The average gold grade of the independent sampling is higher than the average grade of the original data. The existing database is more conservative than highly promotional and can now serve as a base for resource estimation.

Table 13: Extract of comparison sample sorted on SGS SM no grade in SM

Table 15: Extract of comparison sample sorted on SGS SW no grade in SW							111 5141		
HOLE ID	FROM	то	GBC#	SGS#	GBC LAB	Au AA23 AA25 ppb	Au Met ppb	Au SGS ppb	Au(Calc) g/t
GR-10-104	3	4	J357216	31001	ALS	5	-1	8	I.S.
GR-10-104	166.7 5	167.6	J357373	31155	ALS	68	-1	68	I.S.
GR-10-104	131	131.55	J357343	31124	ALS	8420	-1	6710	I.S.
GR-10-104	27	28	J357242	31025	ALS	2.5	-1	7	<0.01
GR-10-104	29	30	J357244	31028	ALS	2.5	-1	9	<0.01
GR-10-104	34	35	J357249	31033	ALS	2.5	-1	<5	<0.01
GR-10-104	35	36	J357250	31034	ALS	2.5	-1	<5	<0.01
GR-11-250	114.5	115	J199214	31464	ALS	2.5	-1	<5	<0.01
GR-10-108	211.9 7	212.65	J757132	32132	ALS	2.5	-1	<5	<0.01
GR-11-250	50.57	51.5	J199154	31405	ALS	6	-1	<5	<0.01
GR-10-108	241.5	243	J757156	32156	ALS	6	-1	7	<0.01
GR-11-250	35.5	36.5	J199138	31389	ALS	7	-1	10	<0.01
GR-11-250	37.92	38.42	J199140	31391	ALS	10	-1	6	<0.01
GR-10-104	26	27	J357241	31024	ALS	11	-1	18	<0.01
GR-10-104	152	153	J357362	31143	ALS	11	-1	9	<0.01
GR-10-193	205	206	4203	32812	Accurassay	11	-1	8	<0.01
GR-11-250	5.48	6.5	J199108	31359	ALS	12	-1	8	<0.01
GR-11-250	76.5	77.96	J199181	31432	ALS	12	-1	15	<0.01
GR-09-04	38.4	39.4	29561	31642	Expert	13	-1	19	<0.01
GR-10-164	4.5	6	3707	32562	Accurassay	13	-1	12	<0.01
GR-11-250	42.5	43.5	J199146	31396	ALS	14	-1	10	<0.01
GR-11-250	102	103.5	J199203	31454	ALS	14	-1	9	<0.01





GR-10-104	118	119	J357330	31112	ALS	15	-1	36	<0.01
GR-11-250	88.5	89.5	J199193	31443	ALS	15	-1	9	<0.01
GR-10-108	240	241.5	J757155	32155	ALS	15	-1	<5	<0.01
GR-09-04	2	3	4243	31605	Accurassay	17	-1	9	<0.01
GR-10-193	192	193	4191	32799	Accurassay	17	-1	18	<0.01
GR-11-250	81	82.5	J199184	31435	ALS	18	-1	8	<0.01
GR-10-193	193	194	4192	32801	Accurassay	19	-1	12	<0.01
GR-10-104	153	154.5	J357363	31144	ALS	20	-1	13	<0.01
GR-10-193	45	46	4041	32652	Accurassay	20	-1	13	<0.01
GR-11-250	261	261.5	J199337	31586	ALS	21	-1	11	<0.01
GR-10-104	151	152	J357361	31142	ALS	50	-1	33	<0.01
GR-11-196	123	124	J198165	31350	ALS	50	-1	<5	<0.01
GR-10-104	55.15	55.9	J357271	31054	ALS	363	-1	<5	<0.01

When sorted on screen metallic (SM- Au Calc g/t) and using only results above zero, we get 1,196 screen metallic results received at the time of analysis (108 assay results were not included at time of analysis). The average grade for Original GGM is 0.42 g/t, SGS FA is 0.60 g/t and the screen metallic average grade is 0.56 g/t.

The exercise of selecting only the comparison assay for SGS SM having a grade above zero in the metallic portion was also done. This gives us 478 samples to compare. The average grade for Original Gold Bullion data for these is 0.90 g/t, SGS FA is 1.40 g/t and the screen metallic average grade is 1.32 g/t., the average grade of the metallic component for these is 7.64 g/t.

Based on these comparisons it appears that actual GGM gold grades are underestimated and requires additional investigation.

During the investigation process, a second Fire Assay was requested from SGS laboratory, where the first SGS Fire Assay results contained grades above zero. A total of 1235 assays were compared. In the second set of fire assays three (3) of the 1 235 samples came back below detection limit of 5 pbb; those values were replaced with 3 ppb. The average grades are: the original GGM assays is 410 ppb or 0.41 g/t, first SGS FA assay 621 ppb or 0.62 g/t and the second SGS FA 646 ppb or 0.65 g/t. In addition to the 738 assays below detection limit of first SGS FA run, 3 came back with 12, 17 and 36 ppb which are not significant in author's opinion.





#### 12.1.5 Total Gold Test

In addition to pulp and core sampling, total gold tests on 29 composites were also conducted. The total gold test was carried out on a zone which was composited and the entire composite is processed to define the total amount of gold in the rock. The composite lengths are 8 to 14 meters of core and represent composite weights in the 20 to 30 kg range.

By use of the sign test, the sum of the sign indicators is 19, from a total of 29 pairs; number of pairs divided by 2 is 14.5. The inferior limit is 0.314304662 (Equation 12-1), the superior limit is 0.685695338 (Equation 12-2). The sign test value calculated is 0.655172414. Since the sign test value is between the inferior and superior values there is no significant bias detected with this method.

The comparison of the average original Gold Bullion Fire Assay versus the SGS Lakefield total gold test show the FA are higher than the average total gold. This justifies the application of capping on individual fire assay even if individual assay shows average lower grade than control SGS individual assays bring confidence to the Gold Bullion exploration data.

With the observations and conclusions from the exhaustive independent sampling program, the newly validated Gold Bullion database can be used for resource estimation (RE) with confidence. The deep holes of Phase 1 to 3 without reliable surveys (not used in the current RE) will have to be resurveyed along the hole or discarded, unless original Reflex measurements with magnetic field readings are found. The 2012 deep holes are reliable for resource estimation.

## 12.2 Data Comparison – Accurassay Rouyn-Noranda Lab versus SGS Lakefield

Since the Accurassay laboratory in Rouyn-Noranda went bankrupt before all the assay results were delivered, many samples were sent to SGS Lakefield for assaying. In order to ensure the quality of Accurassay assaying right before the bankruptcy, some samples were assayed a second time. A total of 301 samples (not including blank, duplicates and standards) were analyzed by Accurassay Laboratory in Rouyn- Noranda and a second time by SGS in Lakefield. A total of 239 samples from drill holes GR-16-15 and 62 samples from drill hole GR-17-04.

Figure 36, presents the distribution of gold content according to laboratory (Accurassay or SGS). Figure 37, presents the variation in gold content between Accurassay and SGS laboratories with the screen metallic method.





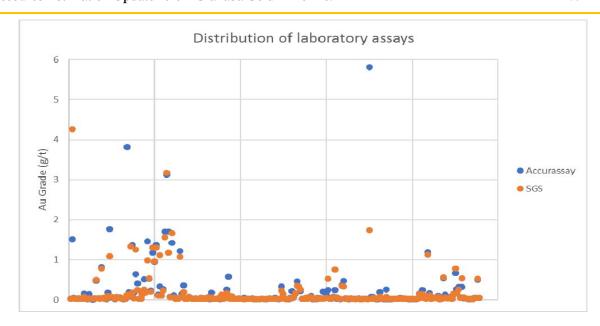


Figure 36: Distribution of laboratory assays from Accurassay and SGS Lakefield, drill hole GR-16-15.

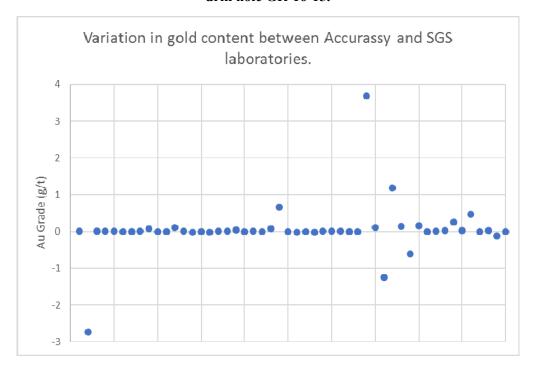


Figure 37: Variation in gold content between Accurassay ans SGS laboratories for drill hole GR-16-15.

Figure 34 and Figure 36, show that the difference between the gold content of drill hole GR-16-15 from Accurassay and SGS laboratories can reach a maximum of 4.07 g/t, and a minimum of -2.74 g/t.





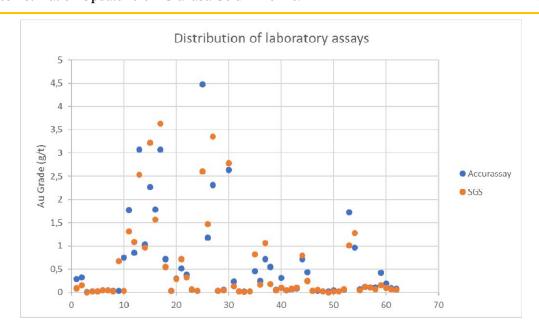


Figure 38: Distribution of laboratory assays from Accurassay and SGS Lakefield, drill hole GR-17-04.

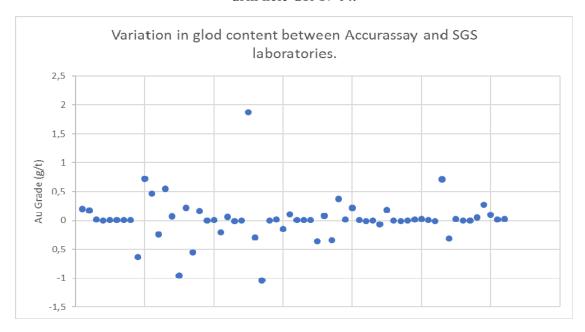


Figure 39: Variation in gold content between Accurassay ans SGS laboratories for drill hole GR-17-04

Figure 38 and Figure 39, show that the difference between the gold content in drill hole GR-17-04 from Accurassay and SGS laboratories can reach a maximum of 1.87 g/t, and a minimum of -1.04 g/t.





These results indicate that there is no significant bias between the results of the two labs. Given the fact that the results from the two labs are similar, the results from the more recent assaying, at SGS Lakefield, have been integrated to the GENESIS database. The Au grade (g/t) content result in samples from Accurassay laboratory are similar to the gold content in the results from SGS Lakefield, for drill hole GR-16-15 and GR-17-04. Some gaps are present, such as a 4.073 g/t Au difference in hole GR-16-15. However, some gaps show significant grades in both labs. For instance, in this case, Accurassay reported a 5.813 g/t Au grade, and SGS reported 1.74 g/t Au. Both these results are significant and indicate the presence of mineralization.

## Holes 1992-1996 resampling works

Moreover holes of 1990's validation done on site by GMG. The mineralized zones in 14 holes done between 1992 and 1996 have been resampled to validate the old results in spite to incorporate them in Goldminds resources estimation. The splited core samples have been assayed by Accuracy Lab for Au by fire assay SAA/PCI method on 30gr sample and by gravimetric method on 50 gr sample for the samples with more than 10g/t Au. The control QA/QC has been applied by introducing a standard sample each 20 samples and with blank at each 40 samples. A total of 223 core samples have been assayed. Overhall the results reproduce, the following table shows the largest difference observed.

Hole Number	From	То	Length (ft)	Au(g/t) (1992) (1994)	Au(g/t) GMG (2015)
GR92-43	15,5	16,6	1,1	12,720	2,352
GR92-44	43	44,4	1,4	14,537	0,888
GR92-44	56,6	57,3	0,7	1,234	21,804
GR94-302	19	20,5	1,5	8,091	23,384
GR94-305	67	68,7	1,7	29,485	0,02

Table 14: Biggest differences observed in both ways

These difference suggest the occurrence of coarse gold in the samples.

The Goldminds' staft also did a verification and a validation of the database of the 1990s drilling holes, 1992, 1993, 1994 and 1995.





Collar information modification of 8 holes has been done from the preliminary historical database compilation as well as 98 assay intervals after extensive verification with the assay certificates.



Figure 40: Example hole GR92-44 from 5.6ft to 47.4ft





# 13 Mineral Processing and Metallurgy Testing

## 13.1 SGS Lakefield Testwork – Project 13526-001 (December 2011 – January 2012)

A series of metallurgical tests were carried out at SGS Lakefield on 29 composite samples from the Granada deposit in order to determine the most probable head grade of the mineralization. The samples in their entirety were processed through gravity separation followed by cyanide leaching of the gravity tailings. An overall gravity separation plus cyanidation metallurgical balance was applied to calculate the head grade of each composite sample. Because of a possible misinterpretation of the block model by a former company, it was discovered afterward that some of the composite samples came from drillholes that were outside the known boundary of the deposit. In order to correct the situation and to come up with a more exact deposit head grade, composite samples 3, 5, 7, 17, and 21 were discarded from the SGS Lakefield met tests.

#### 13.1.1 Metallurgical Testing

The prime objective of the metallurgical testwork was to determine the head grade of each composite by subjecting the entire sample to gravity concentration of the coarse gold followed by cyanide leaching of the gravity tailings. An overall (gravity plus cyanidation) gold metallurgical balance was applied to calculate the head grade of each sample and the total gold recovery.

#### 13.1.1.1 Gravity Separation

For the gravity testwork, each composite sample was ground in a laboratory rod mill to a target of  $P_{80}$  particle size of 75  $\mu$ m. The mill product was passed through a 3-inch Knelson concentrator. The Knelson concentrate was cleaned on a Mozley table. Both the Mozley and Knelson tailings were combined and submitted to cyanide leaching.

The gold recovery to the gravity concentrates ranged from 29.6% to 78% with an average of 54.0%.

#### 13.1.1.2 Cyanidation

The combined Knelson and Mozley table tailings were subjected to cyanide leaching under the following conditions:

The extraction of gold by cyanidation ranged from 83.5% to 94% with an average of 89.3%. The NaCN and lime consumptions ranged from 0.03 to 1.40 kg/t and 0.21 to 0.70 kg/t respectively. The overall extraction, gravity plus cyanidation ranged from 90.0 to 98.5% with an average of 94.9%.

#### 13.1.2 SGS Lakefield Testwork - Project 14041-001 (March - April 2013)

The purpose of this second test program was to determine the amenability of the sample to coarse gravity separation and flotation. The original test program included dense media separation, flash





flotation and cyanidation testwork. The sections below present and summarize the results of testwork that was completed on these Granada samples.

#### 13.1.2.1 Specific Gravity

Seventeen (17) of the individual core samples which were used for the Master Composite were submitted for density measurements. The initial rock weight, weight in water and water displacement was recorded. The weights were then used to calculate the specific gravity of the ore which was found to be 2.78.

#### 13.1.2.2 Head Analysis

Four (4) gold size fraction analyses were completed on the Master Composite sample. The gold head grade for the -1/4" Master Composite sample was 1.39 g/t. The gold head grade for the three size fractions which were created by screening at 4 mm and 1.18 mm ranged from 0.43 g/t to 1.35 g/t.

#### 13.1.2.3 Comminution

The Master Composite sample was submitted for a standard Bond abrasion test. The results of this test can be used to determine steel media and liner wear in crushers, rod mills and ball mills. The Abrasion Index (AI) was 0.247 g and the sample was classified as medium abrasive.

A Bond low-energy impact test was performed on twenty rock samples from the Granada site. Twenty rocks in the range of 2" to 3" were selected and shipped to Phillips Enterprises LLC for the completion of a Bond low-energy impact test. The CWI average was 19.2 kWh/t and fell in the very hard hardness-range.

#### 13.1.2.4 Heavy Liquid Separation

Two samples (-1/4" +4 mm and -4 mm +1.18mm) were submitted for heavy liquid separation (HLS) testing. The samples were placed in separatory funnels containing heavy liquid (methylene iodide) at six specific gravities, 3.1, 3.0, 2.9, 2.8, 2.75 and 2.7. The test was carried out sequentially starting with the sample run of highest SG (3.1), creating a float and sink fraction. The float fraction was cleaned, dried, weighed and then run at the next lowest SG. The minerals lighter than the heavy liquid specific gravity floated and those denser sank. The sink fraction and final float (2.7 SG) from each test were submitted for gold analysis.

The results indicated that 69.2% of the gold was recovered at a mass recovery of 30.6%. In order to get a higher gold recovery a larger mass recovery is required.

The results for the -4 mm +1.18 mm Master Composite test indicated that there was improved separation at a finer fraction compared to the coarser fraction (-1/4" + 4 mm). A mass recovery of 30.5% yielded a gold recovery of 79.3%, approximately 10% higher than the coarser fraction results.





It should also be noted that the 2.70 float was very low grade, 0.05 g/t Au. Additional testwork at a finer crush size (6 mesh) was recommended by SGS.

#### 13.1.2.5 Metallurgical Testing

The original testwork program included dense media separation (DMS) testwork on the -1/4" +4 mm and -4 mm +1.18 mm samples. Dense media separation was going to be used to preconcentrate the minerals and reject gangue materials prior to flotation testwork (float fraction) and cyanidation testwork (sink fraction). Based on the HLS test results Gold Bullion decided not to engage in the DMS testwork.

A Wilfley shaking table was used to complete one single pass Wilfley test on the -1.18 mm Master Composite sample. The target concentrate weights were 1%, 2%, 5%, 10% and 15% of the feed weight. The concentrates from the test were going to be used for cyanidation testwork and the Wilfley tailings were going to be used for flotation and cyanidation testwork. The Wilfley table products were dried, weighed and assayed for gold.

Eight (8) concentrate samples were collected during the Wilfley test and combined to create weight fractions close to the target values. These concentrates were dried, weighed and assayed for gold. The calculated gold head grade for the -1.18 mm Master Composite sample was 1.31 g/t which compared well to the gold size fraction analysis value, 1.35 g/t Au.

Based on the Wilfley table test results Gold Bullion decided not to pursue the flotation and cyanidation testwork.

#### 13.1.3 Gekko Systems Pty. Limited Testwork – Report T1037 (April – July 2013)

The purpose of Gekko's testwork was to build upon the previous scoping program, which found that the Gold Bullion Granada ore was amenable to coarse gravity recovery and fine flotation. Additional tests such as gravity (Falcon), coarse flotation and leaching were added to the original scope of the testwork.

#### 13.1.4 Head Grade Analysis

The head grade analysis of the dense media separation feed at a crushed size range of -4 mm to +1.18 mm showed a head assay of 1.23 g/t whilst the calculated grade was 0.47 g/t Au. In one of the four (4) repeat fire assays, a reading of 3.75 g/t Au was evident, which indicates a presence of coarse or 'spotty' gold in the dense media separation feed sample.

The table feed crushed to 100% passing 1.18 mm, also indicated the presence of spotty or coarse gold. The average head assay was 1.03 g/t and a calculated grade obtained by the feed sizing was 0.97 g/t Au. This is supported by the higher LeachWell grade (2.06 g/t) than the fire assay grade of





the single pass table feed sizing; this can be caused by 'spotty' gold that is captured by the LeachWell test but may be exacerbated in a 50-g fire assay.

#### 13.1.4.1 Comminution

The sample had an impact crushing work index of 19.3 kWh/tonne with a range from of 6.1 to 33 kWh/tonne. The abrasion index of the sample was 0.287.

Vertical shaft impact (VSI) crushing (Barmac) produced high circulating loads that indicated low amenability to this comminution technique.

#### 13.1.4.2 Dense Media Separation

Dense media separation tests indicated gold recovery to be at 70% in a mass yield of 4.3% of the feed at a cumulative grade of 19.4 g/t. Approximately 70% of the feed material resided in the -4 mm to +1.18 mm size fraction for DMS cyclone test. The total calculated grade (tail grade) of sinks (SG of 2.9) to floats (SG of 2.7) was 0.35 g/t Au. A tail grade of 0.35g/t was attributed to the residual material from the dense media separation test. This represented approximately 96% of the test mass.

## 13.1.4.3 Gravity Recovery

The optimum single pass table gold recovery for the sample at 100% passing 1.18 mm was 56.2% into 15% of the feed mass at a grade of 4.2 g/t Au. The table tails grade was 0.58 g/t, therefore gravity recovery methods were employed in order to minimize the loss of gold to tails.

A Falcon batch centrifugal concentration was used on the gravity tails and selected gravity concentrates 3, 4 and 5, to increase the recovery of gold into a smaller mass. The Falcon was able to recover 22.1% of the gold into 0.5% of the feed mass at a grade of 30.8 g/t Au. While the concentration of the ore via Falcon is considered low on its own, its contribution to overall gold recovery via gravity is significant.

#### 13.1.4.4 Flotation

Coarse flotation completed on the Falcon tails at  $P_{100} = 600 \mu m$  recovered 51.1% of the gold into 7.8% of the feed mass for a grade of 2.49 g/t Au. Whilst flotation completed on the Falcon tails that was ground to  $P_{100} = 125 \mu m$  recovered 57.1% of the gold into 11.8% of the feed mass achieved a grade of 2.27 g/t Au. The tails grade for both the coarse and fine flotation tails were consistent with one another, at 0.20 g/t Au and 0.23 g/t Au respectively.

#### 13.1.4.5 Cyanidation

Intensive cyanidation tests were carried out on the combined gravity and flotation tests to determine leach amenability.





#### 13.1.4.6 Total Gold Recovery (Table, Falcon, Flotation, Cyanidation)

The recovery of gold for combined table, Falcon and coarse flotation concentrate was 82.7% at a grade of 8.20 g/t into 10.5% of the feed mass whilst the overall gold recovery of combined table, Falcon and fine flotation concentrates of 82.6%, at a grade of 6.45 g/t into 14.4% of the feed mass.

Combined gravity, Falcon and fine flotation concentrate (LGOLD 02) displayed higher recoveries. Over 24 hours gold leach recovery for LGOLD 01 was 74.2% and over the same time period, gold leach recovery for LGOLD 02 was 90%.

#### 13.1.5 Unité de Recherche et de Service en Technologie Minérale (URSTM)

Project №: PU-2013-09-835-B

This report presents results of selected metallurgical tests done on Granada ore. These tests have been done from September to October 2013 by Jean Lelièvre, P. Eng., M.Sc., from URSTM, in the mineral processing facilities of *Cégep de l'Abitibi-Témiscamingue* in Rouyn-Noranda (QC) Canada. The fire assays and ICP on solids were conducted at Laboratoire Expert, Rouyn-Noranda (QC). Cyanide analyses were done by Multilab at Rouyn-Noranda. Acid generating tests (ABA and NAG) were performed by Mr. Marc Paquin, chemist at URSTM.

#### 13.1.5.1 Head Analysis

Head analysis for the gold and silver returned the following values:

Samples Au Au-Dup Ag-Dup Αg g/t g/t g/t g/t S-1 0.72 0.69 0.5 0.6 S-2 0.2 0.69 S-3 0.62 0.62 0.4 0.4 S-4 0.69 S-5 1.37 S-6 1.44 S-7 0.62 S-8 0.55 Average 0.81 0.42

Table 15: Head analysis results





## 13.1.5.2 ICP aAnalysis in Head Sample

Table 16: ICP analysis in head sample results

Granada	Conc	Concentration								
Ore	Ag	As	Cu	Fe	Ni	Pb	Sb	S	Zn	
Sample	ppm	ppm	%	%	ppm	ppm	ppm	%	ppm	
	1.30	105.0	>1.0	6.53	148.0	14.0	<10	1.60	54.0	

13.1.5.3 Acid-Generating Tests

The acid generating test returned the following results:

Granada	St	S <sub>sulphate</sub>	Ssulfur	AP	Ct	NP	NNP	NP/AP	Potential
	%	%	%	CaCO₃	%	CaCO <sub>3</sub>	CaCO <sub>3</sub>		Acid
Sample		,		k/t		kg/t	kg/t		Producing
·	1.28	0.047	1.23	38.4	1.50	65.2	26.8	1.7	Yes

13.1.5.4 Ore-Specific Gravity

Specific gravity of each sample has been evaluated by the pycnometer method and was found to be 2.78.

#### 13.1.5.5 Ball Mill Work Index

A Bond ball mill work index has been done on the Granada ore using the standard work index protocol. The ball mill work index of Granada sample was 10.9 kW-h/tonne. A work index of 10.9 is a very low figure compared to most Canadian gold ores.

#### 13.1.5.6 Gravity-Cyanidation Tests

A combined gravimetric concentration and cyanidation – carbon adsorption of gravimetric tails has been performed on the Granada samples. Results are summarized in Table 17.





**Table 17: Gravity cyanidation test results** 

Tuble 170 Gluvie, ejumunelen tese i esums										
	Mass	Mass Grad		Distribution						
	g	%	g/t	%						
Grav. conc.	1.39	0.03	2265.0	41.0						
Carbon ads.	110.7		38.5	55.5						
Solution	8213.3		0.015	1.6						
Tails solid	4789.6	99.97	0.03	1.9						
Calc. feed	4791.0	100	1.60	100						

Overall gold recovery: 96.5%

Free gold (gravity recovery): 41.0%

13.1.5.7 Chemical Consumption

NaCN: 0.25 kg/t

 $Ca(OH)_2$ : 1.74 kg/t

13.1.5.8 Settling Tests (Thickener Dimensioning)

A total of three (3) laboratory settling tests have been done on cyanided Knelson-Mozley tails and the Talmage and Fitch method has been used for estimating the thickening area (m²/tpd). Results are summarized in Table 18

**Table 18: Settling tests results** 

Test	Flocculent Dosage Percol E10		final	Unit area	Supernatant clarity
SED-1	0.0 g/t	23.2	55.0	0.138	Poor
SED-2	4.6 g/t	23.2	55.0	0.046	Clear
SED-3	18.4 g/t	23.2	55.0	0.041	Clear





## 13.1.5.9 Cyanide Destruction Tests

A total of (4) cyanide destruction has been done on cyanided tailings of the Granada ore. The cyanide destruction method used was the SO<sub>2</sub>-Air method. As usual for lab testing, the SO<sub>2</sub> was substituted by sodium metabisulfite (Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub>).

Principal parameters as well as cyanide destruction results are given in the following table:

**Table 19: Cyanide destruction test results** 

			Ret.	Reagents							
Test	Description		time hours	Na <sub>2</sub> S <sub>2</sub> O <sub>5</sub>	CuSO <sub>4</sub> . 5H <sub>2</sub> O kg/t	Ca(OH) <sub>2</sub> kg/t	рН	CNd	CNt	As	Cu
	pH 8.5	Before						267	264	0.33	25.44
1	SO <sub>2</sub> /CNd 6.73	CN dest.									
'	0 ppm Cu addition	After CN dest.	2	4.18	0.0	1.58	85	0.05	0.16	0.21	2.56
pH 8.5 SO <sub>2</sub> /CNd 6.73 103 ppm Cu addition	Before CN dest.						267	264	0.33	25.44	
	103 ppm Cu	After CN dest.	2	4.18	0.6	1.49	8.5	0.06	0.63	0.08	0.19
2	pH 8.5 SO <sub>2</sub> /CNd 5.17	Before CN dest.						267	264	0.33	25.44
	26 ppm Cu addition	After CN dest.	2	3.21	0.2	0.83	8.5	21.58	25.29	0.11	26.63
	pH 8.5	Before						267	264	0.33	25.44
4	SO <sub>2</sub> /9.07	CN dest.									
	130 ppm Cu addition	After CN dest.	2	5.63	0.8	2.00	8.5	0.12	0.43	0.08	0.19





# 13.1.5.10 Gravity-Cyanidation duplicate

Out of the 23.5 kg of sample received by the URSTM, some 19.4 kg was used for the above tests thus leaving approximately 6.1 kg untouched. Because of the problem of conciliating the ore geological and mining grades to the tests head grades, probably due to a bad nugget effect, the URSTM was asked to do another gravity-cyanidation test employing the rest of the sample.

Same protocol as the one used at Article 13.4.5 above was employed. Results are summarized in Table 20:

Table 20: Gravity Cyanidation duplicate results

	Mass	Mass	Grade	Distribution
	g	%	g/t	%
Grav. conc.	4.44	0.07	616.0	15.1
Carbon ads.	154.1		96.0	81.7
Solution	10269.8		0.015	0.8
Tails solid	6107.6	99.93	0.07	2.4
Calc. feed	6112.0	100.0	2.97	100.0

Overall gold recovery: 96.8%

Free gold (gravity recovery): 15.1%

NaCN consumption = 0.18 kg NaCN / mt of ore

Ca(OH)2 consumption = 1.97 kg Ca(OH)2 / mt of ore





# 13.2 Additional Tests at COREM report of July 15th 2016

In an attempt to process the ore identified in the PFS at the Aurbel QMX Mill in Val d'Or flotation tests have been done as well as test with addition of calcite in order to have the potential of acid-generating ore removed.

Metallurgical work on a gold sample was carried out to confirm the performance of the various processes and to verify that the generated waste meets environmental standards. For this purpose, gravimetric, flotation and cyanidation gold recovery tests were performed on Gold Bullion Development Corp.(now GGM) ore. Flotation releases were analyzed to estimate acid generating potential (PGA) and identify leachable metals (TCLP method).

A majority of the gold in the sample is recoverable by gravimetry (> 80%), and the flotation of gravimetric discharges has enabled efficient desulphurization (plus 92% sulfur recovery). Although underestimated because of the detection limits of the analysis, the recovery of gold by flotation was also appreciable, exceeding 80%. It has also been possible to confirm that flotation releases were not potentially acid generators or leachable as defined in Directive 019 of the Government of Québec following the analysis of six samples by the PGA and TCLP methods. Cyanidation tests were carried out on a flotation concentrate and produced about 86% recovery. The overall recovery was evaluated at 94.7% following the gravimetry, flotation and cyanidation steps.

The PN/PA for the AMD with addition of 35 kg/t of Calcite reach 5.1 which is much higher than the ratio of 3 expectede to be declared non acid generator, additional test could be done to lower the amount of calcite required by tonne of ore. Total sulfide assayed in the ore is 0.81%. These analysis were completed by M axxam laboratories by under COREM supervision.

# 13.3 Additional Tests at Gekko – document of May 24th 2016 & April 13th 2017

In 2 confidential documents provided by Gekko where they carried additional testing, they highlighted the potential to upgrade the low garde material with the pressure jigs in order to reduce the amount of material to treat by cyanidation

- The recovery of gold for combined table, Falcon and coarse flotation concentrate was 82.7% at a grade of 8.20 g/t into 10.5% of the feed mass whilst the overall gold recovery of combined table, Falcon and fine flotation concentrates of 82.6%, at a grade of 6.45 g/t into 14.4% of the feed mass.
- Intensive cyanidation tests were carried out on the combined gravity and flotation tests to determine leach amenability. Combined gravity, Falcon and fine flotation concentrate displayed higher recoveries. Over 24 hours gold leach recovery was 74.2% and over the same time period, gold leach recovery was 90%.





• Therefore, the use of fine flotation concentrates combined with gravity and Falcon concentrates as a composite sample for leaching, exhibits greater leach performance

The test shows potential of preconcentration of lower grade material. Further optimisation testing should be done if that route is selected.

### 13.4 Disclaimer

The results were not independently verified, but are believed to be of sound quality.





# 14 Mineral Resource Estimates

<u>Cautionary note:</u> Mineral resources that are not mineral reserves have not demonstrated economic viability. Additional trenching and/or drilling will be required to convert inferred mineral resources to indicated or measured mineral resources. There is no certainty that the assumptions and forecasts used in this updated mineral resource report will be realized.

Granada Gold Mine Inc. engaged Goldminds Geoservices Inc. to prepare an updated Mineral Resource Estimation with the integration of the new drilling data from the 2016-2017 drilling campaign. This mineral resource update was carried out using existing drilling data (873 holes and wedges totalling 114,591 meters, and 42 of sampling channels totalling 354 meters). The new drilling campaign of 2016-2017 includes 18 holes, 1 wedge, totalling 7,311 meters.

GMG carried out the update of the resource estimation of the Granada Gold property. This section presents the methodology used and the results of the mineral resource estimation. Two resources models were produced by GMG (Claude Duplessis, Eng. and Isabelle Hébert, Jr. Eng.) using model with blocks dimensions of 10 m (EW) x 05 m (NS) x 05 m (Z) on the surface and 10 m (EW) x 03 m (NS) x 03 m (Z) below 135mZ for the first model and 10 m (EW) x 05 m (NS) x 05 m (Z) for the second model.





### 14.1 Previous Mineral Resource Estimate

#### 14.1.1 **2012**

The following presents the Granada gold deposit In situ Resource Estimates prepared by SGS Geostat in report of April 2<sup>nd</sup> 2012. (extract from the report)

Class	Tonnage	Au g/t	Au	Cut-off
	(,000) tonnes	Grade	Oz	
	100	4.56	14,400	3.0+
Measured	300	3.24	26,300	2.0+
	900	1.88	56,300	1.0+
	1,100	1.74	61,100	0.9+
	1,300	1.59	67,500	0.8+
Measured	1,600	1.46	73,100	0.7+
	1,900	1.30	80,700	0.6+
	2,400	1.16	88,600	0.5+
	3,000	1.01	97,700	0.4+
	4,000	0.85	108,100	0.3+
	600	4.67	97,500	3.0+
	1,400	3.41	161,000	2.0+
	4,600	1.99	306,300	1.0+
	5,400	1.84	329,700	0.9+
Indicated	6,500	1.67	361,500	0.8+
Indicaced	7,700	1.52	392,400	0.7+
	9,800	1.34	436,400	0.6+
	12,500	1.17	485,200	0.5+
	16,400	0.99	543,400	0.4+
	22,700	0.81	614,500	0.3+
	1,700	4.48	255,800	3.0+
	2,900	3.60	346,700	2.0+
	6,500	2.35	513,600	1.0+
	7,600	2.16	545,700	0.9+
Inferred	9,500	1.90	600,700	0.8+
	10,900	1.74	636,800	0.7+
	13,500	1.53	692,200	0.6+
	17,800	1.30	768,800	0.5+
[	23,100	1.10	846,600	0.4+
	33,200	0.87	961,300	0.3+

Table 21: Global classified resources at various cut-offs 2012

Note: rounded numbers, base case cut-off >0.4 g/t shadowed. The historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 are included in the resource statement.(can not physically remove from measured, indicated or inferred).





The in situ measured resource is 97,700 ounces (3.02 million tonnes grading 1.01 g/t), indicated resource is 543,400 ounces (17.04 million tonnes grading 0.99 g/t), inferred resource is 846,600 ounces gold (23.93 million tonnes grading 1.10 g/t Au) using a cut-off grade of 0.40g/t.

An in-pit resource within a Whittle-optimized pit shell was estimated using a base case gold price of CAN\$1300 per ounce. The table below summarizes the in-pit resources with the selected base case in Whittle optimizations:

Classification	Tonnage	Au g/t	Au
	inpit	Grade	Oz
Measured	2,902,000	1.02	95,300
Indicated	12,490,000	1.08	435,600
Inferred	3,403,000	1.24	135,600
Mea+Ind	15,392,000	1.07	530,900

Table 22: Inpit resource 2012

The in-pit estimate is based on a mining cost of CAN\$2.00 per tonne and a processing cost of CAN\$16.00 per tonne (including G&A), assuming gravity cyanidation treatment of the mineralized material, giving base cost of CAN\$29.30 per tonne including stripping. Other assumptions include 94.1% recovery of gold in and pit wall slope angle of 45 degrees in the south footwall and 50 degrees in the north hanging wall.

The selected base case in-pit measured resource is 95,300 ounces (2.9 million tonnes grading 1.02 g/t), indicated resource is 435,600 ounces (12.49 million tonnes grading 1.08 g/t), inferred resource is 135,600 ounces gold (3.4 million tonnes grading 1.24 g/t Au) using a cut-off grade of 0.40g/t based on a Whittle-optimized pit shell simulation using estimated operating costs, a gold price of CAN\$1300 per ounce and a corresponding lower cut-off grade of 0.4 grams per tonne gold.

Remaining underground resources under the selected base case in-pit surface above a cut-off grade of 2.0 g/t is 273,200 ounces (2.32 million tonnes grading 3.66 g/t) are inferred.

Again previous small open pits have been taken into account and are starting surfaces of optimization while the historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 are included in the resource statement.(the author can not physically remove from measured, indicated or inferred).





#### 14.1.2 **2013**

The following presents the Granada gold deposit In situ Resource Estimates prepared by SGS Geostat in report of February 4<sup>th</sup> 2013. (extract from the report)

Cut-off 0.4 g/t	Tonnage	Au g/t	Au Oz
Measured	28,735,000	1.02	946,000
Indicated	18,740,000	1.09	659,000
Total M+I	47,475,000	1.05	1,605,000
Inferred	29,975,000	1.07	1,033,000
Cut-off 1.0 g/t	Tonnage	Au g/t	Au Oz
Measured	7,810,000	2.14	536,000
Indicated	5,347,000	2.32	398,000
Total M+I	13,157,000	2.21	934,000
Inferred	8,600,000	2.23	617,000
Cut-off 2.0 g/t	Tonnage	Au g/t	Au Oz
Measured	2,533,000	3.76	306,000
Indicated	1,869,000	4.07	245,000
Total M+I	4,402,000	3.89	551,000
Inferred	3,030,000	3.89	379,000

Table 23: Granada gold deposit In Situ Resource Estimates 2013

Note: rounded numbers, base case cut-off >0.4 g/t shadowed. The historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 are included in the resource statement(cannot physically remove from measured, indicated or inferred).

The in situ measured resource is 946,000 ounces (28.735 million tonnes grading 1.02 g/t), indicated resource is 659,000 ounces (18.740 million tonnes grading 1.09 g/t), inferred resource is 1,033,000 ounces gold (29.975 million tonnes grading 1.07 g/t Au) using a cut-off grade of 0.40 g/t.





In order to have an appraisal of resources within a potential open pit, a whittle pit optimizer has been run with the following parameters. An in-pit resource within a Whittle-optimized pit shell was estimated using a base case gold price of CAN\$ 1450 per ounce. The table below summarizes the inpit resources with the selected base case in Whittle optimizations:

	In-pit Estimates*	CoG	Ore	Grade	Au
		g/t	M tonnes	g/t	oz
	Measured	0.36	24,992,000	1.01	811,300
Nov 2012 (within claims &	Indicated	0.36	9,336,000	1.18	354,600
Au = 1450	Inferred	0.36	449,800	0.77	11,100
\$/oz)					
	Mea+Ind	0.36	34,328,900	1.06	1,166,000

<sup>\*</sup>Rounded numbers

Table 24: In Pit Estimates 2013 used for the PEA

The in-pit estimate is based on a mining cost of CAN\$2.00 per tonne and a processing cost of CAN\$16.00 per tonne (including G&A), assuming gravity cyanidation treatment of the mineralized material.

Other assumptions include 94.1% recovery of gold in and pit wall slope angle of 45 degrees in the south footwall and 50 degrees in the north hanging wall.

The selected base case in-pit measured resource is 811,300 ounces (24.992 million tonnes grading 1.01 g/t), indicated resource is 354,600 ounces (9.336 million tonnes grading 1.18 g/t), inferred resource is 11,100 ounces gold (0.449 million tonnes grading 0.77 g/t Au) using an effective cut-off grade of 0.36 g/t based on a Whittle-optimized pit shell simulation using estimated operating costs, a 3 year trailing average gold price of CAN\$1450 per ounce and a corresponding lower cut-off grade of 0.36 gram per tonne gold.

Again; previous small open pits have been taken into account and are starting surfaces of optimization while the historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 are included in the resource statement.(the author cannot physically remove from measured, indicated or inferred).

Underground resources of 3,648,000 tonnes at 3.51 g/t inferred were identified under the in-pit and were used in the PEA.





#### 14.1.3 **2014**

The following presents the Granada gold deposit In situ Resource Estimates prepared by GoldMinds Geoservices Inc. & SGS Geostat in report of June 19<sup>th</sup> 2014. (extract from the report)

In that report resource modelling and estimation was changed to suit a selective model in order to select higher grades portions for custom milling not taking into account the lower garde between the higher grade mineralized zones. The comparison with previous resource statement is not possible as modelled with a different context.

In the context of re-engineering to increase robustness of the Granada project, Mineral resources have been remodeled with mineral zones having a minimum horizontal width of 7m down to elevation 237.5m. This resource model has been used for pit optimization and design for the "Rolling Start" project. This model starts from the surface and pit bottom to elevation 237.5 metres.

A cut-off grade of 1.69 g/t was used in the resource estimation and composites were capped at 30 g/t. A density of 2.7 t/m³ was used in the calculation of tonnage. The outcome is displayed in table below.

	Tonnes	As	Au	Au
Resource Class	(t)	ppm	g/t	OZ
Inferred	21,000	131	5.57	3,800
Indicated	369,700	576	5.52	65,600
Measured	152,500	850	4.64	22,700
Indicated+Measured	522,200	656	5.26	88,300

Table 25: In-Pit Resource using an optimal Whittle pit and a cut-off grade of 1.69 g/t\* 2014





<sup>\*</sup>Mineral resources that are not Mineral Reserves do not have demonstrated economic viability. CM definitions were respected for mineral resources.

	Tonnes	As	Au	Au
Resource Class	(t)	ppm	g/t	OZ
Inferred	112,000	776	7.14	25,700
Indicated	1,221,000	1,127	5.54	217,600
Measured	763,500	1,028	4.38	107,600
Indicated+Measured	1,984,500	1,106	5.10	325,450

Table 26: Combined Underground Resources, beneath the Whittle pit to a depth of 237.5m, cut-off grade of 1.69 g/t\* and beneath the depth of 237.5m, cut-off grade of 3 g/t\* 2014

\*Mineral resources that are not Mineral Reserves do not have demonstrated economic viability. CM definitions were respected for mineral resources.

Note and considerations: rounded numbers. The historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 is included in the resource statement (cannot physically remove from measured, indicated or inferred) as the historical opening cannot be placed in 3D. Moreover, the historical mining apparently extents to the west where no mineral resources have been estimated due to impossibility to drill from old tailing surface. The author also wants to remind that grade estimations comes from Gold Bullion (now Granada Gold Mine) drilling, hence gold grades do not comes from historical data in the mined out sector.





## 14.2 Exploration Database

The database used for this report was prepared by GoldMinds Geoservices up to April 2017. This database is the master database covering the Granada Gold property. It gathers the information on historical to recent work.

The File name is: GBB\_DB\_04Mai2105&GR2016\_Final\_MRIH\_25avril\_2017Final.accdb. The database contains the following components:

Drill hole collar table with collar coordinates, bearing and dip at collar and length of 925 holes, 42 trenches and 11 wedges.

A drill hole deviation table with 9 442 entries (hole name, depth, azimuth, dip).

A drill hole assay table with 86 160 assays data (hole name, from, to, smp number, au g/t).

A drill hole lithology table with 12 180 entries (hole name, from-to, lithology code).

These drillholes and trenches are the results from exploration works done between 1987 and 2017. Drill hole before 1990 were not included in the modelisation: 43 drillholes, 35 holes deviation, 2 651 assays and hole 223 lithology. As a result of our database construction, and revision the author believes the database to be accurate enough for the preparation of a resource estimate. Also note that hole GR-10-17 was tabled 2 times with a GR-10-17A as it was extension of the first hole as per our latest findings.

#### 14.2.1.1 Surface

Two different surfaces were used in this resource calculation, the topography surface and the top of the bedrock. The topography surface was created from the pit merged (underground drift and shaft in 3D were provided by Richard Laprairie P.Eng.) with the topography surveyed by Mazac Geoservices with the collar information and the pit bottom survey of 2012. The overburden lithologic units within the drillhole logs were used to generate a surface from which the resource block model was limited.





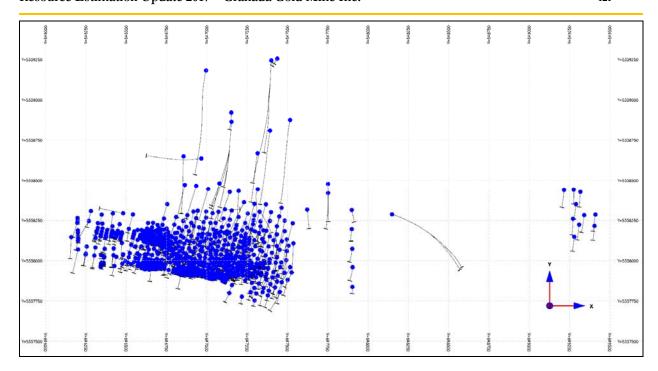


Figure 41: Drill hole locations and traces used in the resource estimation.

# 14.3 Geological and block modeling

#### 14.3.1 **Model 1**

### 14.3.1.1 Modeling

The first block model is an enhanced version of the 2013 resource update block model. The model has been lengthened in depth and the shape adjusted to integrate the information provided by the addition of deep drill holes.

Limits of mineralized domains have been interpreted on sections and meshed together to create an envelope. This domain corresponds to a broad zone with a higher than usual concentration of samples with good grades. The geometry fits that of the S1 conglomerate unit intruded by porphyry and associated main veins and alteration zones i.e. it tends to be plunging north 50 degrees with an E-W elongation.

The envelope is around 1500 meters long east-west, extent to -1000mZ elevation from 320mZ surface for a vertical depth of 1320 meters as shown in following figures. The estimated true width of the conglomerate package varies from 200 meters up to about 500 meters.





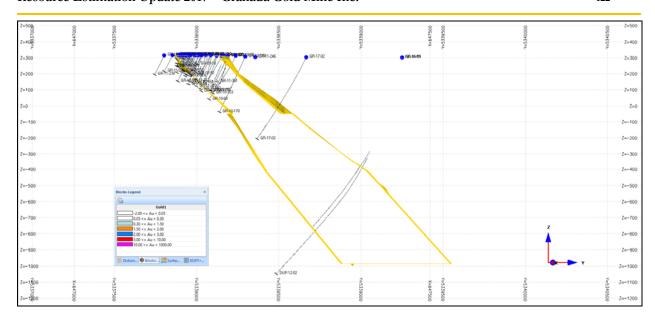


Figure 42: Typical cross section, SESFT 23, looking west (East of shaft).

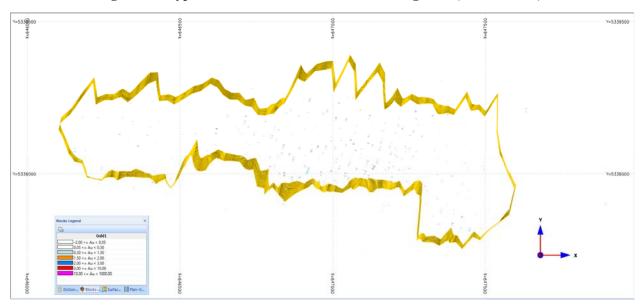


Figure 43: Plan view of envelope and assays at 200mZ elevation.





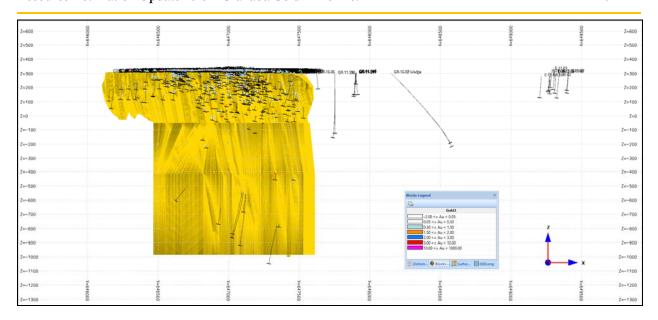


Figure 44: Longitudinal view of mass envelope looking north.

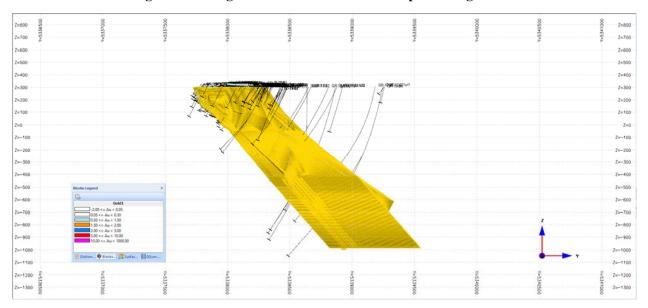


Figure 45: Sectional view of mass envelope looking west.

The material within the resource model is discretized with two different set of blocks. From the elevation 320mZ to -135mZ, the blocks are characterized by 5m (EW), 10m (NS) and 5m (Z). Below the elevation -135mZ, blocs are 3m (EW), 10m (NS) and 3m (Z). The 5m vertical side corresponds to the bench height of the future open-pit operation and the 3m vertical side is associated with underground operations. With the 2.7 t/m³ fixed density, each full block 5x10x5m weighs about 675t and 243t for blocks with 3mx10mx3m dimensions. It is a reasonable assumption for the selection mining unit (SMU) or minimum size block which can be selectively extracted as ore or waste in a future potential open-pit





operation. The block model grid extends from UTM 646,000E to 648,000E and 5,337,600N to 5,339,250N from 325m to -1001m.

### 14.3.1.2 Compositing, statistical analysis and capping

A standardization had to be carried out on the original analyzes given that they did not have the same length. The recompositing was done with intervals length of 1.5m on mineralized intervals created down the hole. This compositing size was selected as uniform length to match more original sample and the block size. Histograms were built to analyze the gold distribution and find any natural gap in the distribution.

A capping study was performed on the composite data. In previous resource statements, capping was applied to the copmposites at 30 g/t. As integration of the 1990's intervals were smaller in length, the capping has been applied on original assays to 60 g/t to stay consistent. Therefore, gold values of original assays were capped at 60 g/t for creation of composite for the block estimation.

### No cap

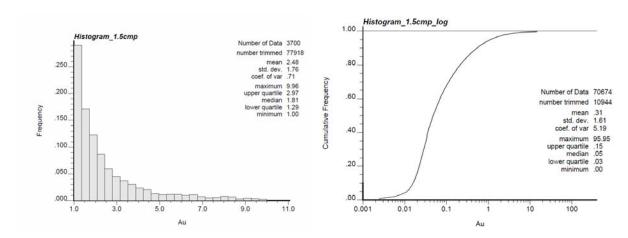


Figure 46: Cumulative Frequency and log histogram of Au g/t of the 1.5m composites (no cap).





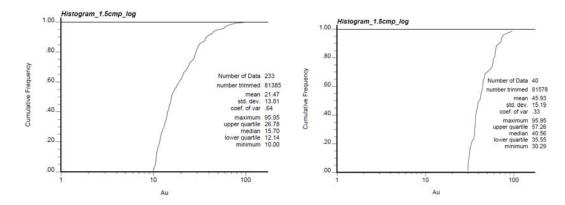


Figure 47: Logarithmic cumulative histogram of the composites, 10-100 (left) and limit 30-100 (right), no capping.

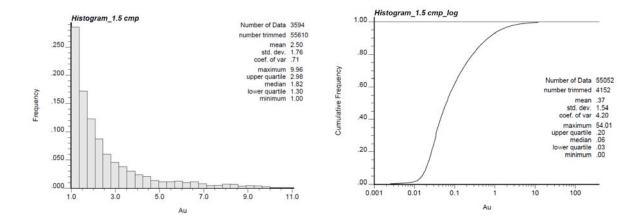
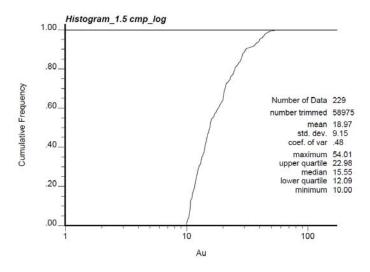


Figure 48: Cumulative Frequency and log histogram of Au g/t of the 1.5m composites (cap 60).







14.3.1.3 Blocks Model 1

### Block Model definition

Estimations were performed with the software Genesis for the modeling and the resource estimation. The origin of the block model is located in the low left corner of the mine (646 000E, 5 337 600N, 325Z). The block size has been defined in order to respect the complex geometry of the envelopes. The mineral resource estimate was carried out with a block size of two hundred and fifty cubic meters (10 m (EW) x 05 m (NS) x 05 m (Z)) to -135mZ and a block size of ninety cubic meters (10 m (EW) x 03 m (NS) x 03 m (Z), figure below.

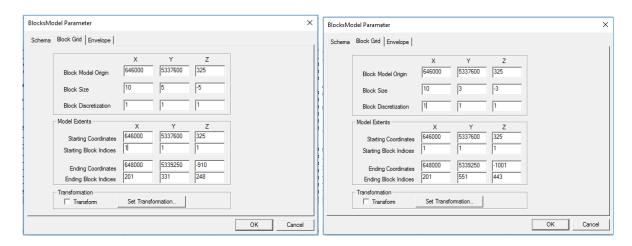


Figure 49: Blocks Model settings. (Above -135mZ, left and below -135mZ, right).





Two blocks model were generated from one mass Envelope, one blocks model is above -135mZ and the second one is below -135mZ (Figure 50). The main envelopes (2017cd2015new\_envelope6may\_union\_BotMeshnew\_envelope2017) was filled by regular blocks and only the composites within envelopes were used to estimate the block grades. A total of 59 204 composites were created.

The average Au ppm grades is computed for each block using interpolation according to the inverse of the distance from the nearest composites. Interpolation parameters were based on drill spacing, envelope extension and orientation. The blocks model was then cut by overburden/rock surface prior to estimation.

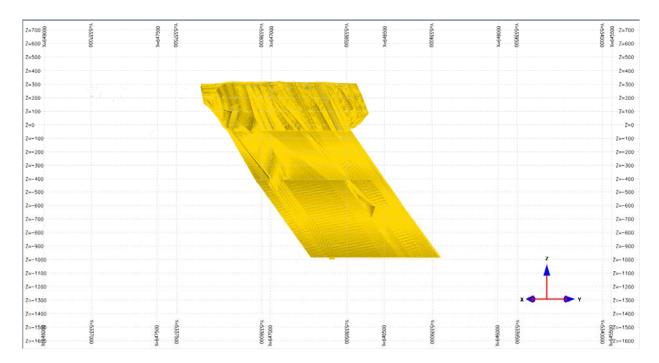


Figure 50: Mass envelopes top and bottom merged, Granada gold property.





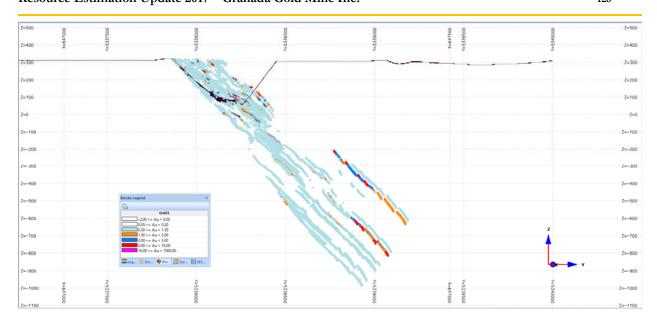


Figure 51: Blocks Model (10m x 5m x 5m, above -135mZ and 10m x 3m x 3m, below -135mZ).





# Ellipsoid parameters and interpolation

Four runs were used in the mineral resource estimation. All four runs have the same ellipsoid parameters: a number of composites limited to six (6) with a minimum of two (2) block and a maximum of 2 composites per drillhole.

Four search ellipsoids, with dimension following the geological interpretation trends were use in the grade estimation. The subsequent table (Table 27) shows the size of the variable ellipsoid used to generated the mineral resource estimation.

Table 27: Search ellipsoid parameters and estimation parameters.

							Minimum	Maximum	Maximum
Run	Azimuth	Dip	Spin	X	Y	Z	Samples	Samples	per
				(m)	(m)	(m)	per	per	Drillhole
							Block	Block	
1	0	-47	0	50	50	5	2	6	2
2	0	-47	0	100	100	10	2	6	2
3	0	-47	0	200	200	15	2	6	2
4	0	-47	0	300	300	20	2	6	2

#### Block Model classification

The classical method was used to classify the deposit where one defined class is used by ellipsoid. A total of three ellipsoids and three runs were used in the Blocks Model classification. In run one (mesured), a maximum and a minimum of eight (8) composites were established per block with a limited number of two (2) composites per drillhole. In run two (indicated), a maximum and a minimum of six (6) composites were established per block with a limited number of two (2) composites per drillhole. In the third run (inferred) a maximum and a minimum of two (2) composites were established per block and the limit of two (2) composites per drillhole was also used. The parameters are listed in the following table.





Table 28: Search ellipsoids parameters for block model classification.

							Minimum	Maximum	Maximum
Resources	Azimuth	Dip	Spin	X	Y	Z	Samples	Samples	per
classification				(m)	(m)	(m)	per	per	Drillhole
							Block	Block	
Measured	0	-47	0	50	50	10	8	8	2
Indicated	0	-47	0	100	100	15	6	6	2
Inferred	0	-47	0	300	300	20	2	2	2

### Block model estimation

The measured and indicated blocks were evaluated at 48.4 million tonnes averaging 1.03 g/t Au with 827,000 oz of measured material and 779,000 oz of indicated material. Furthermore, there are 91 million tonnes averaging 1.21 g/t Au containing 3.6 million oz of inferred material. The cut-off grade was 0.3 g/t and capping was 60 g/t. The results are listed in the table below.

### These are all the blocks above the COG and are used to define the mineral resources.

Table 29: Mineralized blocks using a cut-off grade of 0.3 g/t (rounded numbers).

Block Model	Tonnes	Au	Au
classification	(t)	g/t	OZ
Measured	25,460,000	1.01	827,000
Indicated	22,968,000	1.05	779,000
Indicated + Measured	48,429,000	1.03	1,605,000
Inferred	90,997,000	1.21	3,551,000

The measured and indicated blocks were also evaluated at 32.2 million tonnes averaging 1.34 g/t Au with 714,000 oz of measured blocks and 671,000 oz of indicated blocks. Furthermore, there are 62.1 million tonnes averaging 1.58 g/t Au with 3,156,000 oz of inferred blocks. The cut-off grade was 0.5 g/t and capping was 60 g/t. The results are listed in the following table.





Table 30: Mineralized blocks using a cut-off grade of 0.5 g/t Au (rounded numbers).

Block model	Tonnes	Au	Au
classification	(t)	g/t	OZ
Measured	17,178,000	1.29	714,000
Indicated	14,991,000	1.39	671,000
Indicated + Measured	32,169,000	1.34	1,384,000
Inferred	62,144,000	1.58	3,156,000

The measured and indicated blocks were evaluated at 12.3 million tonnes averaging 2.39 g/t Au with 481,000 oz of measured blocks and 462,200 oz of indicated blocks. Furthermore, there are 6.7 million tonnes averaging 2.23 g/t Au containing 481,000 oz of inferred blocks. The cut-off grade was 1.0 g/t and capping was 60 g/t. The results are listed in the table below (Table 31).

Table 31: Mineralized blocks using a cut-off grade of 1.0 g/t Au.

Block Model	Tonnes	Au	Au		
Classification	(t)	g/t	oz		
Measured	6,700,000	2.23	481,000		
Indicated	5,581,000	2.58	462,000		
Indicated + Measured	12,281,000	2.39	943,000		
Inferred	21,474,000	3.26	2,254,000		

These results include Granada Gold Mine's 2016-2017 drilling campaign and excludes historical drillholes before 1990.





#### 14.3.2 Model 2

#### 14.3.2.1 Modeling

In the second model, limits of mineralized domains have been interpreted on sections and meshed together to create envelopes. These envelopes are separated by layers of sterile rock, mostly feldspar porphyry. The mineralization veins are oriented east-west, plunging to the north at about 50 degrees. To the east, the veins are folded towards the south at almost 180 degrees. This interpretation indicates that the mineralization does not extend as fareast as previously expected, but folds over to the south. Six steriles envelopes were generated following the lithology (QFP) and four envelopes were generated following the mineralization. The function Generate Substract was used in order to isolate the content of the mineralization envelopes.

The external envelope (Light blue, Figure 52), which is encloses the other envelopes, is about 1500 meters long east-west. It is folded about 180 degrees and the north-south extent is about 1000 meters. The deepest point of this envelope is about 1800 meters below the surface. The dip is about 45 degrees. Inside the folded envelope are three more mineralized envelopes separated by sterile intervals.





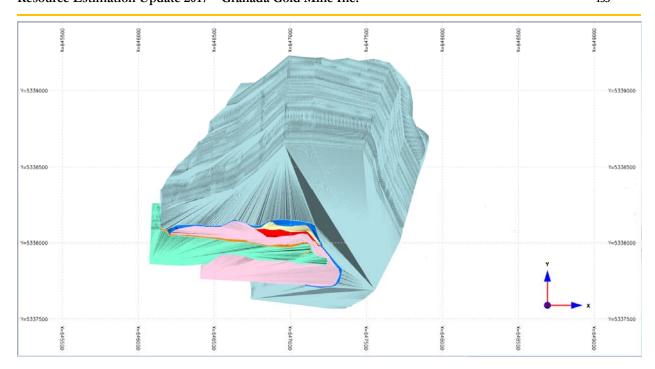


Figure 52: Plan view of the envelopes

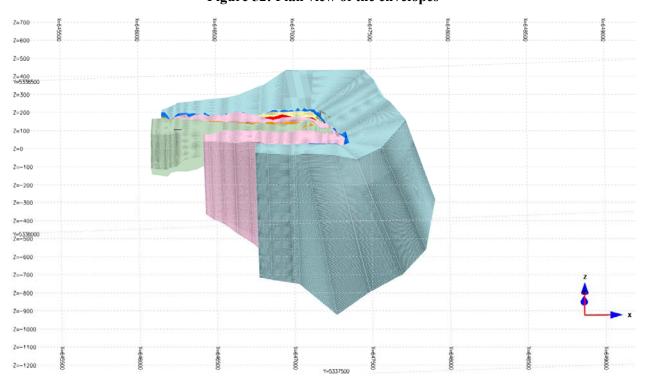


Figure 53: Longitudinal view of the envelopes and drill hole traces, looking WNW.





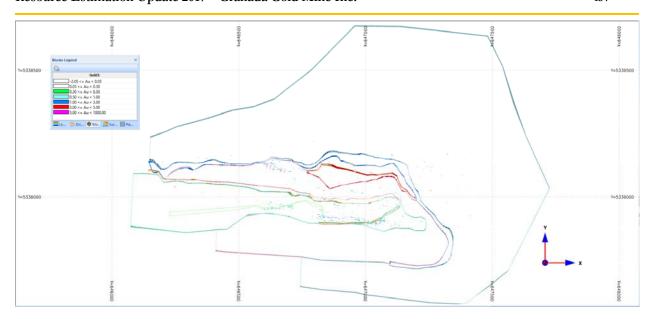


Figure 54: Plan view of envelopes ans assays at 305mZ elevation.

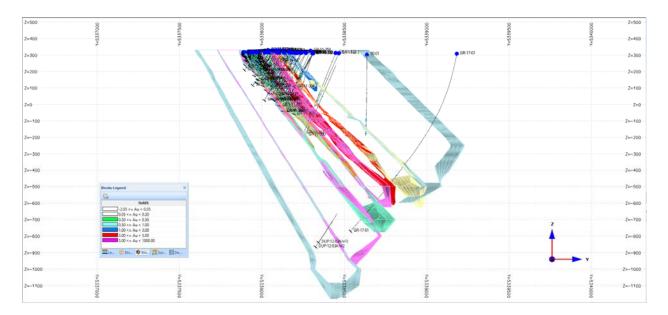


Figure 55: Typical cross section looking west

The material within the resource model is discretized with the blocks of 10m (E-W) by 5m (N-S) by 5m (Vert.). The 5m vertical side corresponds to the bench height of the future open-pit operation. The 5m N-S dimension corresponds to about quarter the minimum spacing between GGM surface holes. The 10m E-W dimension was chosen in order to better follow the east-west elongation of the mineralization. With the 2.7 t/m<sup>3</sup> fixed density, each full block 10x5x5m weighs about 675t and it is a reasonable assumption for the selection mining unit (SMU) or minimum size block which can be





selectively extracted as ore or waste in a future potential open-pit operation. For underground mining, another block model with smaller sized blocks will be necessary. The block model grid extends from UTM 646,000E to 648,000E and 5,337,600N to 5,339,250N from 325m to -1060m above sea level. The site surface elevation around 350m.

### 14.3.2.2 Compositing, statistical analysis dans capping

Since original assay intervals do not have the same length, we need to standardize that length by recompositing those assay intervals before we can use their grade in the interpolation of the average grade of nearby 10x5x5m blocks. A first block model was done with 1.5m down-hole composites. The minimal length of composites is 0.75m. By selecting a composite with a smaller length to that of mineralized block intercepts, we have to increase the number of composites into the estimation to guarantee that the grade dilution originating from the block size will be included in the grade of samples used to interpolate the grade of blocks. This block model is sufficient for in-pit mining, but another block model with smaller blocks will be necessary for underground mining.

Most gold values in the drill hole assay intervals are low grade but with a few individuals showing extremely high numbers which need to be capped before those gold values are used in block grade interpolation. The assays were capped at 60 g/t Au. This capping was chosen after an analysis of the histograms. A discontinuity is apparent at high-grade values around 40 to 60g/t in the Main zone (Figure 58).

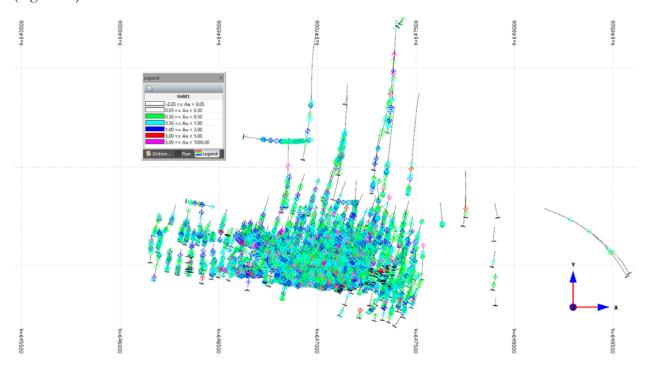


Figure 56: Plan view of all generated composites





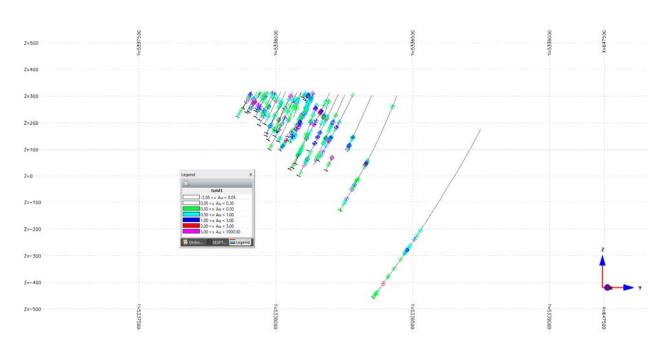


Figure 57: Cross-section SEFT 25 with 1.5m composites, color-coded

A total of 81,523 composites were generated, and the overburden surface was extracted. 77,993 composites remained afer the extraction. Of these composites, 1410 are from 1990; 3828 from 1992; 4388 from 1993; 4300 from 1994; 2566 from 1995; 663 from 2009; 23109 from 2010; 25746 from 2011; 7179 from 2012; 2 from 2014 (trenches); 3066 from 2016 and 1736 from 2017.

## Table 32: Number of composites used

Within the mineralized envelopes, there are 59,159 of the 77,993 composites, meaning the rest of the composites are within the sterile envelopes. 17,182 are in the Main envelope, 15,920 within the Interior envelope, 2,181 in the Plug envelope and 23,876 within the Exterior envelope.





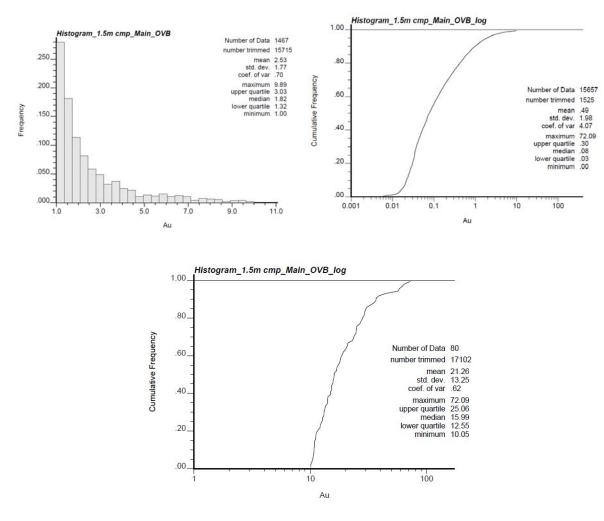


Figure 58: Histograms for the Main envelope composites

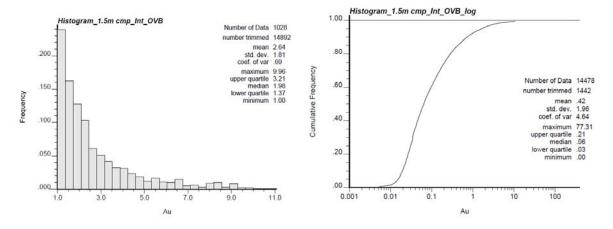


Figure 59: Histograms of the Interior envelope composites





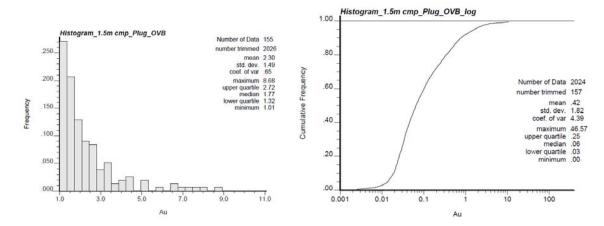


Figure 60: Histograms of the Plug envelope composites.

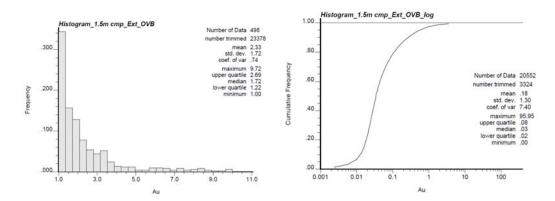


Figure 61 Histograms for the Exterior envelope composites

14.3.2.3 Block Model

#### Block. Model estimation

Estimation was performed with the software Genesis for the modeling and the resource estimation. The origin of the block model is located in the lower left corner of the mine (646 000E, 5 337 600N, 325Z). The block size has been defined in order to respect the complex geometry of the envelopes. The mineral resource estimate was carried out with a block size of two hundred and fifty cubic meters (10 m (EW) x 05 m (NS) x 05 m (Z)) to -1060mZ, see following figure.





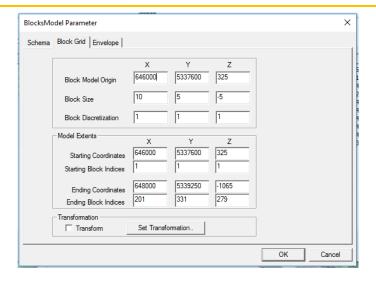


Figure 62: Block Model settings.

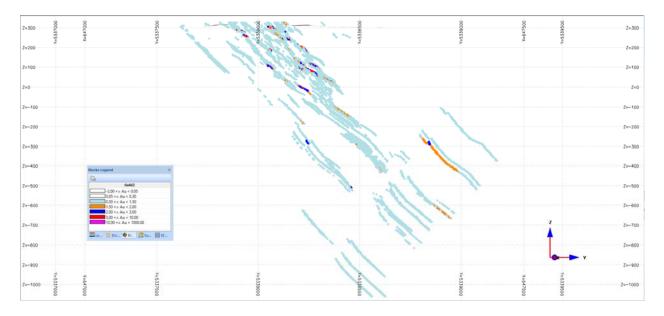


Figure 63: Blocks Model.

### Ellipsoid parameters and interpolation

The block grade interpolation of the mineralized domain is done by inverse weighted distance with exponent 2. The blocks discretization was 1-1-1. The estimation of the mineralized domain was done in 4 runs where the first required 12 composites per block, and a maximum of 3 composites per drillhole, within a search ellipsoid of 50m by 50m by 5m dipping -47 degrees north, while the second run used a minimum of 9 composites per block and a maximum of 12, with a maximum of 3 composites per drillhole. Holes are within a search ellipsoid of 100m by 100m by 10m dipping 47





degrees north. The third run one hole within the domain minimum 3 composites per block, a maximum of 6 and a maximum of 3 composites per drillhole in a 200m by 200m by 15m dipping 47 degrees north. The fourth run uses a minimum of 3 composites per block, a maximum of 6 and a maximum of 3 composites per drillhole. The search ellipsoid is 300m by 300m by 20m dipping at 47 degrees. The fourth run was added in order to integrate composites that were farther away into the inferred category (Table 33).

Table 33: Search ellipsoid parameters and estimation parameters.

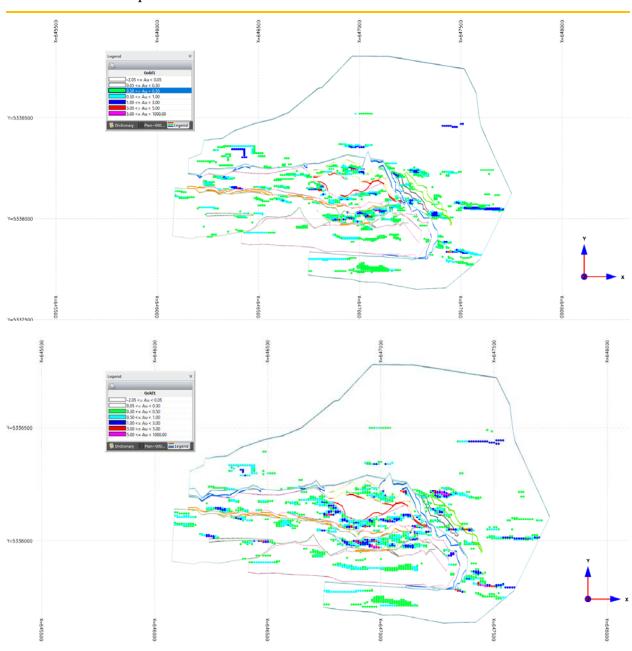
							Minimum	Maximum	Maximum
Run	Azimuth	Dip	Spin	X	Y	Z	Samples	Samples	per
				(m)	(m)	(m)	per	per	Drillhole
							Block	Block	
1	0	-47	0	50	50	5	12	12	3
2	0	-47	0	100	100	10	9	12	3
3	0	-47	0	200	200	15	3	6	3
4	0	-47	0	300	300	20	3	6	3

The estimation of block grades is illustrated on a few benches and test sections. Old pits can be seen and the pit of the current resource in-pit is also presented.



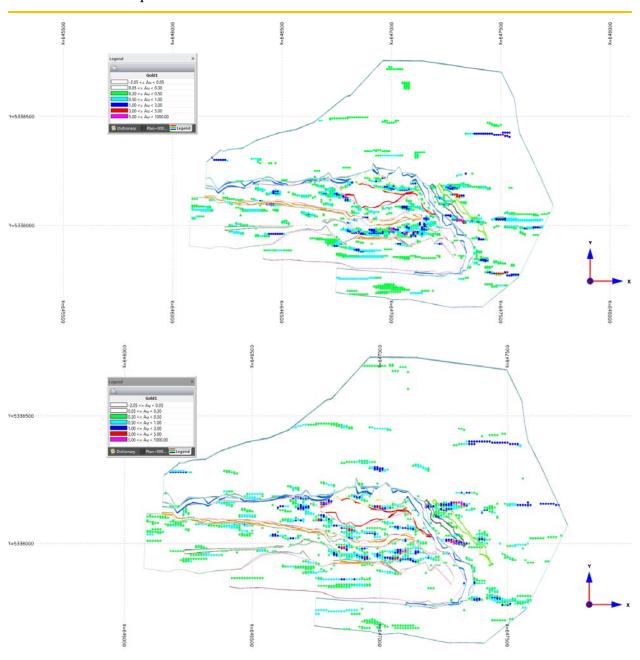


# Resource Estimation Update 2017 – Granada Gold Mine Inc.













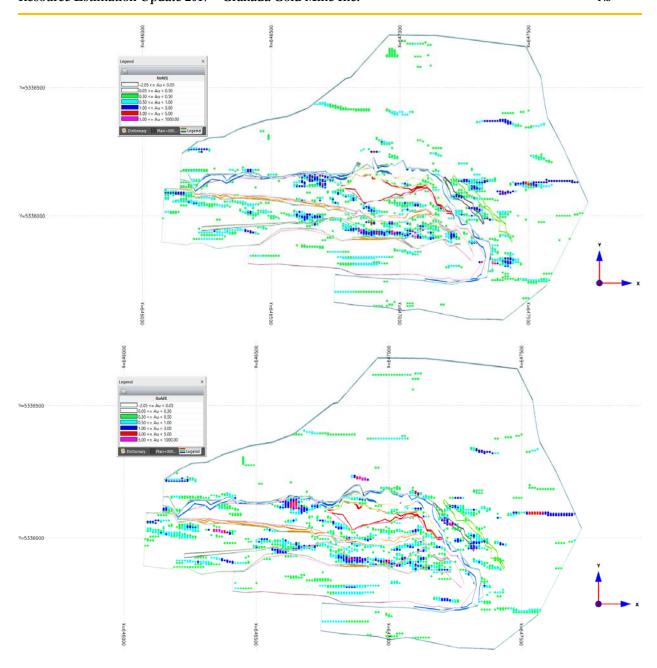


Figure 64: Test benches 300, 275, 250, 200 and 175mZ elevation with DDH, block grades and envelopes.





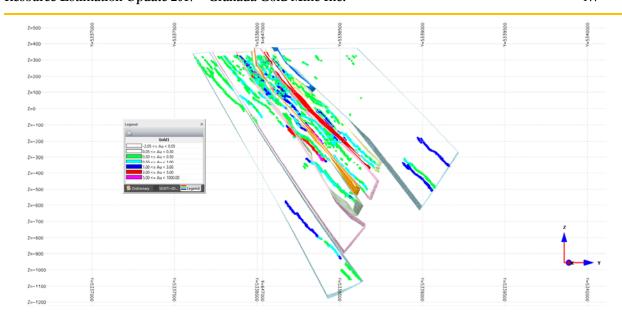


Figure 65: Typical cross-section SESFT+16 with composites, blocks and envelopes

## Block Model classifications

The classical method was used to classify the deposit where one defined class is used by ellipsoid. A total of three ellipsoids and three runs were used in the Blocks Model classification. In run one (mesured), a maximum and a minimum of twelve (12) composites were established per block with a limited number of three (3) composites per drillhole. In run two (indicated), a maximum and a minimum of nine (9) composites were established per block with a limited number of three (3) composites per drillhole. In the third run (inferred) a maximum and a minimum of two (2) composites were established per block and the limit of two (2) composites per drillhole was also used. The parameters are listed in the following table.

Table 34: Search ellipsoids parameters for block model classification.

							Minimum	Maximum	Maximum
Resources	Azimuth	Dip	Spin	X	Y	Z	Samples	Samples	per
classification				(m)	(m)	(m)	per	per	Drillhole
							Block	Block	
Measured	0	-47	0	50	50	10	12	12	3
Indicated	0	-47	0	100	100	15	9	12	3
Inferred	0	-47	0	300	300	20	2	2	2





Block model 2

The measured and indicated blocks were evaluated at 38.2 million tonnes averaging 0.97 g/t Au with 533,000 oz of measured blocks and 655,000 oz of indicated blocks. Furthermore, there are 101.4 million tonnes averaging 1.08 g/t Au containing 3.5 million oz of inferred blocks. The cut-off grade was 0.3 g/t and capping was 60 g/t. The results are listed in the table below.

#### These are all the blocks above the COG and are used to define the mineral resources.

Table 35: Block Model using a cut-off grade of 0.3 g/t (rounded numbers).

Block Model	Tonnes	Au	Au
classification	(t)	g/t	oz
Measured	17,356,000	0.96	533,000
Indicated	20,860,000	0.98	655,000
Indicated + Measured	38,216,000	0.97	1,188,000
Inferred	101,430,000	1.08	3,508,000

The measured and indicated blocks were also evaluated at 20.6 million tonnes averaging 1.47 g/t Au with 439,000 oz of measured blocks and 532,000 oz of indicated blocks. Furthermore, there are 55.6 million tonnes averaging 1.64 g/t Au with 2,932,000 oz of inferred blocks. The cut-off grade was 0.5 g/t and capping was 60 g/t. The results are listed in the table below.

Table 36: Block Model estimation using a cut-off grade of 0.5 g/t Au (rounded numbers).

Block Model	Tonnes	Au	Au
classification	(t)	g/t	oz
Measured	9,699,000	1.41	439,000
Indicated	10,833,000	1.52	532,000
Indicated + Measured	20,582,000	1.47	970,000
Inferred	55,634,000	1.64	2,932,000

The measured and indicated blocks were evaluated at 8.3 million tonnes averaging 2.62 g/t Au with 312,000 oz of measured blocks and 386,000 oz of indicated blocks. Furthermore, there are 21.2 million tonnes averaging 3.18 g/t Au containing 2,168,000 oz of inferred blocks. The cut-off grade was 1.0 g/t and capping was 60 g/t. The results are listed in the table below (Table 37).





Table 37: Block Model e	stimation using a	cut-off grade	of 1.0 g/t Au.
<b>Block Model</b>	Tonnes	Au	Au
Classification	<b>(t)</b>	g/t	oz
Measured	3,983,000	2.43	312,000
Indicated	4,284,000	2.80	386,000
Indicated + Measured	8,266,000	2.62	697,000
Inferred	21,231,000	3.18	2,168,000

These results include Granada Gold Mine's 2016-2017 drilling campaign and excludes historical drillholes before 1990.

The detail model #2 is interesting for geometallurgical purposes. As we have not yet differentiate the different dyke facies and that we have found the mineralization not to be controlled by but more associated to the FP dyke. We also have the proportion of % of blocks between the different enveloppes which have been simplify to accelerate the process and the enveloppes have a more restrictive extent compared to the mass model 1. This been said the author relies on Model 1 for the public disclosure of mass model fro Granada gold deposit.





#### 14.4 Mineral resources Pit Optimization & Underground with Model 1 - 2017

The mineral resource statement is based on Model 1 of the presented classified block model.

Pit optimization have been done with 3 specific mining and milling operation costs. It is important to mention that the underground block model ha sbeen prepared after the pit optimisation of the most optimistic open scenario.

The first portion presents three pit optimizations results with different parameters (mining cost, processing cost, processing recovery and different gold cut-off grade). The parameters were estimated by GoldMinds Geoservices based on the knowledge of similar operations, on-site upgrading mill with process outside, on-site mill upgrade and an on-site mill with higher cost and lower tonnage per day processed. No detailed economic study was produced for this project, therefore the resources presented have not shown economic viability but present a reasonable prospect of economic extraction as per CIM definition.

The difference between pit 1, pit 2 and pit 3 optimization relies in the mining cost, the processing cost, the gold recovery and the gold cut-off grade. The mining cost is at 2.25 \$/t in pit one and two and is at 3.50 \$/t in pit 3. The processing cost is increased from 6.46\$/t to 15.18\$/t in pit two to 23\$/t in pit 3. In pit one, the processing recovery is at 74.4% for mineralized material <3g/t Au and 95% for mineralised material >3g/t Au. The processing recovery is at 94.1% in pit two and three. As presented in the table below, the cut-off grade changes from 0.26g/t in pit one, to 0.39 in pit two to 0.56g/t in pit three. All pits include measured, indicated and inferred blocks with general and administrative expenses at 2\$/t.





Table 38: Pit optimization parameters, CND\$.

	T. TI . W. 1				
	Item	Units	Value		
	Gold price	\$/oz.	1700		
	Ore Mining cost	\$/t	2.25		
	Processing cost	\$/t	6.46		
Pit 1	Cut-off grade	g/t	0.26		
	Gold recovery < 3g/t Au	%	74.4		
	Gold recovery > 3g/t Au	%	95		

	Item	Units	Value
	Gold price	\$/oz.	1700
	Ore Mining cost	\$/t	3.5
Pit 3	Processing cost	\$/t	23
	Cut-off grade	g/t	0.39
	Gold recovery	%	94.1

	Gold price	\$/oz.	1700
	Ore Mining cost	\$/t	2.25
Pit 2	Processing cost	\$/t	15.81
	Cut-off grade	g/t	0.56
	Gold recovery	%	94.1

General and administrative expenses parameter is established at 2\$/t in all three pits. The pit optimization includes measured, indicated and inferred material.





Mineralized material **Total** Waste Optimization Classification **Tonnes** Tonnes Tonnes Au Au Tonnes **Tonnes** g/tozt Measured 30 061 000 0.78 751 000 73 084 000 103 145 000 13 874 000 0.77 342 000 39 280 000 Indicated 53 154 000 Case 1 Inferred 591 000 0.95 18 000 59 804 000 3 139 000 Cog = 0.26Measured 18 896 000 1.2 621 000 71 314 000 90 211 000 Case 2 base Indicated 8 004 000 1.02 262 000 37 444 000 45 447 000 Cog = 0.39Inferred 390 000 1.17 15 000 2 317 000 2 707 000 Measured 9 025 000 1.37 398 000 41 032 000 50 058 000 324 000 1.95 20 000 Indicated 1 988 000 2 312 000 Case 3 Inferred 20 000 0.69 438 7 000 27 000 Cog = 0.56

Table 39: Mineral Resources obtained in the three pits.

The next figures show the three pits optimization generated by MineSight software. Figure 66 regroups the three pits optimization in one plan where each color represents the outline of the pit. At the top of the same figure, the longitudinal is illustrated, looking north.

The historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 is included in the resource statement; they cannot be physically removed in 3D however this amount is now considered to be included in the measured mineral resources.

<u>Cautionary note:</u> Mineral resources that are not mineral reserves have not demonstrated economic viability. Additional trenching and/or drilling will be required to convert inferred mineral resources to indicated or measured mineral resources. There is no certainty that the assumptions and forecasts used in this updated mineral resource report will be realized.

Thereafter mineral resources of blocks above a COG under pit at a fixed elevation have been tabulated. Material between the pit surface and the specified elevation are not tabulated in the following statement of mineral resources.





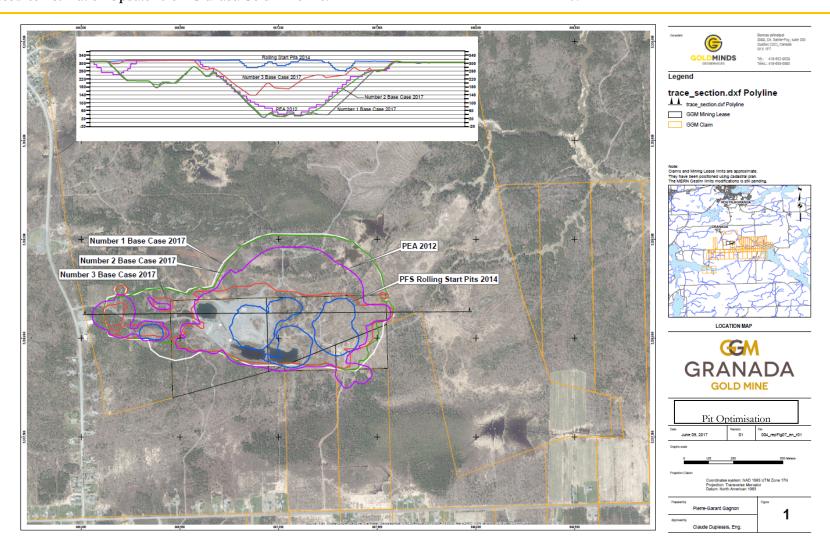


Figure 66: Pit optimization plan view with longitudinal view, looking north.





### 14.5 Granada Resources Summary Base Case (2) simplified & Comparison to 2012

### High-Grade Discovery with Maiden Inferred Resource

The "heat engine" for Granada mineralization is believed to exist in the northwest part of the property, a high priority untested area now referred to as the "Genesis Target" that includes a large granite intrusion and intense shearing immediately south of the Cadillac fault.

An initial Inferred underground resource of **10,386,500** tonnes grading **4.56** g/t Au at a cut-off grade of **1.5** g/t Au (**1.5** million oz. Au) has been outlined along **600** m of strike **east** of Genesis based on drilling by Granada Gold in late 2016 and early this year. This is a major development in the evolution of the Granada Property and even higher grades are being targeted in the discovery area and to the west-northwest at Genesis which has never been previously drilled.

## Granada In-Pit Constrained Measured & Indicated Resources

Measured open-pit constrained resources in the LONG Bars Zone are 17.1 million tonnes grading 1.14 g/t Au for total contained gold of **625,000** ounces. Indicated open-pit constrained resources are 4.5 million tonnes grading 1.26 g/t Au for total gold ounces of **182,700**.

The parameters chosen for the open-pit constrained resources are similar to parameters previously used. However, the inclusion of historical holes has reduced Measured and Indicated ounces. Certain historical intervals that weren't assayed have been set to zero grades, an approach GoldMinds considers to be conservative. A slightly higher cut-off grade of 0.39 g/t Au was also applied to this estimate. Rounded numbers in tables may not add up.

Note that mineral resources are not mineral reserves and do not have demonstrated economic viability. However, the reported mineral resources are considered by the qualified persons to have reasonable prospects for economic extraction as per new CIM 2014 definitions.





Granada May 2017								
Mineral Resource Estimate								
Category Tonnage Au g/t Au c								
Measured in-pit constrained	17,068,500	1.14	625,000					
Indicated in-pit constrained	4,507,000	1.26	182,700					
Total M&I	21,575,500	1.16	807,700					
Inferred Underground	10,386,500	4.56	1,523,800					

Measured & Indicated open-pit constrained at 0.39 g/t Au cut-off (\$21.30 per tonne).

Inferred underground north of open-pit at 1.5 g/t Au cut-off (\$81.99 per tonne).

Resource estimate by GoldMinds Geoservices Inc.

Mineral resources are not mineral reserves and do not have demonstrated economic viability.

Table 40: Granada Mineral Resource estimate 2017

#### Notes to resource table above recap:

- 1. Original assays have been capped at 60 g/t for calculation of the 1.5 m composites for the estimation of mineral resources.
- 2. The density to convert volume to tonnage is 2.7.
- 3. Drill hole spacing varies from 6 meters up to 225 meters while most of the drill holes are on 30 m cross sections for the upper 400 m.
- 4. Gold recoveries are 94.1% for the full mill cyanidation of the whole mineralized material.
- 5. Assumes gold price of \$1,250 U.S/oz and exchange rate of \$1.37 CDN/\$1 U.S.
- 6. The open-pit constrained resources were modeled on 10mE x 5mN x 5mZ block size while underground resources below elevation -135 meters were modeled on 10mE x 3mNx 3Mz. The block models are within an envelope.





- 7. Search ellipsoid estimation ID2 are: 50x50x5, 100x100x10, 200x200x15 and 300x300x20 to enable connection of the structure of the deep holes to the highly drilled package. Saucers dipping north at 47 degrees.
- 8. Classification: a minimum of 4 holes with 2 composites per hole for Measured, 3 holes with minimum of 2 composites per hole for Indicated, the remaining Inferred.
- 9. The database used for this estimate includes drill results obtained from drill programs in 2009, 2010, 2011, 2012, 2016 and 2017, trenches of 2014 and 2015 plus many of the historic holes (1990's) where sufficiently long sections of the core had been analyzed.
- 10. The statement includes the historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935. They cannot be physically removed in 3D. However, this amount is now considered to be included in the Measured mineral resources.
- 11. GoldMinds is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political, marketing or other relevant issues that could materially affect the mineral resource estimate.

For comparative purposes, GoldMinds GeoServices Inc., Granada Gold's geological consultants, have updated the Granada Global Classified Block Model first released in November 2012. The Block Model incorporates 934 diamond drill holes and trenches comprising 122,257 meters, including approximately 30,000 meters of historical drilling that weren't part of the original 2012 Block Model. The Inferred total comes from an area up to 1 km north of the open-pit constrained resource, east of Genesis, where mineralization has been outlined from surface to a depth of 1 km with grades increasing at depth. The 233% increase in the Inferred category is attributed to new information obtained from Granada Gold drilling in 2016 and 2017. This highlights the potential of the entire Granada system for hosting broad envelopes of near-surface mineralization in addition to high-grade underground deposits that formed in the north and could extend to the south underneath the identified near-surface resources.

Granada Global Classified Block Model Granada in situ Comparative, 2017 vs. 2012 (0.40 g/t cut-off)									
	2017 2012								
Category	Tonnage	Au g/t	Au oz.	Tonnage Au g/t Au o					
Measured	22,585,000	1.09	791,500	28,735,000	1.02	946,000			
Indicated	20,019,000	1.15	742,600	18,740,000	1.09	659,000			
Total M+I	42,605,000	1.12	1,534,000	47,475,000	1.05	1,605,000			
Inferred	81,691,000	1.31	3,436,400	29,975,000	1.07	1,033,000			

Table 41: Block model comparison 2012 (report of 2013) vs 2017





#### Discussion

The mineral resource increasewith the new findings to the north and some historical holes not fully sampled have had an impact on the measured resources. The mineral resources at Granada evolves with drilling and is one of the important still undeveloped gold deposit in the Abitibi.

The model 1 mass model was used as the potential approach to preconcentrate low grade prior to complete processing of mineralized material represent the best approach to represent the resource available for that option. The elaborated model 2 has shown there are different Porphyry dike and it ahas been found that some of them probably intruded the conglomerate of the Granaad Formation before being deformed by the tectonic constrain associated with the Cadillac fault. There are more mineralized zone adjacent to these porphyry dykes, when they are relatively thin more mineralization is observed while when intersected with thickness greater than 15m there is not much within the dyke. We have also found that gold mineralization East-West structures crossed the dykes and in some cases have connexion with the intensity of fracturation and veining, specific diamond drilling program in these hinge zones is to be considered as well as a core review program to separate and identify the dyke which are old ones and the other relativeky new. It is important to mentin that it is quite difficults as many clast intersected in the core are porphyry clast and it is not obvious in some cases to detect if it is a dyke or a clast when there is not much alteration.

Results of model 2 in term of gold mineralized material is similar to Model and should eventually be used in the mining operation to identify the rock type. The exploration drilling should also focus on the north-west portion where Fluorite crystals of 2 to 3 cm in the core (purple mineral) have been intersected in hole close to the presumed historical granite. The property in addition to gold could host other commodity of interest never suspected as per the presence of these Fluorite crystals.





## 15 Mineral Reserves Estimates

Since this report is not a feasibility or prefeasibility study, no mineral reserves can be defined. However, mineral reserves were disclosed in May 6<sup>th</sup>, 2014 prefeasibility study which are available on Granada Gold Mine website.

# 23 Adjacent Properties

In Abitibi, most properties on the Cadillac trend are surrounded by others. The Granada Gold Mines Property is not an exception. The following map presents the property in white surrounded by others, most of them being public companies. Since the majority of these companies are active and have a public web site the author recommends the reader to visit their websites for the most recent information and developments. Figure 67 shows the location of the different properties near Granada.

- To the north, the Astoria property of Yorbeau Resources has declared resource statement in 2005 in the 700,000 to 1 Million gold ounce range. The resource is in a different geological context associated with the Cadillac fault. The technical report can be downloaded from their web site. The author is aware Yorbeau conducted some drilling works in 2014, targeting gold mineralization associated with the Cadillac Break and the Piché Group at depths ranging from 200 to 400m. They indicated having hit 9.1 g/t Au over 9m. Kinross has optioned the property and is conducting exploration works.
- To the east Threegold Resources Inc. has executed a diamond drill program and has discovered a 1.8-kilometer gold corridor on the project. They also conducted a 3D hole-to-hole Induced Polarization survey to explore the off-hole potential.
- Opawica Exploration Inc. has claims on the northeast and the northwest of the Property. The western part was previously owned by RT minerals Corp. who drilled 20 holes in 2011 and 2012, hitting strong to moderate gold grades in some holes. The company is preparing a ground reconnaissance program to locate historic drill holes who reportedly returned a near-surface intercept of 7.0 g/t Au over 3.7m.
- No data could be found on the western side for Mines d'Argent Ecu Inc.
- In the middle of the Granada claims are claims owned by Probe Metals Inc. No information
  is available on their website on any works that have been done on this property since they
  took over Adventure Gold.

Situations may have changed and the reader should rely only from news from the owners of the adjacent properties.





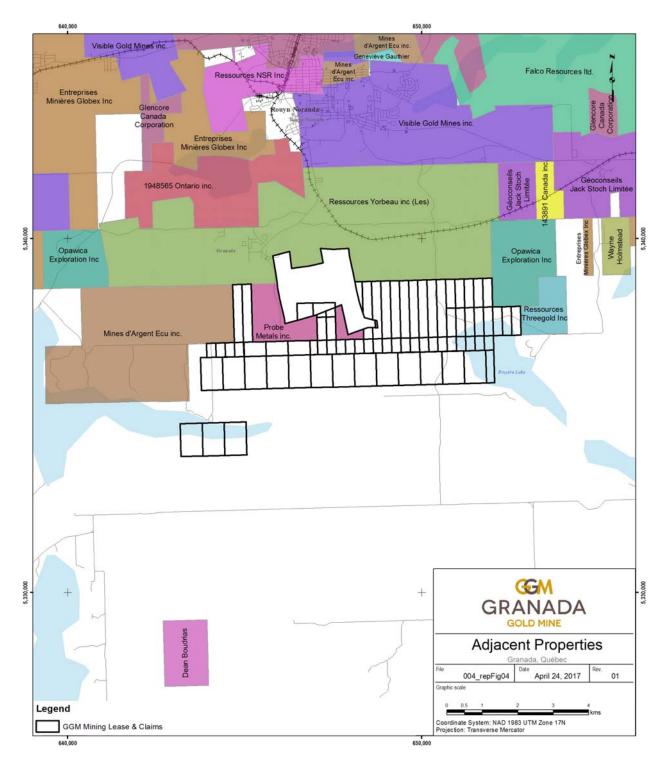


Figure 67: Properties adjacent to the Granada Gold Mine property





## 24 Other Relevant Data and Information

The following section incudes summary of previous studies which are relevant to the project.

#### 24.1 2012 Mineral Resource Estimate

On April 2<sup>nd</sup>, 2012 – Gold Bullion Development Corp provided an independent NI 43-101 compliant gold mineral resource estimate on its Granada Gold Property.

Highlights include the following:

- The in situ measured resource is 97,700 ounces (3.02 million tonnes grading 1.01 g/t), indicated resource is 543,400 ounces (17.04 million tonnes grading 0.99 g/t), inferred resource is 846,600 ounces gold (23.93 million tonnes grading 1.10 g/t Au) using a cu-toff grade of 0.40g/t.
- The selected base case in-pit measured resource is 95,300 ounces (2.9 million tonnes grading 1.02 g/t), indicated resource is 435,600 ounces (12.49 million tonnes grading 1.08 g/t), inferred resource is 135,600 ounces of gold (3.4 million tonnes grading 1.24 g/t Au) using a cut-off grade of 0.40g/t based on a Whittle-optimized pit shell simulation using estimated operating costs, a gold price of CAN\$1300 per ounce and a corresponding lower cut-off grade of 0.4 grams per tonne gold.
- Remaining underground resources under the selected base case in-pit surface above a cut-off grade of 2.0 g/t is 273,200 ounces (2.32 million tonnes grading 3.66 g/t).
- Previous small open pits have been taken into account and are starting surfaces of optimization while the historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 are included in the resource statement (cannot physically remove from measured, indicated or inferred).
- The mineralized system is still open at depth and laterally.

SGS Canada Inc, (SGS Geostat office of Blainville, Québec, "SGS") are the independent resource estimate consultants for the Granada project who have authorized the release of the following estimates.

The table below summarizes the SGS Geostat block model estimates using variable cut-off grades:





**Table 42: Block model estimates** 

Class	Tonnage	Au g/t	Au	Cut-off
	(,000) tonnes	Grade	Oz	
	100	4.56	14,400	3.0+
	300	3.24	26,300	2.0+
	900	1.88	56,300	1.0+
	1,100	1.74	61,100	0.9+
Measured	1,300	1.59	67,500	0.8+
Measured	1,600	1.46	73,100	0.7+
	1,900	1.30	80,700	0.6+
	2,400	1.16	88,600	0.5+
	3,000	1.01	97,700	0.4+
	4,000	0.85	108,100	0.3+
	600	4.67	97,500	3.0+
	1,400	3.41	161,000	2.0+
	4,600	1.99	306,300	1.0+
	5,400	1.84	329,700	0.9+
T 40 . 4	6,500	1.67	361,500	0.8+
Indicated	7,700	1.52	392,400	0.7+
	9,800	1.34	436,400	0.6+
	12,500	1.17	485,200	0.5+
	16,400	0.99	543,400	0.4+
	22,700	0.81	614,500	0.3+
	1,700	4.48	255,800	3.0+
	2,900	3.60	346,700	2.0+
	6,500	2.35	513,600	1.0+
	7,600	2.16	545,700	0.9+
I-64	9,500	1.90	600,700	0.8+
Inferred	10,900	1.74	636,800	0.7+
	13,500	1.53	692,200	0.6+
	17,800	1.30	768,800	0.5+
	23,100	1.10	846,600	0.4+
	33,200	0.87	961,300	0.3+
	Note: rounded num	bers, base case cut-	off >0.4 g/t	





SGS also estimated an in-pit resource within a Whittle-optimized pit shell using a base case gold price of CAN\$1300 per ounce. The table below summarizes the in-pit resources with the selected base case in Whittle optimizations:

Classification	lassification Tonnage Au g/t		Au		
	inpit	Grade	Oz		
Measured	2,902,000	1.02	95,300		
Indicated	12,490,000	1.08	435,600		
Inferred	3,403,000	1.24	135,600		
Mea+Ind	15,392,000	1.07	530,900		

Table 43: In-pit resources with the selected base case

The in-pit estimate is based on a mining cost of CAN\$2.00 per tonne and a processing cost of CAN\$16.00 per tonne (including general fees and administration costs), assuming gravity cyanidation treatment of the mineralized material, giving base cost of CAN\$29.30 per tonne including stripping. Other assumptions include 94.1% recovery of gold and pit wall slope angle of 45 degrees in the south footwall and 50 degrees in the north hanging wall.

Details on the parameters of the resource estimates are as follows:

- The database used for Granada comprised a total of 57,803 metres of drilling obtained from the 2009-2010-2011 Gold Bullion Development Corporation drill programs, now 326 of the 404 holes drilled to date.
- Most NQ assays reported by Gold Bullion were obtained by standard 50 g fire assaying AA finish or gravimetric finish and another fraction by screen metallics at various laboratories ALS Chemex laboratories in Val d'Or, Quebec, Accurassay, Lab Expert and Swastika. As additional QA/QC, SGS Geostat has carried an extensive independent sampling program with total gold testing, pulp reassays from various laboratories in addition to half witness core complete re assay program in order to get confidence and enable preparation of a NI 43-101 compliant estimate of resources.
- The SGS database made of Gold Bullion validated data also comprised a total of 57,689 assays.
- The estimates were done using Inverse Distance Square (ID2) as the interpolation method based on 1.5 metre analytical composites.
- Composites calculations are based on original samples value and were afterward capped at 20 g/t.
- All estimates are based on a Parent Cell dimension of 5 metres E, 5 metres N and 5 metres height with search ellipsoid and estimation parameters determined for the mineralized zone geometry. The





block model grid extends from UTM 646,200E to 647,650E and 5,337,600N to 5,338,850N from (350m) to -250m above sea level site surface elevation around 320m.

- Geological interpretation for the deposit identified one main structurally-controlled mineralized domain including higher grades within the envelope hosted by conglomerates of the Timiskaming group. The estimation of the mineralized domain was done in 3 runs where the first required a minimum of 4 holes using a maximum of 3 composite per hole within a search ellipsoid of 50m by 30m by 5m dipping 47 degrees north, while the second run used a minimum of 3 holes within a search ellipsoid of 100m by 60m by 10m dipping 47 degrees north, and the last run one hole within the domain minimum 3 composites in a 150m by 100m by 15m dipping 47 degrees north.
- For the classification, 4 holes with 3 composites within a 30m by 20m by 5m ellipsoid for measured, 3 holes with 3 composites within a 60m by 40m by 10m ellipsoid for indicated, the rest being inferred.
- Underground voids (shaft & drifts) were modeled from historical mine plans and adjusted according to positions of drill intersections in stopes and drifts. The stopes could not be placed in space with accuracy. Historical production from underground needs to be subtracted from the resource estimate.
- Tonnage estimates are based on rock densities of 2.70 tonnes/cubic metre.
- The resource estimates using the lower cut-off of 0.4 g/t Au is emphasized for reporting purposes as this is the in-pit cut-off estimated for the CAN\$1300 Whittle shell, which represents the reasonable potential of economic extraction in SGS QP's opinion.
- Additional details will be provided in the technical report to be issued within the next 45 days.

#### 24.2 2012 Preliminary Economic Assessment

On December 21<sup>st</sup>, 2012 – Granada Gold Mine Inc. provided an independent NI 43-101 compliant gold mineral preliminary economic assessment on its Granada Gold Property.

Highlights include the following:

- The in situ measured resource is 946,000 ounces (28.735 million tonnes grading 1.02 g/t), indicated resource is 659,000 ounces (18.740 million tonnes grading 1.09 g/t), inferred resource is 1,033,000 ounces gold (29.975 million tonnes grading 1.07 g/t Au) using a cut-off grade of 0.40 g/t.
- The selected base case in-pit measured resource is 811,300 ounces (24.992 million tonnes grading 1.01 g/t), indicated resource is 354,600 ounces (9.336 million tonnes grading 1.18 g/t), inferred resource is 11,100 ounces gold (0.449 million tonnes grading 0.77 g/t Au) using an effective cut-off





grade of 0.36 g/t based on a Whittle-optimized pit shell simulation using estimated operating costs, a 3 year trailing average gold price of CAN\$1450 per ounce and a corresponding lower cut-off grade of 0.36 gram per tonne gold.

• Previous small open pits have been taken into account and are starting surfaces of optimization while the historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 are included in the resource statement. (the author cannot physically remove from measured, indicated or inferred).

The table below summarizes the block model estimates using variable cut-off grades:

Table 44: Granda gold deposit In Situ Resource Estimates, rounded numbers

Cut-off 0.4 g/t	Tonnage	Au g/t	Au Oz	
Measured	28,735,000	1.02	946,000	
Indicated	18,740,000	1.09	659,000	
Total M+I	47,475,000	1.05	1,605,000	
Inferred	29,975,000	1.07	1,033,000	
Cut-off 1.0 g/t	Tonnage	Au g/t	Au Oz	
Measured	7,810,000	2.14	536,000	
Indicated	5,347,000	2.32	398,000	
Total M+I	13,157,000	2.21	934,000	
Inferred	8,600,000	2.23	617,000	
Cut-off 2.0 g/t	Tonnage	Au g/t	Au Oz	
Measured	2,533,000	3.76	306,000	
Indicated	1,869,000	4.07	245,000	
Total M+I	4,402,000	3.89	551,000	
Inferred	3,030,000	3.89	379,000	

The table below summarizes the in-pit resources with the selected base case in Whittle optimizations





In-pit Estimates\* CoG Grade Ore Au g/t M tonnes g/t οz Measured 0.36 24,992,000 1.01 811,300 Nov 2012 Indicated 0.36 9,336,000 1.18 354,600 (within claims & Inferred 0.36 449,800 0.77 11,100 Au = 1450 \$/oz) Mea+Ind 0.36 34,328,900 1.06 1,166,000

Table 45: In-pit resource with the selected base camp.

The in-pit estimate is based on a mining cost of CAN\$2.00 per tonne and a processing cost of CAN\$16.00 per tonne (including G&A), assuming gravity cyanidation treatment of the mineralized material. Other assumptions include 94.1% recovery of gold in and pit wall slope angle of 45 degrees in the south footwall and 50 degrees in the north hanging wall.

#### 24.2.1 Mining Method and Planning

#### The PEA

Taking into account the geometry and the depth of the mineralized zone, both open-pit and underground mining methods, conducted simultaneously, has been considered in this study. No geotechnical parameters are available, but as the rock mechanical conditions are referred to as very good, standard parameters were retained. The open pit parameters are the following ones: Overall slope angle, 50° North wall / 45° South wall, face angle of 85°, bench height of 10 m in waste and 5 m in ore, safety berm of 12 m wide, ramp at 10% grade and 19.5 m wide for one-way traffic and 26.5 m for two-way traffic. The production is rated at 6,500 tonnes per day with an overall waste to ore ratio of 5.9. The underground production is planned at 1,000 tonnes per day to last 11 years, same as the open pit. There is no shaft proposed, only one ramp. The existing two shafts will be rehabilitated as emergency exits and airways. Two mining methods are proposed, the first one is the Avoca, and the second is the Drift-and-Fill, both methods are variants of the Cut-and-Fill methods.





<sup>\*</sup>Rounded numbers

	Year		0	1	2	3	4	5	6
	Resources mined	tonnes	-	-	2,275,000	2,275,000	2,275,000	2,275,000	2,275,000
Open pit	Input grade	g/t	-	-	1.49	1.13		0.98	0.96
Open pit	Waste mined	mined tonnes - 2,275,000 2,275,000 2,275,000 2,275,000 e g/t 1.49 1.13 0.97 0.98 ed tonnes - 9,367,028 10,296,436 14,115,132 22,371,197 stito t:t 4.1 4.5 6.2 9.8 mined tonnes - 175,000 350,000 350,000 350,000 e g/t 3.23 3.04 2.77 2.75 m 1,530 403 1,414 797 407 - tonnes 92,948 24,482 85,901 48,418 24,725 - esses m - 1,280 2,096 1,677 1,494 859 esses tonnes - 77,760 127,332 101,878 90,761 52,184 m - 285 203 330 tonnes tonnes - 6,733 4,796 7,796 esses m - 406 435 521 487 424 escesses tonnes - 13,428 14,388 17,232 16,108 14,024 erce mined tonnes - 2,450,000 2,625,000 2,625,000 2,625,000	20,189,606						
	Stripping ratio	t:t	-	-	4.1	4.5	6.2	9.8	8.9
	Resources mined	tonnes	-	-	175,000	350,000	350,000	350,000	350,000
	Input grade	g/t	-	-	3.23	3.04	2.77	2.75	4.04
	Ramp	m	1,530	403	1,414	797	407	-	-
	Ramp	tonnes	92,948	24,482	85,901	48,418	24,725	-	-
U/G	Stopes accesses	m	-	1,280	2,096	1,677	1,494	859	
0/4	Stopes accesses	tonnes	-	77,760	127,332	101,878	90,761	52,184	-
	Raises	m	-	285	203	330	-	-	246
	Raises	tonnes	-	6,733	4,796	7,796	-	-	5,812
	Ventilation accesses	m	-	406	435	521	487	424	564
	Ventilation accesses	tonnes	-	13,428	14,388	17,232	16,108	14,024	18,654
Open pit	Total resource mined	tonnes	-	-	2,450,000	2,625,000	2,625,000	2,625,000	2,625,000
& U/G	Input grade	g/t	-		1.62	1.38	1.21	1.22	1.37

	Year		7	8	9	10	11	12	Total
Open pit	Resources mined	tonnes	2,275,000	2,275,000	2,275,000	2,275,000	2,275,000	24,890	22,774,890
	Input grade	g/t	0.97	1.01	1.11	1.05	1.07	0.99	1.07
	Waste mined	tonnes	15,298,731	15,413,884	11,780,394	8,073,822	7,560,663	29,294	134,496,187
	Stripping ratio	t:t	6.7	6.8	5.2	3.5	3.3	1.2	5.9
	Resources mined	tonnes	350,000	350,000	350,000	350,000	350,000	322,997	3,648,000
	Input grade	g/t	4.06	4.17	3.60	3.60	3.60	3.60	3.51
U/G	Ramp	m	-	-	-	-	-	-	4,551
	Ramp	tonnes	-	-	-	-	-	-	276,473
	Stopes accesses	m	70	40	-	342	715	-	8,573
	Stopes accesses	tonnes	4,253	2,430	-	20,777	43,436	-	520,810
	Raises	m	-	-	262	-	-	-	1,326
	Raises	tonnes	-	-	6,190	-	-	-	31,327
	Ventilation accesses	m	98	35	138	129	471	-	3,708
	Ventilation accesses	tonnes	3,241	1,158	4,564	4,267	15,578	-	122,642
Open pit	Total resource mined	tonnes	2,625,000	2,625,000	2,625,000	2,625,000	2,625,000	347,887	26,422,890
& U/G	Input grade	g/t	1.38	1.43	1.44	1.39	1.41	3.41	1.41

#### 24.2.2 Project Infrastructure

The main planned infrastructures are: - Resources processing facilities - Main building (offices and mechanical shop) - Electrical substation - Warehouse/Lay down yard - Explosives magazines - Onsite roads - Tailings management facilities - Waste rock stockpile - Underground ramp portal - Underground heathers/ventilators - ROM stock pile

#### 24.2.3 Capital and Operating Costs

The Capex estimation is \$259 M and comprises mainly the concentrator, maintenance and offices buildings and the underground developments done during the first two years. There are no mining fleets involved in the capital as mining for open pit and underground is planned to be done under subcontracting. The sustaining and working Capex is amounting to \$16.4 M.

#### 24.2.4 Operating Costs

The costs are estimated on a flat basis, in other words, there is no time impact on them. The open pit mining cost is estimated at a total of \$353.9 M which equates to \$15.54 per tonne processed or to an average of \$2.25 per tonne mined. The underground mining cost is estimated at \$155.0 M which equates to \$42.50 per tonne processed. The 26.42 Mt to be treated (open pit and U/G) are resulting





from a processing cost of \$370.0 M which equates to an average of \$14.00 per tonne processed through the life of the mine.

#### 24.2.5 Economic Analysis

SGS made a number of assumptions in order to develop the Granada Project financial model:

- price of gold at \$1,470 USD per ounce troy (3 years trailing average);
- 3.0% NSR is attributable to a third party;
- processing rate of 7,500 tonnes per day (6,500 from open pit and 1,000 from U/G);
- constant exchange rate of \$1.00 (US\$: CDN\$);
- discounting rate of 5.50 %.

**Table 46: Summary of economic results.** 

Items	Units	Value
Total Revenue	M\$	1,656
Total Operating Costs	M\$	1,113
Pre-production Capital Costs	M\$	259
Sustaining Capital Costs	M\$	16
Royalties paid	M\$	49
Undiscounted benefits	M\$	217
NPV discounted at 5.50%	M\$	74.6
Internal rate of return	%	10.1
Payback period*	years	6.8

<sup>\*</sup>from start of production





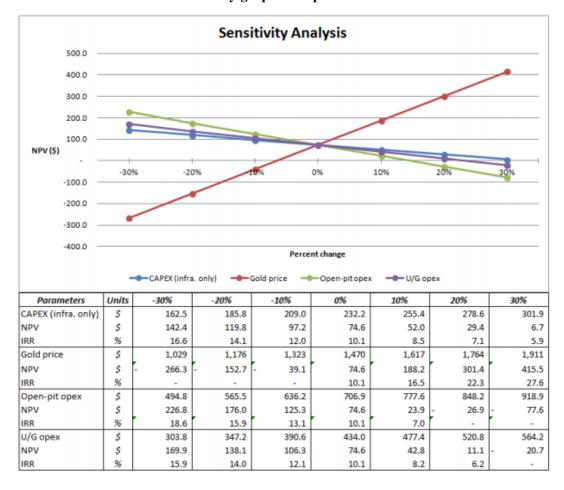


Table 47: Sensitivity graph with parameters and results.

**Note:** The PEA is preliminary in nature and it includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the conclusions reached in the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

This Preliminary Economic Assessment was prepared by SGS Canada Inc. "SGS" in Blainville, Quebec, in accordance with and as defined by National Instrument 43-101 "NI 43-101" Standards of Disclosure for Mineral Projects.

#### 24.3 2014 Pre-feasibility Study

On May 6<sup>th</sup>, 2014, a Pre-feasibility study was done and here are the results of the report. All in total cash costs for gold production at the higher grades of 4.24 g/t gold from the open pits assessed by this study are US \$797 per ounce at an internal rate of return of 169% percent before tax. The





payback period for the \$6.7 million needed to commence the "Rolling Start" is just under 7 months with an NPV of \$24.65 million before taxes discounted at 6% within 3 years. The after taxes NPV has an IRR of 139% with an NPV of \$20.04 Million. At this stage of the property development the PFS delineates gold production of 73,585 ounces at the annual rates of 25,669, 27,556 and 20,361 ounces per year respectively over the next three years. The higher-grade resource to be mined for the "Rolling Start" gold production is based on reserves of 569,000 tonnes at 4.24 g/t for 73.6 thousand ounces of gold at a cash cost of US \$797 per ounce. Mill feed including dilution is 170,000 tonnes at 3.72 g/t gold in the Proven Category and 398,600 tonnes at 4.46 g/t gold in the Probable Category. These gold grades demonstrate and are indicative of the inherent flexibility the Company has with respect to grades contained in the current resource at the 11,000-hectare Granada Mine property. The "Rolling Start" study was prepared as a stand-alone project utilizing custom milling (see press release MOU of April 10th for details) at a local mill and solely relates to those mineral reserves located within the open pits of the Granada deposit. The "Rolling Start" does not take into account the underground mineral resources, which also comprise a significant part of the Granada Project. The synergy of accessing an existing operating mill in the prolific gold producing Abitibi region of Quebec in tandem with the proposed open pit "Rolling Start" mineral extraction plan brings the Company into position as a potential gold producer. During this initial development phase the Company is continuing to study and analyze the economics around underground mine development and will also engage in "right sizing" property holdings. The Company also has drilldefined targets to the north of the LONG Bars Zone aimed at corroborating earlier drill data that outlined the potential for an additional 1-2 million ounces of gold at grades of 3.0 to 4.2 grams per tonne. (Press release dated November 13th, 2013.) The current higher-grade resource estimation and the potential addition to the resource cover approximately 20 percent of the already explored LONG Bars zone. By increasing the input grade of the open pitable resource when practical, derisking of the project will remain an ongoing priority going forward.

This Preliminary Feasibility Study was prepared by SGS Canada Inc. "SGS" in Blainville, Quebec with additional contributions from other leading engineering firms and consultants, in accordance with and as defined by National Instrument 43-101 "NI 43-101" Standards of Disclosure for Mineral Projects. Gold Production "Rolling Start" Highlights from the PFS are summarized below:





Table 48: Gold production highlights from the PFS

Assumptions	
Gold Price (US\$/oz)	1,260
Canadian \$ to US\$ rate	1.11
Mineral Reserves	
Open Pit Rolling Start Mineral Reserves (ounces)	77,460
Mine Parameters	
Ore milled	
Mine plan tonnage (thousand tonnes)	569
Mine plan grade (grams/tonne)	4.24
Production rate (annualized ore tonnes per day)	550
Days of operation per year	350
Estimated gold mill recovery (%)	95%
Total gold recovered (ounces)	73,585
Pre-production period (years)	0.2
Rolling Start Mine life (years)	3
Average annual gold production (ounces)	24,528
Costs	
Pre-production capital (\$ millions)	6.7
Sustaining capital and restoration (\$ million)	2.89
Cost per tonne milled (\$/t)1	120
Average total cash cost per ounce (US\$/oz)2	797
Financial Return	
Payback from start of production before tax (years)	0.56
Internal Rate of Return (before tax)	169%
Net present value, before tax, 6% discount (\$ millions)	24.65
Payback from start of production after tax (years)	0.67
Internal Rate of Return (after tax)	139%
Net present value, after tax, 6% discount (\$ millions)	20.04
Note: Part of taxes will be offset by past property development expenditures	
(All dollar figures expressed in Canadian dollars, except where indic	ated)

The delivery of the "Rolling Start" Preliminary Feasibility Study completes the first stage of Gold Bullion's continuous development program at Granada. By advancing the Granada project to commercial production the Company has demonstrated positive economics, environmental forethought and social gain, while mitigating the technical, financial, and environmental risks of the project.





#### 24.3.1 Resources rolling-start

In the context of re-engineering to increase the robustness of the Granada project, Mineral resources were remodelled with mineral zones having a minimum horizontal width of 7m down to elevation 237.5m. This resource model has been used for pit optimization and design for the "Rolling Start" project. This model starts from the surface and pit bottom to elevation 237.5 metres.

In order to address mining underground, mineralized zones have been remodelled with 3 to 4 meters horizontal width below elevation 237.5 metres. Highlights include a Measured and Indicated combined underground gold resource of 325,450 ounces of gold at an average grade of 5.10 g/t gold plus 25,700 ounces Inferred at a grade of 7.14 g/t gold.

The details of the underground model are presented in the following table.

Table 49: Details of the underground model

Mineral Resources	Underground		
Under Pit to Z=237.5 m		COG	Above 1.69 g/t
Resource Class	Tonnage	Gold g/t	Ounces
Measured	371,500	3.10	37,000
Indicated	462,000	3.72	55,000
Measured+Indicated	833,500	3.44	92,250
Inferred	33,500	6.85	7,400
UG beneath Z=237.5 m		COG	Above 3 g/t
Resource Class	Tonnage	Gold g/t	Ounces
Measured	392,000	5.60	70,600
Indicated	759,000	6.66	162,600
Measured+Indicated	1,151,000	6.30	233,200
Inferred	78, <b>500</b>	7.25	18,300
Combined	Rounded numbers		
Resource Class	Tonnage	Gold g/t	Ounces
Measured	763,500	4.38	107,600
Indicated	1,221,000	5.54	217,600
Measured+Indicated	1,984,500	5.10	325,450
Inferred	112,000	7.14	25,700





The mineral resources are blocks above gold cut-off grade (COG), composite and have been capped at 30 g/t for the estimation of Mineral resources. The density to convert volume to tonnage is 2.7. Mineral resources that are not Mineral Reserves do not have demonstrated economic viability.

#### 24.4 2016 Update of Granada Gold Mine extract from the press release

On June 9th, 2016 - Gold Bullion Development Corp. announces a general update on progress at the Granada Gold mine site. The Company has now mobilized equipment to commence stripping of overburden on the high-grade zone of the extended Long Bars zone in preparation for mining and shipping of ore for processing offsite to mills located nearby.

The installation of water and air monitoring stations has now been completed with both now in operation. The Company is also commencing the formation of a local "Follow Up Committee" which is voluntary on the part of the Company.

Mining during the Rolling Start development of the Granada Mine should generate high-grade ore above 3 grams per tonne gold along with low-grade ore below 1 gram per tonne gold. The lower grade ore will be upgraded prior to being shipped for processing.

Granada waste rock is to be used for building sound berms, to create a containment facility for the historic onsite tailings and for the continuation of recreational trail development. Some low-grade material has been crushed for aggregate and sold under a long-term agreement with a local contractor. The reprocessing of historic waste rock is also nearing completion with the higher-grade mineralized material being stockpiled for offsite processing.

The Company is now moving ahead with the next stage of development at the Granada Mine beyond the Rolling Start including resource development within the extended Long Bar zone as well as the old high-grade Aukeko Mine site to the east. Within the extended Long Bars zone the Company will produce a 43101 report, that will include the historic holes, at 1 gram per tonne gold and, following further drilling to the north, an underground resource grading 3 grams per tonne gold. The Company is targeting a pit constrained target of 88 to 93 million tonnes at 1 gram per tonne gold plus another 10 to 20 million tonnes at 3 grams per tonne underground. The potential quantity and grade reported as targeted exploration target is conceptual in nature. There has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource.

Trenching will commence in the Aukeko Mine area once permits are received. This is being targeted for the third quarter of 2016 now end of 2017 due to unreasonable delays from the CPTAQ in providing authorisation of basic surface exploration works. The Company will initiate studies to evaluate the most viable route to ramp up into a 100,000 ounce per year producer within the next three to five years. This study is to include the option of transporting ore by rail by seeking a local mill with rail facilities.





# 25 Interpretation and Conclusions

The mineral resources update at Granada shows interesting numbers using different sceanrios of reasonable prospect of economic extraction by open pit and by underground method.

The property has not been drilled totally and extension are possible in many directions. The resources at depth are open and the Eastern portion of the property is still waiting for permits to carry exploration.

Depending on the scenario of development elected by the company, the project offers several possibilities as project can start mining now as fully permitted for the rolling start. The company can also start application for a larger mining scenario with an on-site mill and continu develop the mineral resources or a different combination of the options highlighted. As permitting in the province of Quebec are extremely long and not easily achievable quickly as the Ministry of environment puts moving targets to achieve, the company may elect to build a mill in Ontario instead of an onsite mill to enable extraction of the ore identified in the rolling start. The base case mineral resource sat Granada stands at:

Granada May 2017					
Mineral Resource Estimate					
Category	Tonnage	Au g/t	Au oz.		
Measured in-pit constrained	17,068,500	1.14	625,000		
Indicated in-pit constrained	4,507,000	1.26	182,700		
Total M&I	21,575,500	1.16	807,700		
Inferred Underground	10,386,500	4.56	1,523,800		

Measured & Indicated open-pit constrained at 0.39 g/t Au cut-off (\$21.30 per tonne).

Inferred underground north of open-pit at 1.5 g/t Au cut-off (\$81.99 per tonne).

Resource estimate by GoldMinds Geoservices Inc.

Mineral resources are not mineral reserves and do not have demonstrated economic viability.





Previous small open pits have been taken into account and are starting surfaces of optimization. The historical production of 51,476 ounces (181,744 sT @ 0.28 oz/sT) from 1930 to 1935 is included in the resource statement and the author cannot physically remove and are presumed to be in the measured category.

Combination of factors which could materially affect the resources other than normal mineral project in North American in 2017 are:

- o The presence of old orphan tailings
- o The presence of arsenic in the rock at Granada which require additional care

There is gold near surface and at depth and the property deserves additional development and exploration.





## 26 Recommendations

#### Recommendation Regarding the Estimation of Mineral Resources

There is potential in the Granada Gold Project to increase the mineral resource in addition to the increase of its lateral extension.

The recent drilling at the Granada Gold Mine Project has shown that additional drilling can increase mineral resources and in order to convert portion of these inferred mineral resources into indicated or measured it is necessary to plan an extensive surface drilling campaign on the property in the range of 100,000 meters where 80,000 meters should aim the extention at depth and the identified favorable geological context of th granitic intrusion ( maybe Genesis of the gold circulation to the north west ) and 10,000 to the west of existing resource open pit outline and the remaining 10,000m to test the movement and identify mineralized structures displacement to the East.

The exploration work program & others -2017/2018 is estimated as follow:

## Exploration Budget on the Granada Project (CAN\$)

•	Estimated total cost	\$21,275,000
•	Deep drilling program targeting mineralization depth (400-1000m)	\$15,000,000
•	Supervision and Technical reports, studies	\$ 1,150,000
•	Laboratory met testings, preconcentration optimization	\$ 50,000
•	Geotech Drilling (try to increase pit slope)	\$ 75,000
•	Drilling (definition, exploration (0-400m))	\$ 5,000,000

With such a program, the company should aim at a potential target of 10 to 15 Million tonnes at 4 to 6 g/t in complement of the existing mineral resources.

Note: The quantity and grade is conceptual in nature, that there has been insufficient exploration to define a mineral resource and that it is uncertain if further exploration will result in the target being delineated as a mineral resource. This amount is a projection of the intersections over the untested by drilling arear on the claim to the north of the mining leases.





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