

# **TECHNICAL REPORT**

# ON THE

# GRANADA GOLD PROJECT MINERAL RESOURCE ESTIMATE ROUYN-NORANDA, QUEBEC, CANADA

Latitude 48°10' N, Longitude 79°01' W

Prepared for:

Granada Gold Mine Inc. 3028 Quadra Court Coquitlam, BC Canada, V3B 5X6

Report Date: February 13, 2019 Effective Date: November 11, 2018

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### 1 SUMMARY

SGS Canada Inc. ("SGS") was contracted by Granada Gold Mine Inc. ("Granada Gold") to complete a Mineral Resource Estimate for the Granada Gold Deposit ("Granada deposit") within the Granada Gold Property (the "Property"), located approximately 5 km south of the historic mining community of Rouyn-Noranda, Quebec, Canada, and to prepare a technical report written in support of the Mineral Resource Estimate. The reporting of the Mineral Resource Estimate complies with all disclosure requirements for Mineral Resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classification of the updated Mineral Resource is consistent with current CIM Definition Standards - For Mineral Resources and Mineral Reserves (2014).

Granada Gold is a Canadian public company involved in mineral exploration and development. Granada's common shares are listed on the Toronto Stock Exchange Venture Exchange ("TSX-V") under the symbol "GGM". Their current business address is 3028 Quadra Court, Coquitlam, BC Canada, V3B 5X6.

This technical report will be used by Granada Gold in fulfillment of their continuing disclosure requirements under Canadian securities laws, including National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"). This technical report is written in support of an updated Mineral Resource Estimate completed for Granada Gold. Granada Gold reports that the Granada deposit contains an open pit mineral resource, at a base case cut-off grade of 0.4 g/t Au, of 762,000 ounces of gold (22.3 million tonnes) at an average grade of 1.06 g/t Au in the Measured and Indicated category, and 455,000 ounces of gold (6.9 million tonnes) at an average grade of 2.04 g/t Au in the Inferred category. The effective date of the resource estimate is November 11, 2018.

The updated Mineral Resource Estimate presented in this report was estimated by Allan Armitage, Ph.D., P. Geo, ("Armitage" or the "Author") of SGS. Armitage is an independent Qualified Persons as defined by NI 43-101.

On March 14, 2006 the Consolidated Big Valley Resources Inc. ("CBG" or the "Company")) and Mousseau Tremblav Inc. ("MTI") entered into a Memorandum of Understanding to lease-acquire 100% interest in the 2 mining leases located in Rouvn-Noranda, Quebec, more commonly known as the Granada Mine site. The Company and MTI entered into a formal Lease and Purchase Agreement dated July 4, 2006 and amended August 10, 2006, September 20, 2006 and October 19, 2006. General terms of the agreement are for staged cash payments totalling \$350.000; \$5.000 per month plus applicable taxes as equipment/building lease payments and \$0.50 per tonne for each tonne deposited on the Granada site as tailings until such time as the Company has exercised its right to acquire 100% interest in the property. The first payment of \$175,000 cash to MTI is due within five business days of the Company receiving approval from the TSX Venture Exchange in order to earn a 51% interest (paid). The Company can exercise its remaining 49% interest early by making the final cash payment of \$175,000 on or before October 1, 2009. MTI will retain a 3% NSR on the value of the gold and silver recovered from all the Granada ores extracted, with the Company having a right to purchase 1.5% for \$1 million, such option to be exercised on the anniversary of the date of commencement of commercial production from the Granada site. No common shares will be issued. This transaction received Exchange approval as a material transaction with the graduation application.

On January 29, 2007, CBG announced that it had received regulatory approval to change its name to "Gold Bullion Development Corp." ("Gold Bullion"). No consolidation of share capital took effect. Effective Wednesday January 31, 2007 the common shares CGB began trading under its new name "Gold Bullion Development Corp." and under the new symbol "GBB".

On January 9, 2017, GBB announced that it planned to change its name to Granada Gold Mine Inc. ("Granada Gold") to align Granada Gold's name with its main project, the Granada Gold property.



### 1.1 **Property Description, Location, Access, and Physiography**

The Property is located in the province of Quebec, approximately 5 kilometres south of the city center of Rouyn-Noranda and 1.5 kilometres south east of the borough of Granada. The Property is centered at 48°10' N Latitude and 79°01' W Longitude in National Topographic Map (NTS) map sheets 32D/02 and 32D/03.

The Property is 100% owned by Granada Gold (formerly Gold Bullion Development Corp.) and currently comprises two minig leases (BM 813 and BM 852), twenty-four (24) CDC claims, twenty-five (25) CL claims and one CLD claim and covers a total area of 1,468.74 ha (14.69 km<sup>2</sup>).

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.

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.

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.

The Granada property area and vicinity has a subarctic climate, 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 per month. 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.

All the required services are provided on the Property. Depending on the required volume, water supply is available from either Pelletier and/or Beauchastel Lakes. Most necessary services and manpower for a mining operation are already offered in Rouyn-Noranda and its vicinity. Rail transportation is available and Rouyn-Noranda is 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 hightonnage/ 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. 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.

#### 1.2 History

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.

The former Granada mine claims were originally staked in 1922 by W.A and R.C Gamble. Gold bearing veinlets of the #1 Vein were subsequently discovered in 1923. The Granada Mine was brought into production in 1930 utilizing a vertical and an incline shaft. Five veins, named from north to the south, # 5, 1, 3, 2a, and 2 were identified at the time of the mines' commissioning.

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.

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. In 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.

On 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).

In 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.

In 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.

In 1990, 7 holes were drillid totaling 2,156m; 857 samples were assayed (not including blanks, standards or duplicates). In 1992, 137 holes were drilled, totaling 6,169m; 4,148 samples were assayed. In 1993, 107 holes were dug, for a total of 6963m; 4,227 samples were assayed. In 1994, 75 holes were dug including 6 wedges. In total, 6,659m were drilled and 4,049 samples assayed. In 1995, 123 holes were drilled totaling 4,266m; 3092 samples were assayed.

In 1996, Granada Resources extracted a bulk sample of 22,095 tonnes grading 3.46 g/t Au from pit #2. This 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.



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

### 1.3 **Geology and Mineralization**

The Granada 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 siltstonemudstone 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-easterlytrending 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 drill hole 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).

## 1.4 **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 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 drill holes. 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 o. 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 2nd and ended on March 18th. 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 20th, 2016 and the last hole was drilled on October 13th, 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 2,142 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 drill holes, totaling 2633m were done. Hole GR-17-04 was drilled in order to validate historic drill hole 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 unde 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 the recent drilling Granada Gold 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 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 8,339.25 metres in 23 holes was drilled on the Granada Property in 2012.

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

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.

#### 1.6 Mineral Resource Estimate

Completion of the current Mineral Resource Estimate involved the assessment of a drill hole database, which included all data for drilling completed through early 2017, an updated three-dimensional (3D) gradecontrolled wireframe model, revised pit optimization parameters, evaluation of the underground resource potential, review of the classification of the mineral resource estimate (Measured, Indicated and Inferred) and review of available written reports.

Inverse Distance Squared ("ID2") restricted to a grade-controlled wireframe model was used to Interpolate gold grades (g/t Au) into a block model. The Mineral Resource Estimate takes into consideration that the current Deposit will be mined by open pit mining methods.

Highlights of the Granada deposit Mineral Resource Estimate are as follows:

• The open pit mineral resource includes, at a base case cut-off grade of 0.4 g/t Au, 762,000 ounces of gold (22.3 million tonnes at an average grade of 1.06 g/t Au) in the Measured and Indicated category, and 455,000 ounces of gold (6.9 million tonnes at an average grade of 2.04 g/t Au) in the Inferred category.

In order to determine the quantities of material offering "reasonable prospects for eventual economic extraction" by an open pit, Whittle<sup>™</sup> pit optimization software and reasonable mining assumptions and metal recovery assumptions are used to evaluate the proportions of the block model that could be "reasonably expected" to be mined from an open pit were used. The pit optimization was completed by SGS. The pit optimization parameters used are summarized in Table 14 6. Based on SGS's experience with open pit exploration projects and mining operations, The Authors consider the assumptions listed in Table 14 6 to be appropriate reporting assumptions for the purposes of the current report.

A Whittle pit shell at a revenue factor of 1.0 was selected as the ultimate pit shell for the purposes of the current Mineral Resource Estimate (Figure 14 8; Figure 14 9). The corresponding strip ratio is 8.35:1.

The reader is cautioned that the results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide



to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cut-off grade.

All geological data was reviewed and verified by SGS as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. SGS is of the opinion that the assay sampling and extensive QA/QC sampling of core by Granada Gold provides adequate and good verification of the data. The Authors believe the data is of sufficient quality to be used for the current resource estimate.

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.

#### 1.7 **Recommendations**

The Authors consider that the Granada deposit contains a significant open pit Mineral Resource that is associated with a well-defined gold mineralized trend and model. The current Mineral Resource Estimate has shown that the Deposit can likely be mined by conventional open pit mining method. Deeper drilling recently completed also demonstrates that the Property has the potential for an underground resource.

The Authors consider the Property to have significant potential for delineation of additional Mineral Resources and that further exploration is warranted. Granada Gold's intentions are to continue to drill the Deposit in 2019 and plan to direct their exploration efforts towards resource growth (in-pit and underground), with a focus on extending the limits of known mineralization along strike and at depth, as well as infill drill the existing deposit in order to convert portions of Inferred mineral resources into Indicated or Measured.

Given the prospective nature of the Property, it is Author's opinion that the Property merits further exploration and that a proposed plan for further work are justified. A proposed work program by SGS will help advance the Deposit towards a pre-development stage and will provide key inputs required to evaluate the economic viability of a mining project (open pit and underground) at a pre-feasibility level.

SGS is recommending Granada Gold conduct further exploration, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves. For 2019, a total of 45,000 metres of drilling is proposed to continue to focus on expanding and extending mineral resources, upgrading existing Inferred resources as well as exploring the Deposit at depth.

The total cost of the recommended work program is estimated at C\$10,625,000 million.

# 2 INTRODUCTION

SGS Canada Inc. ("SGS") was contracted by Granada Gold Mine Inc. ("Granada Gold") to complete a Mineral Resource Estimate for the Granada Gold Deposit ("Granada deposit") within the Granada Gold Property (the "Property"), located approximately 5 km south of the historic mining community of Rouyn-Noranda, Quebec, Canada, and to prepare a technical report written in support of the Mineral Resource Estimate. The reporting of the Mineral Resource Estimate complies with all disclosure requirements for Mineral Resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classification of the updated Mineral Resource is consistent with current CIM Definition Standards - For Mineral Resources and Mineral Reserves (2014).

Granada Gold is a Canadian public company involved in mineral exploration and development. Granada's common shares are listed on the Toronto Stock Exchange Venture Exchange ("TSX-V") under the symbol "GGM". Their current business address is 3028 Quadra Court, Coquitlam, BC Canada, V3B 5X6.

This technical report will be used by Granada Gold in fulfillment of their continuing disclosure requirements under Canadian securities laws, including National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"). This technical report is written in support of an updated Mineral Resource Estimate completed for Granada Gold. Granada Gold reports that the Granada deposit contains an open pit mineral resource, at a base case cut-off grade of 0.4 g/t Au, of 762,000 ounces of gold (22.3 million tonnes) at an average grade of 1.06 g/t Au in the Measured and Indicated category, and 455,000 ounces of gold (6.9 million tonnes) at an average grade of 2.04 g/t Au in the Inferred category. The effective date of the resource estimate is November 11, 2018.

The updated Mineral Resource Estimate presented in this report was estimated by Allan Armitage, Ph.D., P. Geo, ("Armitage" or the "Author"). The current report is authored by Armitage and Maxime Dupéré, B.Sc., géo. ("Dupéré"), both of SGS. Armitage and Dupéré are independent Qualified Persons as defined by NI 43-101.

## 2.1 **Sources of Information**

The data used in the estimation of the current resource estimate and the development of this report was provided to SGS by Granada Gold. Some information including the property history and regional and property geology has been sourced from previous technical reports and revised or updated as required. Technical reports include:

- NI 43-101 Technical Report for the Granada Mine Property, Rouyn Township, Quebec, and Report prepared for Consolidated Big Valley Resources Inc., October 2006. Robinson, D., 2006.
- NI 43-101 Technical Report, Granada gold project resource estimate, Rouyn-Noranda, Québec, and Report prepared for Gold Bullion Development Corp., April 2<sup>nd</sup>, 2012. SGS Canada Inc.: Claude Duplessis, Gilbert Rousseau, Karina Sarabia, and Jonathan Gagné, 2012:
- NI 43-101 Technical Report, Preliminary Economic Assessment (PEA) Granada Gold Project, Rouyn-Noranda, Québec, and Report prepared for Gold Bullion Development Corp., February 4<sup>th</sup> 2013. SGS Canada Inc.: Claude Duplessis, Gilbert Rousseau, Gaston Gagnon, and Jonathan Gagné, 2013.
- NI 43-101 Technical Report Prefeasability Study (PFS) Phase 1 Open Pit Granada Gold Project Rouyn Noranda, Québec, and Report prepared for Gold Bullion Development Corp., June 19<sup>th</sup>, 2014. SGS Canada – GoldMinds Geoservices - Roche: Claude Duplessis, Gilbert Rousseau, Jonathan Gagné, and Martin Stapinsky, 2014



In addition, the Authors have reviewed company news releases and Management's Discussions and Analysis ("MD&A") which are posted on SEDAR (www.sedar.com).

SEDAR, "The System for Electronic Document Analysis and Retrieval", is a filing system developed for the Canadian Securities Administrators to:

- facilitate the electronic filing of securities information as required by Canadian Securities Administrator;
- allow for the public dissemination of Canadian securities information collected in the securities filing process; and
- provide electronic communication between electronic filers, agents and the Canadian Securities Administrator

The Authors have carefully reviewed all of the Property information and assumes that all of the information and technical documents reviewed and listed in the "References" are accurate and complete in all material aspects. Information regarding the property history, regional property geology, deposit type and metallurgical test work (Sections 5-13) have been sourced from the previous technical reports and company filings on SEDAR and revised or updated as required.

#### 2.2 Site Visit

Maxime Dupéré ("Dupéré") personally inspected the Property on November 12, 2018, accompanied by Merouane Rachidi Merouane Rachidi, Ph.D., P.Geo., consultant geologist for Granada Gold. Dupéré examined several core holes, and accompanying drill logs and assay certificates. Assays were examined against drill core mineralized zones. Dupéré inspected the offices, core logging facilities/sampling procedures and core security.

During the visit, Dupéré collected 30 independent analytical check samples from 7 drill holes. However, the results of the check samples were not available at the date of the current report.

### 3 Reliance on Other Experts

Information concerning claim status and ownership which are presented in Section 4 below have been provided to the Author by Granada Gold by way of E-mail on the 7<sup>th</sup> of December, 2018. The Authors only reviewed the land tenure in a preliminary fashion, and has not independently verified the legal status or ownership of the property or any underlying agreements. However, the Authors have no reason to doubt that the title situation is other than what is presented in this technical report. The Authors are not qualified to express any legal opinion with respect to Property titles or current ownership.



# 4 PROPERTY DESCRIPTION AND LOCATION

The Property is located in the province of Quebec, approximately 5 kilometres south of the city center of Rouyn-Noranda (Figure 4-1) and 1.5 kilometres south east of the borough of Granada. The Property is centered at 48°10' N Latitude and 79°01' W Longitude in National Topographic Map (NTS) map sheets 32D/02 and 32D/03.





## 4.1 **Property Description, Ownership and Royalty**

The Property is 100% owned by Granada Gold (formerly Gold Bullion Development Corp.) and currently comprises two minig leases (BM 813 and BM 852), twenty-four (24) CDC claims, twenty-five (25) CL claims and one CLD claim and covers a total area of 1,468.74 ha (14.69 km<sup>2</sup>) (Figure 4-2; Table 4-1).



Figure 4-2: Property Land Tenure Map

NTS Sheet	Title No	Status	Type	Date of	Expiry Date	Area	Work	Fees	Holder,
			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Registration		(Ha)	Required	Required	Percent
SNRC 32D03	813	Active	BM	20/09/1993	19/09/2023	21.12			Granada, 100%
SNRC 32D03	852	Active	BM	28/02/2000	29/03/2020	22.47			Granada, 100%
SNRC 32D03	2201165	Active	CDC	18/01/2010	17/01/2020	42.8	\$1,170.00	\$64.09	Granada, 100%
SNRC 32D03	2201166	Active	CDC	18/01/2010	17/01/2020	42.78	\$1,170.00	\$64.09	Granada, 100%
SNRC 32D03	2203160	Active	CDC	26/01/2010	25/01/2020	8.22	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206419	Active	CDC	22/02/2010	21/02/2020	57.43	\$1,170.00	\$64.09	Granada, 100%
SNRC 32D03	2206420	Active	CDC	22/02/2010	21/02/2020	57.43	\$1,170.00	\$64.09	Granada, 100%
SNRC 32D03	2206421	Active	CDC	22/02/2010	21/02/2020	24.94	\$487.50	\$32.77	Granada, 100%
SNRC 32D02	2206423	Active	CDC	22/02/2010	21/02/2020	10.62	\$487.50	\$32.77	Granada, 100%
SNRC 32D02	2206424	Active	CDC	22/02/2010	21/02/2020	10.62	\$487.50	\$32.77	Granada, 100%
SNRC 32D02	2206425	Active	CDC	22/02/2010	21/02/2020	10.64	\$487.50	\$32.77	Granada, 100%
SNRC 32D02	2206426	Active	CDC	22/02/2010	21/02/2020	10.64	\$487.50	\$32.77	Granada, 100%
SNRC 32D02	2206427	Active	CDC	22/02/2010	21/02/2020	10.64	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206429	Active	CDC	22/02/2010	21/02/2020	10.47	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206430	Active	CDC	22/02/2010	21/02/2020	10.48	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206431	Active	CDC	22/02/2010	21/02/2020	10.49	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206432	Active	CDC	22/02/2010	21/02/2020	10.5	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206433	Active	CDC	22/02/2010	21/02/2020	8.76	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206434	Active	CDC	22/02/2010	21/02/2020	10.57	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206435	Active	CDC	22/02/2010	21/02/2020	10.57	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206436	Active	CDC	22/02/2010	21/02/2020	10.57	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206437	Active	CDC	22/02/2010	21/02/2020	10.59	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206438	Active	CDC	22/02/2010	21/02/2020	10.6	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206439	Active	CDC	22/02/2010	21/02/2020	10.59	\$487.50	\$32.77	Granada, 100%
SNRC 32D03	2206464	Active	CDC	22/02/2010	21/02/2020	0.57	\$487.50	\$32.77	Granada, 100%
SNRC 32D02	2249792	Active	CDC	14/09/2010	13/09/2020	10.63	\$487.50	\$65.54	Granada, 100%
SNRC 32D03	P780010	Active	CLD	13/10/1972	24/03/2021	350	\$2,340.00	\$97.15	Granada, 100%
SNRC 32D02	3845631	Active	CL	07/11/1979	20/10/2019	40	\$1,625.00	\$64.09	Granada, 100%
SNRC 32D02	3845632	Active	CL	07/11/1979	20/10/2019	40	\$1,625.00	\$64.09	Granada, 100%
SNRC 32D02	3845641	Active	CL	07/11/1979	19/10/2019	40	\$1,625.00	\$64.09	Granada, 100%
SNRC 32D02	3845642	Active	CL	07/11/1979	19/10/2019	40	\$1,625.00	\$64.09	Granada, 100%
SNRC 32D02	3845651	Active	CL	07/11/1979	20/10/2019	20	\$650.00	\$32.77	Granada, 100%
SNRC 32D02	3845652	Active	CL	07/11/1979	20/10/2019	20	\$650.00	\$32.77	Granada, 100%
SNRC 32D02	3845653	Active	CL	07/11/1979	20/10/2019	20	\$650.00	\$32.77	Granada, 100%
SNRC 32D02	3845654	Active	CL	07/11/1979	20/10/2019	20	\$650.00	\$32.77	Granada, 100%
SNRC									,
32D02,32D03	3845841	Active	CL	07/11/1979	19/10/2019	39	\$1,625.00	Ş64.09	Granada, 100%
SNRC 32D02	3845842	Active	CL	07/11/1979	19/10/2019	40	\$1,625.00	\$64.09	Granada, 100%
SNRC 32D03	3845851	Active	CL	07/11/1979	19/10/2019	16	\$650.00	\$32.77	Granada, 100%
SNRC 32D03	3845852	Active	CL	07/11/1979	19/10/2019	28	\$1,625.00	\$64.09	Granada, 100%
SNRC 32D02	3845853	Active	CL	07/11/1979	19/10/2019	20	\$650.00	\$32.77	Granada, 100%
SNRC 32D03	3878491	Active	CL	11/02/1980	20/01/2020	20	\$650.00	\$32.77	Granada. 100%
SNRC 32D03	3878492	Active	CL	11/02/1980	20/01/2020	20	\$650.00	\$32.77	Granada. 100%
SNRC 32D02	3952881	Active	CL	03/11/1980	15/10/2019	20	\$650.00	\$32.77	Granada. 100%
SNRC 32D02	3952882	Active	CL	03/11/1980	15/10/2019	20	\$650.00	\$32.77	Granada. 100%
SNRC 32D02	3952883	Active	CL	03/11/1980	15/10/2019	20	\$650.00	\$32.77	Granada. 100%
				, ,	, .,	-			

# Table 4-1Property Claim Data



	-											
NTS Sheet	Title No	Statuc	Type	Date of	Expiny Data	Area	Work	Fees	Holder,			
	NT3 SHEEL	THE NO	The NO	Status	Status	Status	Type	Registration	Lxpiry Date	(Ha)	Required	Required
SNRC 32D02	3952884	Active	CL	03/11/1980	15/10/2019	20	\$650.00	\$32.77	Granada, 100%			
SNRC 32D02	3952891	Active	CL	03/11/1980	15/10/2019	20	\$650.00	\$32.77	Granada, 100%			
SNRC 32D02	3952892	Active	CL	03/11/1980	15/10/2019	20	\$650.00	\$32.77	Granada, 100%			
SNRC 32D02	3952893	Active	CL	03/11/1980	15/10/2019	20	\$650.00	\$32.77	Granada, 100%			
SNRC 32D02	3952894	Active	CL	03/11/1980	15/10/2019	20	\$650.00	\$32.77	Granada, 100%			
SNRC 32D02	5109754	Active	CL	21/08/1993	20/08/2019	40	\$1,625.00	\$64.09	Granada, 100%			
SNRC 32D02	5109755	Active	CL	21/08/1993	20/08/2019	40	\$1,625.00	\$64.09	Granada, 100%			
					Total:	1,468.74						

#### 4.1.1 Ownership History

On March 14, 2006 the Consolidated Big Valley Resources Inc. ("CBG" or the "Company")) and Mousseau Tremblay Inc. ("MTI") entered into a Memorandum of Understanding to lease-acquire 100% interest in the 2 mining leases located in Rouyn-Noranda, Quebec, more commonly known as the Granada Mine site. The Company and MTI entered into a formal Lease and Purchase Agreement dated July 4, 2006 and amended August 10, 2006, September 20, 2006 and October 19,2006. General terms of the agreement are for staged cash payments totalling \$350,000; \$5,000 per month plus applicable taxes as equipment/building lease payments and \$0.50 per tonne for each tonne deposited on the Granada site as tailings until such time as the Company has exercised its right to acquire 100% interest in the property. The first payment of \$175,000 cash to MTI is due within five business days of the Company can exercise its remaining 49% interest early by making the final cash payment of \$175,000 on or before October 1, 2009. MTI will retain a 3% NSR on the value of the gold and silver recovered from all the Granada ores extracted, with the Company having a right to purchase 1.5% for \$1 million, such option to be exercised on the anniversary of the date of commencement of commercial production from the Granada site. No common shares will be issued. This transaction received Exchange approval as a material transaction with the graduation application.

A NI 43-101 Technical Report was filed with the Exchange and filed on SEDAR and information on the merits and planned exploration and development of the property were detailed and news released on November 13, 2006.

On January 29, 2007, CBG announced that it had received regulatory approval to change its name to "Gold Bullion Development Corp." ("Gold Bullion"). No consolidation of share capital took effect. Effective Wednesday January 31, 2007 the common shares CGB began trading under its new name "Gold Bullion Development Corp." and under the new symbol "GBB".

On January 9, 2017, GBB announced that it planned to change its name to Granada Gold Mine Inc. ("Granada Gold") to align Granada Gold's name with its main project, the Granada Gold property.

### 4.2 Underlying Agreements

#### 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 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 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 Granada Gold'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 26th 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.

The Authors are not aware of any other underlying agreements relevant to the Project.

### 4.3 **Permits and Environmental Liabilities**

On the 26th 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.

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

#### 4.4 Mining Rights in Quebec

As defined by the Ministère de l'Énergie et des Ressources naturelles (MERN) website (www.mrn.gouv.qc.ca) a claim is the only valid exploration right in Quebec. The claim gives the holder an exclusive right to search for mineral substances in the public domain, except within sand, gravel, clay and other loose deposits on the land subjected to the claim.

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

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

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



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

### 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.

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, 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 per month. 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.

### 5.4 Local Resources and Infrastructure

All the required services are provided on the Property. Depending on the required volume, water supply is available from either Pelletier and/or Beauchastel Lakes. Most necessary services and manpower for a mining operation are already offered in Rouyn-Noranda and its vicinity. Rail transportation is available and Rouyn-Noranda is 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 hightonnage/ 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. 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.



# 6 **HISTORY**

### 6.1 **Exploration History**

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.

The former Granada mine claims were originally staked in 1922 by W.A and R.C Gamble. Gold bearing veinlets of the #1 Vein were subsequently discovered in 1923. The Granada Mine was brought into production in 1930 utilizing a vertical and an incline shaft. Five veins, named from north to the south, # 5, 1, 3, 2a, and 2 were identified at the time of the mines' commissioning.

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 (51,476 ounces of gold in 181,744 sT @ 0.28 oz/sT). This ore came primarily from vein #2. Tailings of this ore were deposited in a tailings pond covering an area of approximately 50,000 m<sup>2</sup> 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 5th 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. This reserve estimate predates National Instrument 43-101 and is considered historical. A qualified person has not done sufficient work to classify the historical reserve estimate as current mineral reserves and Granada Gold is not treating the historical estimate as current mineral reserves.

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. This reserve estimate predates National Instrument 43-101 and is considered historical. A qualified person has not done sufficient work to classify the historical reserve estimate as current mineral reserves and Granada Gold is not treating the historical estimate as current mineral reserves.

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 m2 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 (see Figure 14-1, Section 14.3 below). 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.

In 1990, 7 holes were drillid totaling 2,156m; 857 samples were assayed (not including blanks, standards or duplicates). In 1992, 137 holes were drilled, totaling 6,169m; 4,148 samples were assayed. In 1993, 107 holes were dug, for a total of 6963m; 4,227 samples were assayed. In 1994, 75 holes were dug including 6 wedges. In total, 6,659m were drilled and 4,049 samples assayed. In 1995, 123 holes were drilled totaling 4,266m; 3092 samples were assayed.

1996: Granada Resources extracted a bulk sample of 22,095 tonnes grading 3.46 g/t Au from pit #2 (see Figure 14-1, Section 14.3 below). 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 16th, 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 31st 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 from pits #2 (55,000 tonnes) and #2A (50,000 tonnes);
- treat ore in the UMCO;
- carry out cyanides destruction (by S02/air method) in the final waste before its release in the pit #1.

On September 21st 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 l'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 1st 2005 for a period of five years, until March 1st, 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 leasepurchase 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 in January, 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 23rd 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 RSWBéroma in March 2002, the pit #1 contained approximately 52 000 tonnes of solid waste occupying a volume of 16,800 m3. This corresponds to approximately 21% of the volume of the pit #1 (80 000 m3) as measured by RSW-Béroma, who performed the complete dewaterig of September 21st to November 21st 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 23rd, 2011. On June 3rd, 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 25th 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 7th, 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 21st, 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.

# 7 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 Regional Geology

The Granada Mine property lies within the Abitibi Greenstone Belt of the Superior Province (Figure 7-1, Figure 7-2). 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 metasediments 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 the 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 7-1 Geological map of the Superior Province showing the position of the Property







# 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 7-3). The property is underlain principally by east-west trending, north-dipping interbedded-polymictic conglomerate, porphyry-pebble conglomerate, greywacke and siltstonemudstone 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 7-7 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 7-8). 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 Property, with the exception of the Pontiac Group, are metamorphosed to greenschist facies.



Figure 7-3 Regional Geology Map of the Granada Mine Area (Duplessis et al., 2014)



# Figure 7-4 Large Smoky Quartz Veins Oriented E-W Locally Affected by NNE Dextral Faults



Figure 7-5 Porphyry with large Phenocrysts of Feldspars







Figure 7-6 Visible Gold Within Smoky Quartz Vein in a Surface Sample













# 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).

## 7.4 Mineralization

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.

#### 7.4.1 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 Vein #2

Vein #2 is more correctly described as a mineralized zone of two parallel guartz 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).

#### 7.4.3 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.

#### 7.4.4 Vein #5

Vein #5 is the most continuous vein of the Granada Property. It has been traced by drill holes 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.

#### 7.4.5 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.



# 8 DEPOSIT TYPES

The Granada deposit is a quartz-vein mesothermal gold deposit hosted by late Achaean Timiskaming 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 in Ontario and in Duparquet, north of Rouyn-Noranda, in the Province of Quebec. The mineralization is mainly confined in the Conglomerate/Greywake package S1 of the Granada formation.



# 9 EXPLORATION

#### 9.1 **Geological & 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 km<sup>2</sup>), Beauchastel Syenite (49.23 km<sup>2</sup>) and Adanac Extension (45.15 km<sup>2</sup>). 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

Granada Gold mined 139,471.39 dry metric tonnes, of which 29,948.49 dry metric tonnes were processed as mill feed. The waste-mill feed strip ratio for the first bench was 3.65/1. Bulk test mining and processing highlights are as follows:

- Calculated recovered gold grade of mill feed of 1.62 grams/tonnes is 20.0% above average mill head grade of 1.35 grams/tonnes due to free gold content.
- Strong mill feed continuity beyond the past formally defined mineralized zones and drilled intersections of the past exploration programs.
- Milling recoveries remain very high at 89.76 per cent with no increase in operational costs or decrease in throughput of the plant.

Parameters of the Bulk Test Mining and Processing program are as follows:

- The mill feed that was processed was mined from an area defined as Pit 2A (see Figure 14-1, Section 14.3 below) from the surface of the #2 vein structure.
- Dilution in the first bench was within 15%.
- Processing was done at the Granada Mill, under the supervision of Mr. Karol O. Mikulash, P.Eng., metallurgist and qualified person.
- Assay samples were taken at each shift and sent for analysis to Laboratories, Rouyn-Noranda (Quebec).
- The Granada Mill grinding circuit was completely dismantled and cleaned out.
- Final refining of the Dore bars was done at the Royal Canadian Mint located in Ottawa, Ontario and Handy & Harman of Canada, Inc. located in Rexdale, Ontario.

#### 9.3 **2014-2015 Trenching**

In September 2014, 6 trenches were completed to the east of the pit 2A (see Figure 14-4 Section 14.4 below). 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.

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 2nd and ended on March 18th. 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.

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

## Table 9-1Highlights of the 2014-2015 Trenching Program



## 10 DRILLING

The following table summarizes the drilling completed on the Property since acquisition in 2006.

Year	# of Drill holes	Total Meterage	# of Assays
2009	11	1,027	841
2010	179	35,240	26,056
2011	211	41,181	30,349
2012	23	8,339	5,710
2014	6	235	230
2015	2	119	119
2016	14	4,678	2,967
2017	4	2,633	826
	Total:	93,452	67,098

## Table 10-1Drill holes Completed on the Property since Acquisition of the Property

## 10.1 2009 to 2011 Drilling

Granada Gold carried out three phases of exploration starting in 2009, another in 2010 and the third in 2011 (Figure 10-1;Table 10-2). The drilling was done by diamond drill using NQ core size.

Granada Gold drilled 25 shallow holes in the Phase 1 drill program from December 2009 to January 2010 at the Property. A total of 2,817 metres was drilled and was successful at testing for structure. The program also revealed a possible substantial new discovery of shallow depth mineralization northeast of the historic and past producing Pits #2 West and #2 East.

Drilling highlights include hole GR 10-17 located over 300 metres from the edge of Pit #2 East, intersected 65.5 metres of 1.21 g/t Au gold (from 3.5 metres to 69 metres) within a wider interval grading 0.95 g/t Au over 99.2 metres. This hole, reported March 1 2010, was collared 103 metres southeast of GR-10-15 which returned 73.8 meters of 0.88 g/t Au as reported February 8 2010.

Three other Phase 1 holes in Granada Gold named "LONG Bars Zone Eastern Extension" were also encouraging. GR-10-18, collared 125 metres southwest of GR-10-17, intersected 19 metres of 1.02 g/t Au. GR-10-14 and GR-10-16 returned lower gold values over shorter intersections but confirmed the continuity of mineralization in this newly discovered area. Some highlights of that campaign are:

- GR-10-21 50 metres outside the western boundary of the zone and nearly 800 metres from GR-10-17, intersected 65.5 metres grading 0.72 g/t Au (from 3.50 to 69 metres) including 20 metres of 2.20 g/t Au.
- GR-10-13 located between Pit #1 and Pit #2 inside the zone, returned 27.75 metres grading 1.27 g/t Au within a wider interval of 66 metres grading 0.56 g/t Au;
- GR-10-12 located north of Pit #2 East and 300 metres southwest of GR-10-17, intersected 68.8 metres of 1.07 g/t Au (from 16.2 to 85 metres) including 44 metres grading 1.54 g/t Au and 14 metres grading 4.28 g/t Au;
- GR-09-08 46 metres east-southeast of GR-10-12, returned 32.5 metres of 1.27 g/t Au, also at shallow depth, within a wider interval of 0.92 g/t Au over 51 metres;



- GR-09-05 75 metres northeast of GR-09-08, graded 0.92 g/t Au over 31 metres between 92 and 123 metres;
- GR-09-02 at the western edge of the waste pile east of Pit #1, returned 32.5 metres of 1.74 g/t Au between 15.5 and 48 metres;
- GR-09-01 25 metres north of GR-09-02, intersected 14.7 metres of 1.60 g/t Au over a wider interval of 61.7 metres averaging 0.56 g/t Au between 6.3 meters and 68 metres.

Granada Gold launched a 20,000 metre Phase 2 drill program at the Granada Gold Property in early May 2010, which was extended by 5,000 metres in September due to encouraging early results. The twopronged strategy was to a) conduct infill drilling as well as further exploratory drilling within the main zone as a first step toward an eventual 43-101 resource estimate, and b) significantly expand the overall LONG Bars Zone mineralized area. Some deeper drilling was also planned, and has taken place, within both the main zone and the Eastern Extension in order to test the Granada structure at depth as most drilling at the property historically and in the Granada Gold's Phase 1 program has been shallow (mostly less than 100 metres vertical depth).

Granada Gold completed nearly 11,000 metres of Phase 3 drilling at its Granada Gold Property as of January 21, 2011, with Phase 2 and Phase 3 drilling 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.

In November 2011, Granada Gold reported the discovery of significant mineralization northeast and southeast of its LONG Bars Zone and the Granada Gold Property as a whole.

GR-10-108, collared 30 metres north of GR-10-55 which delivered the longest mineralized intersection to date at Granada (356.6 metres @ 0.60 g/t Au), returned an interval of 141.7 metres grading 0.70 g/t Au. One of the goals of Phase 3 drilling was to expand the continuity of the feldspar porphyry and quartz veining in this particular area. GR-10-108 was collared 150 metres northeast of the main zone.

Meanwhile, nearly 500 metres south of GR-10-108, GR-10-86 returned 84.6 metres grading 1.00 g/t Au within a total near-surface interval of 127.5 metres (4.5 metres to 132 metres) grading 0.76 g/t Au as reported November 19. This hole was drilled toward the south and was collared approximately 180 metres southeast of Granada Gold's Preliminary Block Model. The discovery of near-surface mineralization in the deep-south of the Eastern Extension is considered a significant development.

All Phase 2 drilling was completed by late October and more than 20% of the Phase 3 program has been completed as of January 21, 2011.

Gold Bullion reported September 9 that their previous geological consultant had observed visible gold and disseminated sulphides, along with large alteration zones, in feldspar porphyry in numerous holes drilled in Phase 2.

The fact that porphyry is hosting gold is an interesting development historically for the Granada Property as a 2006 Technical Report on the property stated that all economic mineralization at Granada was related to quartz veining.

Other results; GR-10-53, collared 88 metres southeast of GR-10-41 and near Pit #2 East, intersected 68.3 metres of 2.16 g/t Au, including a high-grade section of 4.60 g/t Au over 26 metres, within a wider nearsurface interval of 110.5 metres (3.5 metres to 114 metres) grading 1.34 g/t Au. This hole was drilled perpendicular to Vein #2 and is believed to closely approximate true width. Alteration dominated by intense sericitization and silicification was encountered in this hole along with quartz veining and abundant pyrite.



Most of the drill holes have been drilled close to perpendicular angle of the veins. The core lengths are in general 85% to 90% of the true width for the hole drilled south-south west. The holes which were drill south east show an approximate 75% true width as per new current modeling.

The near surface holes are closer to true width while holes a depth which were drilled steeper.

## Figure 10-1 Location of the 2009 to 2011 Drill holes with respect to the Current Granada Deposit



Table 10-2Selected intersections of interest from Phase 1, Phase 2 and Phase 3<br/>drilling (from Duplessis et al., 2013)

Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
Phase 1 Program				
GR-09-02	15.5	48	32.5	1.78
including	40.7	41	0.3	96.6
GR-09-05	92	123	31	0.92
GR-09-06	36	52.5	16.5	1.22
GR-09-08	17	68	51	0.93
GR-10-12	4.3	87	82.7	0.9
GR-10-13	32.2	59.95	27.75	1.27
GR-09-15	73.2	147	73.8	0.88
GR-10-17	3.5	102.7	99.2	0.95
including	3.5	69	65.5	1.21
GR-10-18	37.5	56.5	19	1.02
Phase 2 Program				
GR-10-33	23	146.5	123.5	1.07



Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
GR-10-41	3.65	153	149.35	0.83
including	54.9	130	75.1	1.5
GR-10-53	5	112.5	107.5	1.37
including	8	73.3	65.3	2.14
GR-10-55	86.64	304.14	217.5	0.95
including	86.64	271.43	184.79	1.06
GR-10-79	22.5	185	162.5	0.88
GR-10-99	3.5	87	83.5	0.98
GR-10-104	3	231	228	0.51
GR-10-108	117.58	259.28	141.7	0.7
including	184.84	259.28	74.44	1.06
GR-10-113	22.97	252.92	229.95	0.93
including	232.5	233.59	1.09	162.75
GR-10-117	3	201	198	0.74
including	4.6	77.5	72.9	1.02
GR-10-126	29.1	85.05	55.95	1.01
GR-10-128	3	116.5	113.5	0.55
including	55.5	116.5	61	0.81
including	60	61.5	1.5	15.7
GR-10-130	2	96	94	1.03
GR-10-138	116	171.5	55.5	0.77
including	116	125	9	2.16
GR-10-141	3	279	276	0.52
Phase 3 Program	•			
GR-10-153	3.9	139	135.1	0.62
including	3.9	80.1	76.2	0.99
including	3.9	4.9	1	54.98
GR-10-157	45.5	116.5	71	1.06
including	56.5	61	4.5	3.75
including	69	70	1	44.8
GR-10-169	9	117	108	0.64
including	51	115.5	64.5	1.03
GR-10-173	117.75	356	238.25	0.52
including	253.5	333.5	80	1.36
GR-10-178	193	376.5	183.5	0.5
GR-10-179	3	159	156	0.61
including	50.75	123	72.25	1.25
GR-10-189	99.5	170.4	70.9	1.06
GR-11-199	60	146	86	1.2
including	60	61	1	63.5
and including	129.75	146	16.25	1.86
GR-11-200	50.5	156.5	106	0.81
GR-11-216	1.5	57.6	56.1	0.56
GR-11-223	3.4	54	50.6	0.56
GR-11-231	174.5	227	52.5	0.52
GR-11-235	2.2	150	147.8	0.5
including	6.5	96	89.5	0.78
GR-11-237	42	130	88	0.5
GR-11-256	75	173	98	1.21
including	139	168.5	29.5	2.34
GR-11-271	24.55	207.5	182.95	1.11
including	24.55	25.3	0.75	207.27
and including	71.5	72.5	1	13.71
and including	206	207.5	1.5	10.49



Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
and including	206	258	52	0.79
GR-11-287	104	173.5	69.5	1.05
including	110.4	111.3	0.9	30.03
and including	122.5	123	0.5	38.75
and including	172.6	173.5	0.9	15.79
and including	129.6	146	16.25	1.86
GR-11-241	283	289	6	2.25
GR-11-242	93.5	207.2	113.7	0.5
including	100.5	109	8.5	2.21
including	176.9	181	4.1	4.04
GR-11-246	243	283.5	40.5	0.47
GR-11-253	127.5	139.5	12	1.6
GR-11-257	165.5	211.5	46	2.25
including	189.5	211.5	22	4.42
including	312	323.5	11.5	0.41
GR-11-260	382.5	386.39	3.89	4.87
GR-11-261	23.5	31.75	8.25	0.52
GR-11-261	223.5	258	34.5	0.31
GR-11-264	347	353	6	3.31
GR-11-272	112	241	129	0.39
including	112	135	23	0.89
including	112	115	3	4.64
including	171	178 5	75	0.56
including	199 5	241	41 5	0.53
including	204	223.5	19.5	0.81
GR-11-274	58	63.5	55	0.54
GR-11-276	133 5	166 5	33	0.4
including	133.5	139 5	6	1 43
GR-11-285	13 25	30.7	17.45	0.88
GR-11-298	171 5	253.5	82	0.59
including	205 5	223.5	18	1.03
including	200.0	253 5	12	1.03
GR-11-298	336	339.5	3.5	4.01
GR-11-299	18 5	97	78 5	0.54
including	25	35	10	1.34
including	80	97	17	1 14
including	89	97	8	1 95
GR-11-300	16 5	84 5	68	0.7
including	16.5	28.5	12	0.89
including	68 5	84 5	16	1 98
GR-11-301	51	55 5	4 5	1.38
GR-11-302	16	126 5	110 5	0.48
including	16	83.5	67.5	0.48
including	30	53.5	23.5	1 11
including	30	53.5	75	2.47
including	75 5	83.5	7.5	1.26
GR-11-303	, J.J 0 E	127	0 177 ⊑	1.20 0 66
including	9.5 Q E	137	33 E T51'2	1 77
including	3.5	45		1.//
including	20 F	43	/ ס ר	4.3 0 E7
including	0.50	98	29.5	0.57
	8/ حر 1	שא סגר סגר		U.83
including	1//	217.5 101 F	40.5	0.45
including	1// 212	181.5 217 F	4.5 л г	U./3
including	213	217.5	4.5	2.97



Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
GR-11-304A	229.5	345	115.5	0.34
including	229.5	240	10.5	0.6
including	290	300	10	1.3
including	316.5	326	9.5	0.64
GR-11-305	11	20	9	0.52
including	10	13	3	1.18
GR-11-305	70.5	82	11.5	0.58
GR-11-306	11	20	9	0.52
GR-11-306	70.5	82	11.5	0.58
including	76.5	82	5.5	0.6
GR-11-307	61	79.5	18.5	0.36
including	62	67	5	1.01
GR-11-308	29	90	61	0.34
including	29	33.5	4.5	3.11
GR-11-309	12.5	91.5	79	0.89
including	55	91.5	36.5	1.71
including	60.5	85	24.5	2.26
including	60.5	71.5	11	3.87
including	77	85	8	1.54
GR-11-309	154.5	165	10.5	0.82
GR-11-310	15	44.23	29.23	15.61
including	21	26	5	88.97
including	22	23	1	443.78
GR-11-311	54.5	86.5	32	2.49
including	65.5	73	7.5	9.44
including	157	180.5	23.5	0.74
including	157	169	12	1.17
GR-11-312	27.58	38.5	10.92	0.7
Including	27.58	30.5	2.92	1.65
GR-11-312	84	87	3	1.5
GR-11-313	3.3	51.95	48.65	0.37
including	3.3	10	6.7	1.8
GR-11-313	106	117.5	11.5	0.45
GR-11-313	117.5	132.5	15	0.48
GR-11-314	3.3	78	74.7	0.41
including	61	78	17	1.1
including	61	65.5	4.5	2.12
and	25.5	29.5	4	0.74
GR-11-315	66.5	109.5	43	0.32
including	76	109.5	33.5	0.36
including	76	89	13	0.55
and	102	109.5	7.5	0.52
GR-11-316	105.5	150	44.5	0.37
including	105.5	122	16.5	0.68
including	113	122	9	1.01
GR-11-319	76	79	3	0.48
GR-11-320	12	84	72	0.46
including	32	44.5	12.5	1.84
GR-11-321	94.5	101	6.5	0.97
including	94.5	97.5	3	1.63
GR-11-322	24.5	33	8.5	0.46
GR-11-322	79.5	85.5	6	0.67
GR-11-324	25	40	15	0.66
including	34.5	39	4.5	1.74



Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
GR-11-326	4.5	93.5	89	0.65
including	4.5	22	17.5	2.78
including	11.4	15.5	4.1	11.16
GR-11-324	95.85	99	3.15	0.7
GR-11-328	12.5	47	34.5	0.78
including	31.5	47	15.5	1.59
including	71.5	118.5	47	0.44
including	114.5	118.5	4	3.2
GR-11-329	16.5	19.5	3	1.21
GR-11-329	45.9	48	2.1	1.08
GR-11-330	60.96	68.8	7.84	7.93
Including	60.96	64	3.04	19.23
GR-11-330	99	112	13	5.63
Including	99	102	3	22.35
Including	109	112	3	1.88
GR-11-331	71.08	82.5	11.42	0.5
GR-11-331	129	132	3	1.41
GR-11-334	75.5	80.5	5	0.88
including	105.5	121.5	16	0.5
GR-11-335	24	138	114	0.71
Including	39.5	42	2.5	2.95
Including	99.4	103	3.6	5.01
Including	131	138	7	5.73
GR-11-336	21	81.5	60.4	0.5
Including	77	81.5	4.5	3.5
GR-11-337	9	64	55	0.33
Including	59.5	64	4.5	2.3
GR-11-337	131.5	134.5	3	2.64
GR-11-338	6	56	50	0.47
Including	21	25.5	4.5	2.42
Including	43.5	48	4.5	1.18
GR-11-339	6	29	23	0.56
Including	23.5	26.5	3	3.2
GR-11-340	6.5	142	135.5	0.29
Including	6.5	14	7.5	0.53
Including	111	142	31	0.77
Including	124	128.5	4.5	2.12
GR-11-341	205.5	235.5	30	0.44
including	205.5	211.5	6	1.21
including	205.5	216	10.5	1.01
GR-11-342	66	69.36	3.36	1.19
GR-11-343	222	225	3	1.68
GR-11-344	19.5	30	10.5	1.27
Including	22.5	27	4.5	2.64
GR-11-345	91.5	140	48.5	0.5
including	91.5	96	4.5	2.77
GR-11-345	227.5	243	15.5	0.45
GR-11-345	333.5	336.5	3	4.45
GR-11-346	13.5	53	39.5	0.26
Including	50.5	53	2.5	1.98
GR-11-347	16	63	47	0.36
Including	50	63	13	0.82
Including	60	63	3	2.47
GR-11-348	41	52.5	11.5	0.39



Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
GR-11-349	82.5	89	6.5	2.74
GR-11-350	16.5	114	97.5	0.86
GR-11-350	16.5	21	4.5	15.72
and	207.5	300	92.5	0.56
including	236	239	3	9.62
including	297	300	3	2.97
GR-11-351	161	173	12	0.43
GR-11-352	18.5	24	5.5	0.6
GR-11-352	100.5	103.5	3	5.04
GR-11-354	158.5	350.05	191.55	0.54
Including	171	176	5	6.08
Including	204	208.5	4.5	3.65
Including	244.3	247.6	3.3	1.86
Including	301	303.7	2.7	2.65
Including	318.5	321.5	3	3.87
Including	341	344	3	2.12
GR-11-355	23.5	31.47	7.97	0.82
GR-11-355	90.1	123.5	33.4	0.56
including	114	122	8	1.75
GR-11-356	6	51	45	0.31
including	6	15.5	9.5	0.54
including	34.6	51	16.4	0.4
GR-11-356	102	111.2	9.2	0.59
GR-11-357	110	125.5	15.5	0.74
including	119.3	122.5	3.2	2.44
GR-11-358	4.5	15	10.5	0.53
GR-11-358	149	339.65	190.65	0.39
including	149	170	21	1.19
including	149	150.5	1.5	6.38
including	165.5	167	1.5	3.86
including	237	246	9	0.86
including	271.5	279	7.5	2.61
including	328	339.65	11.65	0.8
GR-11-359	159	165	6	1.02
GR-11-360	93	96	3	2.88
GR-11-360	122	125	3	0.85
GR-11-361	82.5	153.5	71	0.55
including	84	102.5	18.5	0.93
including	82.5	87	4.5	2.74
including	99.5	102.5	3	1.29
including	150.5	153.5	3	5.29
GR-11-362	56	61.5	5.5	1.4
GR-11-362	143	201	58	1.76
including	143	149	6	15.27
GR-11-363	23.5	82.5	59	0.43
GR-11-365	54.5	73	18.5	0.63
including	54.5	66	11.5	0.91
GR-11-365	140	154	14	0.54
GR-11-366	45	58.5	13.5	0.34
GR-11-366	144.5	223.5	79	0.58
including	155.5	180	24.5	0.81
including	168	180	12	1.28
GR-11-366	193	213	20	0.95
including	202	213	11	1.34



Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
GR-11-367	155.1	159	3.9	0.91
GR-11-368	184	205.15	21.15	1.72
including	201	205.15	4.15	7.89
GR-11-369	156	211	55	0.41
including	156	179	23	0.72
including	157	167	10	1.19
GR-11-370	139	163.5	24.5	0.57
GR-11-371	53	60	7	0.39
GR-11-373	272.5	320.6	48.1	0.47
including	272.5	278	5.5	1.71
including	314	319.2	5.2	1.7
GR-11-374	192	216	24	1.14
including	199.5	205.15	5.65	4.08
GR-11-372	116.5	182	65.5	0.28
including	116.5	120.5	4	1.34
including	142.5	145.5	3	1.94
including	181	185	4	0.83
GR-11-375	10.5	120.3	109.8	0.32
including	117	120.3	3.3	7.22
GR-11-375	173.5	177	3.5	0.98
GR-11-376	275	395	12	0.39
GR-11-377	261	349.5	88.5	0.62
including	261	267	6	1.79
including	325	331.5	6.5	3.56
including	345	349.5	4.5	1.05
GR-11-377	427.5	431	3.5	3.72
GR-11-378	29	78	49	0.47
including	22.5	29.5	7	1.75
including	75	78	3	2.2
GR-11-379	10.5	15.85	5.35	0.9
GR-11-380	8	58	50	0.63
including	10	13.5	3.5	6.95
including	54.5	58	3.5	1.11
GR-11-381	13	23	10	4.68
including	16.5	19.45	2.95	15.13
GR-11-383	25.5	33	7.5	0.67
GR-11-384	422.5	428.5	6	18.25
including	309	351	42	0.44
GR-11-385	64.5	73.5	9	0.81
GR-11-386	24	61.5	37.5	0.45
including	48	61.5	13.5	1.14
including	58.5	61.5	3	2.49
GR-11-387	22.5	32.5	10	0.31
GR-11-388	66	73.5	7.5	0.77
GR-11-389	72	167	95	0.53
including	120	148	28	1.21
including	136	148	12	2.38
including	142	148	6	4.39
GR-11-391	39	174	135	0.26
including	39	48.5	9.5	0.99
including	104	107	3	1.48
including	171	174	3	2.28
GR-11-392	343.5	346.5	3	2.19
GR-11-393	164.5	465.5	301	0.31



Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
including	164.5	167.5	3	2.52
including	273.5	278	4.5	2.1
including	296	299.5	3.5	2.05
including	318	321.8	3.8	2.81
including	427.5	433	5.5	3.62
GR-11-394	302.5	319.5	17	1.23
including	302.5	307	4.5	3.28
GR-11-394	516	519	3	2.58

## 10.2 2012 Drilling

The 2012 deep and shallow drilling program was initiated 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 (Figure 10-2Table 10-3).

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 drill hole 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 drill holes 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.

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).

The drilling started on March 5, 2012 and concluded on July 6, 2012. All the drill holes were orientated south and drilled with different ranges of dip and length (see Table 10-2 and Table 10-3 for more details). 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.





Table 10-3	Selected Intersections of Interest from 2012 Drilling (from Duplessis et al.,
	2013)

Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
DUP-12-02	607.5	610.5	3	4.15
including	607.5	609	1.5	8.23
DUP-12-02	992.5	995.5	3	4.58
including	992.5	994	1.5	9.13
DUP-12-03A	660	662.5	2.5	1.38
including	661	662.5	1.5	3.21
DUP-12-03A	906	909	3	2.07
including	906	907.5	1.5	3.58
DUP-12-03A-W1	904.5	907.5	3	0.82
including	904.5	906	1.5	1.21
DUP-12-03A-W2	660	663	3	4.12
including	661.5	663	1.5	8.12
DUP-12-03A-W2	786	789	3	2.34
including	787.5	789	1.5	4.44
DUP-12-03A-W2	814.5	817.5	3	2.04



Drill hole	From (m)	To (m)	Interval (m)	Grade (g/t Au)
including	816	817.5	1.5	3.13
DUP-12-03A-W2	906	909	3	1.4
including	907.5	909	1.5	2.5
DUP-12-03A-W2	1218	1221	3	4.11
including	1218	1219.5	1.5	8.18
DUP-12-02-W1	784.5	787.5	3	4.19
including	784.5	786	1.5	8.26
GR-12-395	72	85.5	13.5	0.64
GR-12-396	49.5	63	13.5	0.64
GR-12-397	34	42	8	0.53
GR-12-398	52.5	60	7.5	0.58
GR-12-399	129	138	9	0.83
GR-12-399	36	45	9	0.45
GR-12-400	30	115.5	85.5	0.45
including	30	31.5	1.5	6.39
including	61.5	64.5	3	3.41
including	114	115.5	1.5	2.49
GR-12-401	93	100.5	7.5	0.82
GR-12-412	15	97.5	82.5	0.58
including	15	19.5	4.5	8.39
including	94.5	97.5	3	1.46
GR-12-413	4.5	114	109.5	0.55
including	4.5	7.5	3	11.54
including	81	82.5	1.5	1.07
including	93	94.5	1.5	4.4
including	112.5	114	1.5	2.5
GR-12-414-R	7.5	36	28.5	0.92
including	7.5	9	1.5	1.75
including	12	15	3	3.26
including	16.5	19.5	3	1.69
including	28.5	36	7.5	0.94
GR-12-436	37.5	42	4.5	1.62
GR-12-436	264	267	3	4.01
GR-12-437	48	51	3	1.34
GR-12-438	10	12	2	0.57
GR-12-438	57	60	3	0.8
GR-12-438	85.5	88.5	3	1.17
GR-12-439	18	24	6	0.83



## 10.3 **2016 – 2017 Drilling**

Granada Gold 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 4,305 meters (Figure 10-3; Table 10-4). Samples taken from diamond drill holes (2,967 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 2,633m. 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 1,277m). 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 drill hole.







# Table 10-4Selected Intersections of Interest from 2016 - 2017 Drilling (from Duplessis<br/>et al., 2013)

Drill Hold	From (m)	To (m)	Interval (m)	Grade (g/t Au)
GR-16-01	197	200	3	0.50
GR-16-02 Wedge	529	533	4	0.47
GR-16-02 Wedge	556	560	4	0.26
GR-16-03	3	7	4	0.44
GR-16-03	31	42	11	0.17
GR-16-03	53	60	7	1.46
GR-16-03	65	70	5	8.82
GR-16-04	2.9	12	9.1	0.72
GR-16-04	58	73	15	0.55
GR-16-04	121	136	15	0.29
GR-16-05	56	60	4	1.06
GR-16-05	80	85	5	0.71
GR-16-05	95	99	4	0.46
GR-16-06	141	145	4	0.39
GR-16-07	24	31	7	0.32
GR-16-07	51	71	20	0.66
GR-16-07	95	105	10	0.55
GR-16-08	7	13	6	0.56
GR-16-08	33	46	13	0.58
GR-16-11	17	43	26	0.99
GR-16-11	65	68	3	0.04
GR-16-11	84	87	3	0.61
GR-16-11	92	95	3	0.76
GR-16-11	103	106	3	1.53
GR-16-11	128	134	6	0.71
GR-16-12	12	16	4	6.95
GR-16-12	20	28	8	0.41
GR-16-12	34	39	5	1.22
GR-16-12	55	61	6	0.63
GR-16-12	67	71	4	1.17
GR-16-12	83	88	5	0.34
GR-16-12	108	112	4	0.57
GR-16-12	118	121	3	1.32
GR-16-12	133	147	14	1.15
GR-16-13	71	74	3	0.54
GR-16-13	120	124	4	0.21
GR-16-13	132	138	6	0.37
GR-16-14	669	674	5	0.40



Drill Hold	From (m)	To (m)	Interval (m)	Grade (g/t Au)
GR-16-14	709	716	7	1.15
GR-16-14	766	769	3	0.45
GR-16-14	782	785	3	0.35
GR-16-14	793	796	3	0.78
GR-16-14	861	867	6	0.35
GR-16-14	873	877	4	0.39
GR-16-14	880	885	5	11.63
GR-16-14	890	893	3	0.48
GR-16-14	902	907	5	0.60
GR-16-14	915	918	3	0.54
GR-16-15	582	585	3	0.53
GR-16-15	623	626	3	0.67
GR-16-15	650	656	6	0.45
GR-16-15	661	667	6	0.51
GR-16-15	672	685	13	0.96
GR-16-15	687	692	5	0.35
GR-16-15	789.3	796	6.7	0.48
GR-16-15	826	829	3	1.97
GR-16-15	860	863	3	0.47
GR-16-15	876	882	6	0.29
GR-17-01	834	840	6	0.78
GR-17-01	845	848	3	1.42
GR-17-01	915	919	4	0.39
GR-17-01	1051	1054	3	0.61
GR-17-01	1078	1081	3	5.72
GR-17-02	494	503	9	1.24
GR-17-02	508	511	3	1.35
GR-17-02	523	527	4	0.73
GR-17-02	531	564	33	0.65
GR-17-03	285	287	2	4.31
GR-17-03	384	387	3	0.45
GR-17-03	415	418	3	1.12
GR-17-03	439	443	4	5.71
GR-17-03	463	468	5	0.51
GR-17-03	577	585	8	0.42
GR-17-03	616	619	3	0.65
GR-17-03	636	638	2	1.58
GR-17-04	24	35	11	1.42
GR-17-04	39	42	3	0.44
GR-17-04	59	65	6	1.71
GR-17-04	69	72	3	0.68

Drill Hold	From (m)	To (m)	Interval (m)	Grade (g/t Au)
GR-17-04	93	96	3	0.78

## 10.4 Core Recovery

In this project, the core recovery is excellent, typically 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

Sample preparation, analyses and security for the Project between 2009 and 2017 is described in previous technical reports on the Project by SGS and Goldminds (Duplessis et al., 2012; Duplessis et al., 2013) (Duplessis et al., 2014). This information is summarized below.

Bassically the results of the QA/QC programs to date on the Project indicate there are no significant issues with the drill core assay data. The data verification programs undertaken on the data collected from the Project support the geological interpretations, and the analytical and database quality, and therefore data can support a mineral resource estimation.

## 11.1 2009 to 2011 Drilling

During the 2009 to 2011 drill campaign, samples of NQ size core were systematically assayed for gold and occasionally for arsenic and silver with a multi-element package.

All core samples assays from the exploration programs were performed by 4 various laboratories:

- Lab-Expert in 2009-2010
- Swastika in 2010
- ALS-Chemex in 2010-2011
- Accurassay in 2010-2011.

These laboratories have facilities in Quebec, Ontario and BC; Rouyn, Swastika, Val D'Or and Vancouver. The sampling procedures included the systematic inclusion of standards and property specific blank samples.

The drill hole core samples were split in half with a rock saw with one half sent for assaying while the second half was retained as a witness sample for future geological reference or re-assaying should it be deemed necessary.

Sampling was conducted not only on core with visible evidence of mineralization, such as veins, stringers, alteration zone, but also on barren looking core to preserve the sampling continuity in between mineralized zones and to test for broad zones of lower grade material as well.

The core sampling protocol is as follows:

- The core is logged by geologist
- For mineralized intervals NQ size core, the drill core samples have a minimum core length of 30 cm and a maximum length of 1.5 m.
- Photos of the main mineralized intersections are taken using a digital camera.
- Core is split in half with a rock saw by GBB technicians at the project site.
- Half core samples retained for future references are returned to the core box along with their respective assay tag number.
- Samples are bagged at the project site and delivered by commercial courier to the lab facilities
- The sampling procedure includes the insertion of commercially prepared standards and property specific blanks collected from similar geological units, at regular intervals.



The information recorded in the drill log by the project geologist describing the core normally includes:

The from-to, depth, core length, true width, as well as observations concerning rock type, deformation, alteration, fault zones and nature of mineralization, the name of the vein if possible, and core angles. All observations are normally entered into a drill hole database management software program. All core boxes are stored outside on site. Each individual core box is identified with aluminium metallic tags

All core boxes are stored outside on site. Each individual core box is identified with aluminium metallic tags labelled by a dymo with the drill hole number. The boxes are store on core racks. The site has constant security guard.

Sample preparation and assaying procedures for 2009 through 2011 have changed. There was one standard procedure for regular samples however when visible gold was observed in core a secondary procedure was adopted which included a complete pulp metallic (screen metallic) assay on the whole sample.

Sample preparation includes the following procedures and operations; however they may not have been performed on all samples but for the majority of them:

- Log sample into the tracking system.
- Record the weight of material received from the client.
- Crush drill core samples to finer than 70% passing 2 mm.
- Split sample using a riffle splitter.
- Pulverize the split (up to 250 g) to a particle size finer than 85% passing 75 μm.

Once the sample is pulverized the following assay methods are then applied to the sample:

- Gold assays are routinely performed using fire assay (FA) with atomic absorption (AA) finish. High gold assays are automatically re-assayed using a FA with gravimetric finish.
- A multi-element geochemical package was used to determine As, Ag and others elemental concentrations.

Granada Gold implemented a Quality Assurance/Quality Control (QA/QC) program for the Granada project at the beginning of the 2009 to 2011 drill program.

It was found that it was consisting of the insertion of commercially prepared reference material.

The exact structure (list-computerized table) for the insertion of standards and blanks into the sampling sequence is not available. Regardless, the physical sample tags with: drill hole numbers, from-to depths, and unique sample number referring to the from-to depths that were used to rebuild the database independently of the QA/QC assay, they were put aside.

This being said it was possible to build a table to check QA/QC from the ALS–Chemex laboratory's internal blanks and standards data. There was apparently no failures in terms of contamination at the ALS laboratory.

Not having the target value it was difficult to judge, howeverSF 30 was likely two different reference materials and that OXL 78 standard had one failure

The sample preparation was adequate, however it appears to have changed over time to accommodate bigger amount of rock crushed and pulverized prior to splitting, which is good. As for security there is no reason to believe that tampering has occurred as per arguments of the next section and the physical



observation of gold in core at the site. The gold fire assay and screen metallic are industry standard for analysis of gold and are acceptable.

The reader should keep in mind that this property is not a green field and mining activities have taken place and previous owners had demonstrated the presence of gold in the ground.

An extensive independent sampling program has been put in place right at the beginning of the mandate in order to compensate the lack of follow-up on previous QA/QC, which also built confidence on the data for preparation of the resource estimate in the context of a nuggety gold project.

## 11.2 2009 to 2011 Drilling

One (1) sample out of every 26 was an established standard purchased from either Ore Research, Exploration or from Accurassay. The standards were inserted in a predefined sequence. Based on an analysis of the standard results, none of the standards indicated serious bias. The results of the data for the standards indicate that control has been established and there is no significant bias.

## 11.3 2013 Channel Sampling Protocol

During the 2013 channel sampling campaign, core samples were systematically assayed for gold with multielement 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.

## 11.4 **2016 to 2017 Drilling**

Several holes were drilled on the Granada property and a 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 QA/QC program consisted of controlled core & assays being conducted by Accurassay Laboratories in Rouyn-Noranda, Québec and SGS in Lakefield, Ontario.

During the drill campaign, a consistent methodology was used for the sample preparation. The core sampling protocol is described below.

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

- The geologist takes photos of dry and wet core boxes;
- The geologist matches the different pieces of the core to determine the direction of veins and faults;



- 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;
- The core is sampled over regular intervals of 1 m;
- Sample tags are placed at the beginning of each sample interval and the tag numbers are integrated within the database;
- 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);
- 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.
- 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;
- 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;

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.

## 11.4.1 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 ~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.



## 11.4.2 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, ¾ 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.

#### 11.4.3 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.

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.

A total of 127 blanks, were inserted and consist of coarse pure white quartz sand Figure 11-1. The results of assay blank samples showed that there are no anomalous values and all values are less than 0.06 ppm.



Figure 11-1 Distribution of blank samples used for the 2016 drilling campaign (ppm).



Two types of standards were used (STD1 and STD2). A total of 127 standards (66 STD1 and 58 STD2) were sent to Accurassay laboratory.

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.

All standards fall within a narrow range (Figure 11-2). As seen in Figure 11-2, two samples fall out of their respective range, but fall within the range of the other standard. It is likely the two standards were mislabelled.

Figure 11-2 Distribution of standards (Au g/t) used in the 2016 drilling campaign



A total of 196 duplicates were analyzed (Figure 11-3 to Figure 11-5). Excluding the one high grade assay, the slope of the regression line and the correlation coefficient are close to unity (Figure 11-5), indicating a good reproducibility of the results.

Figure 11-3 Distribution of Duplicates (Au g/t) used for the 2016 drilling campaign







Figure 11-4 Sample Duplicate vs. Original Assays





## 11.4.4 Fire assay versus screen metallic

A total of 1,342 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 11-6 presents the distribution of gold content according to the analyzing methods (fire assay or screen metallic) used by the laboratory. Figure 11-7 presents the variation in gold content between the screen metallic and the fire assays method.



Figure 11-6 and Figure 11-7 show 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.

## Figure 11-6 Fire assay results (FA) compared with screen metallic results taken from the same drill holes samples



Figure 11-7 Variation in gold content between the screen metallic and the fire assays methods of analysis





## 11.4.5 2017 Drilling Campaign

Granada Gold adhered to a quality control procedure, including inserting two different standards and blanks.

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 of the blanks and standards from Accurassay lab show no significant outlier and are very similar to the assay results from the 2016 assay results.



## 12 DATA VERIFICATION

The following sub-sections summarise the data verification procedures that were carried out and completed and documented by the Authors for this technical report.

As part of their verification process, the Authors reviewed all geological data and databases, past public and technical reports, and reviewed procedures and protocols as practiced by the Granada field and technical team. The Granada technical team provided all relevant data, explanations and interpretations.

In addition, as described below, the SGS team conducted its own site visit and sampling activities to better evaluate the veracity of the data. Dupéré took independent analytical checks of drill core duplicate samples taken from Granada in 2009, 2011, 2012, 2016 diamond drilling programs.

SGS conducted verification of the laboratories analytical certificates and validation of the Project digital database supplied by Granada Gold for errors or discrepancies. A minimum of 10% of the digital assay records were randomly selected and checked against the laboratory assay certificates. Verifications were carried out on drill hole locations (i.e. collar coordinates), down hole surveys, lithology, SG, trench data, and topography information. There were no errors noted in the database.

## 12.1 SGS Site Inspection and Data Verification

Mr. Dupéré personally inspected the Property on November 12, 2018, accompanied by Merouane Rachidi, Ph.D., P.Geo., consultant geologist for Granada Gold. Dupéré examined several core holes, and accompanying drill logs and assay certificates. Assays were examined against drill core mineralized zones. Dupéré inspected the offices, core logging facilities/sampling procedures and core security.

During the site visit, a total of 50 individual mineralized core duplicates were collected by Dupéré from drill holes GR-09-02, GR-11-271, GR-11-302, GR-11-302, GR-11-311, GR-12-411 and GR-16-03 for verification purposes and submitted for gold analysis at the SGS Minerals Laboratory in Lakefield, Ontario.

The 50 verification samples were collected by taking the remaining  $\frac{1}{2}$  split and sampled core from sample intervals previously sampled by Granada Gold. The verification samples were collected, bagged, labelled and transported from the Project site by Dupéré to SGS's Val d'Or's laboratory for final shipment to the SGS laboratory in Lakefield, Ontario for sample preparation and analyses. Upon receipt of the samples at the SGS Lakefield facility, all samples were weighed, dried, crushed to 75% passing through a 2-mm screen and a subsample of 250 g was pulverized to 85% passing through a 75 µm screen. All of the verification samples were analyzed for gold (50 g pulp sample) by fire assay with an AAS finish. All samples returning a value >5 g/t Au were re-analysed (50 g pulp sample) by fire assay with a gravimetric finish.

A comparison of the Granada Gold and SGS assay pair data was completed by Dupéré. Results of the comparison are presented in Table 12-1 and as bi-variate scatter plots in Figure 12-1. The data shows some scatter along the entire grade range (Figure 12-1), as would be expected in this type of deposit and suggests that coarse gold is present in this deposit.

The assay pair data shows poor to fair correlation as is the weighted average of the two intercepts is similar (Figure 12-1). Despite the scatter, Sign tests and Student T tests completed on the assay pair data set show no apparent bias. The Authors recommend Granada Gold continue periodically sending quarter split core to an umpire laboratory as part of the QA/QC program.

The Authors realize that the check assay program is limited and only represents a very small portion of the overall database (50 vs > 85,000 assays (<0.05%)). However, it is the Authors opinion that the independent check assays confirm the presence of gold mineralization on the Property.













	Sample No.		From	То	Length	Au (p	pm)	Difference	Wt. Avg.	(ppm/m)	D://	(0()
Drill Hole ID	GGM	SGS	(m)	(m)	(m)	GGM	SGS	(%)	GGM	SGS	Differen	ce (%)
GR-09-02	27049	61951	39.2	39.6	0.4	15.01	6.26	-58.3%				
GR-09-02	27052	61952	40	40.7	0.7	4.29	0.152	-96.5%				
GR-09-02	27053	61953	40.7	41	0.3	96.6	19.12	-80.2%				
GR-09-02	27054	61954	41	41.6	0.6	2.78	5.15	85.3%				
GR-09-02	27055	61955	41.6	42.6	1	0.628	0.797	26.9%				
GR-09-02	27056	61956	42.6	43.6	1	0.55	16.83	2960.0%	Length:	8.4	m	
GR-09-02	27057	61957	43.6	44.6	1	0.767	1.166	52.0%	-			
GR-09-02	27058	61958	44.6	45.1	0.5	1.71	5.264	207.8%				
GR-09-02	27059	61959	45.1	45.6	0.5	3.22	2.673	-17.0%				
GR-09-02	27060	61960	45.6	46	0.4	0.158	0.943	496.8%				
GR-09-02	27061	61961	46	47	1	0.173	3.987	2204.6%				
GR-09-02	27062	61962	47	48	1	1.51	0.89	-41.1%	16.17	4.70		-71%
GR-11-271	1023251	61963	205	206	1.5	0.028	0.029	3.6%	Length:	3	m	
GR-11-271	1023252	61964	206	207.5	1.5	23.373	0.185	-99.2%	8.80	0.11		-99%
GR-12-411	1295516	61965	46.5	48	1.5	2.876	0.558	-80.6%				
GR-12-411	1295517	61966	48	49.5	1.5	0.668	0.303	-54.6%	Length:	6	m	
GR-12-411	1295518	61967	49.5	51	1.5	0.433	0.169	-61.0%	Ū			
GR-12-411	1295519	61968	51	52.5	1.5	0.281	0.054	-80.8%	1.71	0.27		-84%
GR-11-302	1024401	61969	75.5	77	1.5	0.539	6.361	1080.1%				
GR-11-302	1024402	61970	77	78	1	2.343	18.75	700.3%				
GR-11-302	1024403	61971	78	79	1	2.242	1.057	-52.9%	Length:	8	m	
GR-11-302	1024404	61972	79	80.5	1.5	1.179	4.68	296.9%	U			
GR-11-302	1024405	61973	80.5	82	1.5	1.051	1.753	66.8%				
GR-11-302	1024406	61974	82	83.5	1.5	0.912	0.656	-28.1%	2.03	5.00		146%
GR-11-311	1074175	61975	65.5	66.5	1	13.944	29.89	114.4%				
GR-11-311	1074176	61976	66.5	67.5	1	0.725	11.13	1435.2%	Length:	7.5	m	
GR-11-311	1074177	61977	67.5	68.5	1	0.444	0.306	-31.1%	Ū			
GR-11-311	1074178	61978	68.5	69.5	1	0.042	0.073	73.8%	(excludin	g 1074182	2/61981)	
GR-11-311	1074179	61979	69.5	70.5	1	0.329	9.685	2843.8%	3.67	8.56	. ,	133%
GR-11-311	1074181	61980	70.5	71.5	1	0.535	0.276	-48.4%				
GR-11-311	1074182	61981	71.5	73	1.5	36.516	0.165	-99.5%	8.00	6.88		-14%
GR-16-03	7567	61982	53	54	1	0.018	0.063	250.0%				
GR-16-03	7568	61983	54	55	1	0.612	0.326	-46.7%				
GR-16-03	7569	61984	55	56	1	0.046	0.061	32.6%				
GR-16-03	7570	61985	56	57	1	2.101	2.068	-1.6%				
GR-16-03	7571	61986	57	58	1	2.565	1.89	-26.3%				
GR-16-03	7572	61987	58	59	1	4.823	1.445	-70.0%				
GR-16-03	7573	61988	59	60	1	0.033	0.043	30.3%				
GR-16-03	7574	61989	60	61	1	0.027	0.025	-7.4%				
GR-16-03	7575	61990	61	62	1	0.036	0.021	-41.7%				
GR-16-03	7577	61991	62	63	1	0.031	0.036	16.1%	Length:	19	m	
GR-16-03	7578	61992	63	64	1	0.037	0.024	-35.1%	Ū			
GR-16-03	7579	61993	64	65	1	0.041	0.053	29.3%				
GR-16-03	7580	61994	65	66	1	0.247	0.165	-33.2%				
GR-16-03	7581	61995	66	67	1	0.155	2.242	1346.5%	(excludin	g 7583/61	.997)	
GR-16-03	7582	61996	67	68	1	0.028	0.047	67.9%	1.58	0.46	,	-71%
GR-16-03	7583	61997	68	69	1	43.578	0.059	-99.9%				
GR-16-03	7584	61998	69	70	1	0.086	0.124	44.2%				
GR-16-03	7585	61999	70	71	1	0.037	0.03	-18.9%				
GR-16-03	7586	62000	71	72	1	0.092	0.073	-20.7%	3.87	0.46		-88%

Table 12-1	Independent Check Sample Statistics
	independent check Sample Statistic



## 12.2 Conclusion

All geological data has been reviewed and verified by Authors as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. There were no errors or issues identified with the database. Armitage and Dupéré are of the opinion that the database is of sufficient quality to be used for the current resource estimate.

## 13 MINERAL PROCESSING AND METALLURGICAL TESTING

The following description of Mineral Processing and Metallurgical Testing for the Property has been extracted from previous technical reports.

## 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 drill holes 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, a number of composite samples were discarded from the SGS Lakefield met tests.

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 Gravity Separation

For the gravity testwork, each composite sample was ground in a laboratory rod mill to a target of P80 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%.

## 13.1.2 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%.

## 13.2 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.

## 13.2.1 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.



## 13.2.2 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.

## 13.2.3 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.

## 13.2.4 Heavy Liquid Separation

Two samples (-¼" +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 ( $-\frac{1}{4}$ " + 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.

## 13.2.5 Metallurgical Testing

The original testwork program included dense media separation (DMS) testwork on the -¼" +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 Granada Gold 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 Granada Gold decided not to pursue the flotation and cyanidation testwork.



## 13.3 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 Granada Gold 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.

## 13.3.1 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.

## 13.3.2 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.

## 13.3.3 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 0.35 g/t was attributed to the residual material from the dense media separation test. This represented approximately 96% of the test mass.

## 13.3.4 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.

## 13.3.5 Flotation

Coarse flotation completed on the Falcon tails at P100 = 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 P100 = 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.



## 13.3.6 Cyanidation

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

#### 13.3.7 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%.

#### 13.4 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 were completed 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.

#### 13.4.1 Head Analysis

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

Samples	Au	Au-Dup	Ag	Ag-Dup
	g/t	g/t	g/t	g/t
S-1	0.72	0.69	0.6	0.5
S-2	0.69		0.2	
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 13-1Head analysis results


### 13.4.2 ICP aAnalysis in Head Sample

The ICP analysis returned the following results:

Table 13-2	ICP analysis in head sample results
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Granada	Conc	entratior	1						
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

#### 13.4.3 Acid-Generating Tests

The acid generating test returned the following results:

Table 13-5 Acid Generaling Test Results	Table 13-3	Acid Generating Test Results
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Granada	St Ssulpt		S <sub>sulfur</sub>	AP	Ct	NP	NNP	NP/AP	Potential
Ore	%	%	%	CaCO₃	%	CaCO₃	CaCO₃		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

#### 13.4.4 Ore-Specific Gravity

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

#### 13.4.5 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.

#### 13.4.6 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 13-4.

- Overall gold recovery: 96.5%
- Free gold (gravity recovery): 41.0%

#### 13.4.7 Chemical Consumption

• NaCN : 0.25 kg/t



• Ca(OH)2 : 1.74 kg/t

#### 13.4.8 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 13-5.

	Mass	Mass	Grade	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

Table 13-4Gravity cyanidation test results

Table 13-5	Settling tests results
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Test	Flocculent Dosage Percol E10	% solid initial	% solid final	Thickener Unit area m²/tpd	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

#### 13.4.9 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 SO2-Air method. As usual for lab testing, the SO2 was substituted by sodium metabisulfite (Na2S2O5).

Principal parameters as well as cyanide destruction results are given in Table 13-6.

#### 13.4.10 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.

Results are summarized in Table 13-7.

- Overall gold recovery: 96.8%
- Free gold (gravity recovery): 15.1%



• NaCN consumption = 0.18 kg NaCN / mt of ore

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

			Ret	Reagents addition							
Test	Description	time		Na₂S₂O₅ kg/t	CuSO₄. 5H₂O kg/t	Ca(OH)₂ kg/t	рН	CNd	CNt	As	Cu
	pH 8.5 SO <sub>2</sub> /CNd	Before CN dest.						267	264	0.33	25.44
1	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	Before CN dest.						267	264	0.33	25.44
2 6.73 103 ppm Cu addition	103 ppm Cu addition	After CN dest.	2	4.18	0.6	1.49	8.5	0.06	0.63	80.0	0.19
	pH 8.5 SO <sub>2</sub> /CNd	Before CN dest.						267	264	0.33	25.44
3 5.17 26 ppm C addition	26 ppm Cu addition	After CN dest.	2	3.21	0.2	0.83	8.5	21.58	25.29	0.11	26.63
4	рН 8.5 SO2/9.07	Before CN dest.						267	264	0.33	25.44
	130 ppm Cu addition	After CN dest.	2	5.63	0.8	2.00	8.5	0.12	0.43	80.0	0.19

## Table 13-6 Cyanide destruction test results

<b>Fable 13-7</b>	Gravity Cyanidation duplicate results
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	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



### 13.5 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 (Granada Gold) 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.

### 13.6 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.



## 14 MINERAL RESOURCE ESTIMATE

#### 14.1 Introduction

Completion of the current updated Mineral Resource Estimate involved the assessment of a drill hole database, which included all data for drilling completed through early 2017, an updated three-dimensional (3D) grade-controlled wireframe model, revised pit optimization parameters, evaluation of the underground resource potential, review of the classification of the mineral resource estimate (Measured, Indicated and Inferred) and review of available written reports.

Inverse Distance Squared ("ID<sup>2</sup>") restricted to a grade-controlled wireframe model was used to Interpolate gold grades (g/t Au) into a block model. Indicated and Inferred mineral resources are reported in the summary tables in Section 14-10. The Mineral Resource Estimate takes into consideration that the current Deposit will be mined by open pit mining methods.

#### 14.2 **Drill hole Database**

In order to complete an updated Mineral Resource Estimate for the Deposit, a database comprising a series of comma delimited spreadsheets containing drill hole and channel information was provided by Granada Gold. The database included diamond drill hole and channel location information (NAD83 / UTM Zone 17), survey data, assay data, and lithology data. The data was then imported into GEOVIA GEMS version 6.8.1 software ("GEMS") for statistical analysis, block modeling and resource estimation. After an initial evaluation of the database, a number of drill holes were removed that were completed outside the Deposit area. As a result, the current Mineral Resource Estimate does not include all drill holes completed on the Project.

Drill holes completed in 1989 were removed due to the lack of assay data available from these drill holes (17 drill holes representing 1,595 m). Drill holes completed in the Deposit area in 2018 are not included as assay data was not available as of the effective date of the current report.

The database used for the current Mineral Resource Estimate comprises data for 873 surface drill holes totaling 116,863 metres and 42 channels totaling 354 metres completed in the Deposit area between 1990 and 2017. The database totals 79,752 drill core assay samples representing 99,896 metres of drilling and 349 channel assay samples representing 354 metres of trenching.

The database was checked for typographical errors in drill hole locations, down hole surveys, lithology, assay values and supporting information on source of assay values. Overlaps and gapping in survey, lithology and assay values in intervals were checked.



## 14.3 **Topography**

Granada Gold provided SGS with a three-dimensional (3D) surface topography model, in DXF format, and a 3D DXF surface model representing the top of bedrock. The topography surface was created from Lidar (Light Detection and Ranging) data merged with data from an open-pit (areas of bulk sampling) bottom survey conducted in 2012 (Figure 14-1; Figure 14-2). The overburden lithologic units within the drill hole logs were used to construct the bedrock surface model. The surface topography and bedrock surface models will be used to exclude resource blocks, or portions of resource blocks, that extend above the bedrock surface or the base of the existing open pit surfaces.

# Figure 14-1 Plan View of the Granada Deposit Area Showing the Topographic Surface Including Areas of Bulk Sampling





# Figure 14-2 Isometric View Looking Northeast of the Granada Deposit Area Showing the Topographic Surface Including Areas of Bulk Sampling



## 14.4 Mineral Resource Modelling and Wireframing

In addition to the digital drill hole and channel database, Granada Gold provided SGS with a preliminary three-dimensional (3D), grade-controlled wireframe model representing the Deposit, in DXF format.

The Deposit grade-controlled wireframe model was imported into GEMS, reviewed and revised by SGS to reflect a gold mineralization corridor consisting of relatively consistent gold grades (down hole) above 0.1 to 0.2 g/t Au (Figure 14-3 to Figure 14-6). The 3D grade controlled model was built by visually interpreting mineralized intercepts from cross sections. Polygons of mineral intersections (snapped to drill holes) were made on each cross section and these were wireframed together to create a continuous resource wireframe model in GEMS.

Polygons of mineral intersections were constructed on 25 m spaced sections (60 sections looking westnorthwest) with a 12.5 m sectional influence. The sections were created perpendicular to the general strike of the mineralization and the spacing of the modeling was conducted based on the general spacing of the drill holes and channels. The models were extended 25 m beyond the last known intersection along strike. Although several deep drill holes indicate gold mineralization extends at depth, the model was limited to a maximum depth of approximately 530 m below surface. SGS is of the opinion that the deeper holes are too far of a stepdown (400 - 500 m)and are too widely spaced (200 - 300 m) to include is an Inferred resource at this time. SGS is of the opinion that mineralization at these depths would be mined by underground mining methods and would need to be of sufficient grade to meet the requirements of having "reasonable prospects for eventual economic extraction".

The modeling exercise provided a broad control of the dominant mineralizing direction. The Deposit gradecontrolled wireframe model extends in an east-west direction (280°) for a strike length of approximately 1,415 m, dips moderately to the north (45°) and extends to a maximum depth of 530 m. The model has



been clipped to the bedrock surface model. The total volume of the grade-controlled wireframe model is 127,139,863 m3.





Figure 14-4 Plan View Showing the Distribution of Trenches, and Granada Deposit Model





# Figure 14-5 Isometric View Looking South-southeast Showing the Distribution of the Drill holes, and the Granada Deposit Model



# Figure 14-6 Isometric View Looking North-northwest Showing the Distribution of the Drill holes, and the Granada Deposit Model





### 14.5 **Compositing**

The assay sample database available for the revised resource modelling totalled 80,663 representing 100,809 m of drilling and channel sampling. Of these, 53,824 assays from 845 drill holes and 42 channels occur within the Granada deposit mineral domain. A statistical analysis of the assay data from within the mineralized domains is presented in (Table 14-1). Average length of the assay sample intervals is 1.21 m, within a range of 0.05 metres to 6.49 metres. Of the total assay population approximately 93 % are 1.50 m or less with approximately 7% of the samples greater than 1.50 m in length (Figure 14-7; Figure 14-8). To minimize the dilution and over smoothing due to compositing, a composite length of 1.50 m was chosen as an appropriate composite length for the resource estimation.

Composites were generated starting from the collar of each drill hole. Un-assayed intervals were given a value of 0.0005 Au. Composites were then constrained to the grade-controlled wireframe model. The constrained composites were extracted to a point file for statistical analysis and capping studies. The constrained composites were grouped based on the mineral domain (rock code) of the constraining wireframe model.

A total of 46,351 composite sample points occur within the resource grade-controlled model (Table 14-2). These values were used to interpolate gold grade into resource blocks.



# Table 14-1Statistical Analysis of the Drill Core and Channel Assay Data from Within the<br/>Granada Deposit Mineral Domain

Variable	Drill Core	Channels
Total DDH/Channens	845	42
Total # Assay Samples	53,475	349
Average Sample Length	1.21 m	1.01 m
Minimum and Maximum Length	0.05 to 6.49 m	0.5 to 1.6 m
Total Sample Length	64,891	354 m
Minimum Grade	0.00 g/t	0.00 g/t
Maximum Grade	1,115.3 g/t	32.5 g/t
Mean	0.64 g/t	0.36 g/t
Median	0.07 g/t	0.04 g/t
Variance	58.6	4.25
Standard Deviation	7.65 g/t	2.06 g/t
Coefficient of variation	11.9	5.81
97.5 Percentile	3.80 g/t	2.54 g/t

# Figure 14-7 Sample Length Histogram for Assay Samples from Within the Granada Deposit Mineral Domain





# Figure 14-8 Assay Sample Length versus Assay Value of Samples from Within the Granada Deposit Mineral Domain



# Table 14-2 Summary of the 1.5 metre Composite Data Constrained by the Granada Grade-controlled Wireframe Model (Drill hole and Channel Samples)

Variable	Gold		
Total # of Composites	46,351		
Average Composite Length	1.50 m		
Minimum value	0.0005 g/t		
Maximum value	383 g/t		
Mean	0.44 g/t		
Median	0.07 g/t		
Variance	8.99		
Standard Deviation	3.00 g/t		
Coefficient of variation	6.88		
97.5 Percentile	2.80 g/t		

#### 14.6 Grade Capping

A statistical analysis of the composite database within the Granada wireframe model (the "resource" population) was conducted to investigate the presence of high grade outliers which can have a disproportionately large influence on the average grade of a mineral deposit. High grade outliers in the composite data were investigated using statistical data (Table 14-2), histogram plots, and cumulative probability plots of the 1.50 m composite data. The statistical analysis was completed using GEMS.



After review, it is the Author's opinion that capping of high grade composites to limit their influence during the grade estimation is necessary. As a result, composites are capped at a value of 32.5 g/t gold. A summary of the results of the capping of the composites is presented in Table 14-3. A total of 35 composite samples were capped. The capped gold composites were used for grade interpolation into the Granada deposit block model.

Domain	Total # of Composites	Capping Value Au (g/t)	# of Capped Composites	Mean of Raw Composites	Mean of Capped Composites	CoV of Raw Composites	CoV of Capped Composites
Granada	46,351	32.5	32	0.44	0.41	8.99	4.02

### Table 14-3 Gold Grade Capping Summary by Vein Domain

## 14.7 **Specific Gravity**

Specific gravity (SG) measurement information for the Granada deposit mineralization is very limited. Previous technical reports indicate historical SG measurements ranging from 2.91 g/cm<sup>3</sup> to 3.10 g/cm<sup>3</sup>. It has been reported that independent density measurements previously taken by SGS range from 2.68 g/cm<sup>3</sup> to 2.90 g/cm<sup>3</sup> with a mean of 2.80 g/cm<sup>3</sup>. Additional measurements taken in 2012 have lowered the average to 2.70 g/cm<sup>3</sup>. No density data database was available for the current study.

Seventeen (17) individual core samples were collected for metallurgical test work in 2013 (SGS Lakefield Testwork - Project 14041-001 March – April 2013) (see section 13.xxx above) and 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 average specific gravity of the Granada deposit which was found to be 2.78 g/cm<sup>3</sup>. An additional 8 samples were collected for metallurgical tests by Unité De Recherche Et De Service En Technologie Minérale (URSTM) (September to October 2013). Specific gravity measurements of each sample was evaluated by the pycnometer method and was found to be 2.78 g/cm<sup>3</sup>. Based on the results of the SG measurements from the metallurgical testwork done on the Granada mineralization, a fixed SG of 2.78 is used to calculate the tonnage of the Granada resource. Based on the lack of data, an SG of 2.78 is also used for the waste rock.

SGs strongly recommend that additional SG measurements be collected on mineralized and unmineralized rocks from various locations throughout the deposit area.

### 14.8 Block Model Parameters

The Deposit grade-controlled wireframe model was used to constrain composite values chosen for interpolation, and the mineral blocks reported in the estimate of the mineral resource. A block model within NAD83 / UTM Zone 17 (Table 14-4) space (no rotation) (Figure 14-9) with block dimensions of 5 x 5 x 5 m in the x (east), y (north) and z (level) directions was placed over the wireframe model with only that portion of each block inside the shell recorded (as a percentage of the block) as part of the Mineral Resource Estimate (% Block Model). The block size was selected based on borehole spacing, composite assay length, the geometry of the vein structures, and the selected mining method (Open Pit). At the scale of the Deposit this provides a reasonable block size for discerning grade distribution, while still being large enough not to mislead when looking at higher cut-off grade distribution within the model. The model was intersected with a bedrock surface and surface topography to exclude blocks, or portions of blocks, that extend above the bedrock surface.



## Table 14-4 Deposit Block Model Geometry

Madel Neme	UH Deposit					
Model Name	X (North)	Y (East)	Z (Level)			
Origin (NAD83 / UTM Zone 17)	64600	5337600	340			
Extent	340	230	120			
Block Size	5	5	5			
Rotation (counter clockwise)		0°				

## Figure 14-9 Isometric View Looking South-southeast Showing the Granada Deposit Model, Mineral Resource Block Model and Pass 2 Search Ellipse



## 14.9 Grade Interpolation

A 3D semi-variography analysis of mineralized points within the wireframe model was completed using GEMS. The analysis did not determine a search ellipse of sufficient quality to be used for geostatistical grade estimation (Ordinary Kriging). A search ellipse for the Deposit wireframe model was interpreted based on drill hole (Data) spacing, and orientation and size of the resource wireframe model (Table 14-5). The search ellipse axes are generally oriented to reflect the observed preferential long axis (geological trend) of the vein structures and the observed trend of the mineralization down dip.

Grades for Au (g/t) were interpolated into blocks by the Inverse Distance squared (ID<sup>2</sup>) grade interpolation method. Three passes were used to interpolate grade into all of the blocks in the Deposit wireframe model (Table 14-5). For Pass 1 the search ellipse size (in metres) for all vein domains was set at 30 x 30 x 7.5 in the X, Y, Z direction; for Pass 2 the search ellipse size for each domain was set at 60 x 60 x 15; for Pass 3 the search ellipse size was set at 100 x 100 x 15. Blocks were classified as Indicated if they were populated



with grade during Pass 1 and Pass 2 of the interpolation procedure. The Pass 3 search ellipse size was set to assure the majority of the remaining blocks within the wireframe were assigned a gold grade. These blocks were classified as Inferred.

Grades were interpolated into blocks using a minimum of 8 and maximum of 12 composites to generate block grades during Pass 1 and Pass 2 (maximum of 3 composites per drill hole), and a minimum of 5 and maximum of 12 composites to generate block grades during pass 3 (maximum of 3 composites per drill hole) (Table 14-5).

	Granada				
Parameter	Pass 1 Pass 2		Pass 3		
	Indicated	Indicated	Inferred		
Search Type		Ellipsoid			
Principle Azimuth		10°			
Principle Dip	-47°				
Intermediate Azimuth	100°				
Anisotropy X	30	60	100		
Anisotropy Y	30	60	100		
Anisotropy Z	7.5 15		15		
Min. Samples	8 8		5		
Max. Samples	12	12	12		
Max. Samples per Hole/Trenche	3	3	3		

### Table 14-5Grade Interpolation Parameters by Vein Domain

### 14.10 Mineral Resource Classification Parameters

The Mineral Resource Estimate presented in this Technical Report was prepared and disclosed in compliance with all current disclosure requirements for mineral resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classification of the current Mineral Resource Estimate into Indicated and Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, including the critical requirement that all mineral resources "have reasonable prospects for eventual economic extraction".

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

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

Interpretation of the word 'eventual' in this context may vary depending on the commodity or mineral involved. For example, for some coal, iron, potash deposits and other bulk minerals or commodities, it may be reasonable to envisage 'eventual economic extraction' as covering time periods in excess of 50 years. However, for many gold deposits, application of the concept would normally be restricted to perhaps 10 to 15 years, and frequently to much shorter periods of time.



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

#### Indicated Mineral Resource

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

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

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

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource Estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions

#### Inferred Mineral Resource

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

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

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.

### 14.11 Mineral Resource Statement

The general requirement that all mineral resources have "reasonable prospects for economic extraction" implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account extraction scenarios and processing recoveries. In order to meet this requirement, The Authors consider that the Granada deposit mineralization is amenable for open pit extraction.



In order to determine the quantities of material offering "reasonable prospects for eventual economic extraction" by an open pit, Whittle<sup>™</sup> pit optimization software and reasonable mining assumptions and metal recovery assumptions are used to evaluate the proportions of the block model that could be "reasonably expected" to be mined from an open pit were used. The pit optimization was completed by SGS. The pit optimization parameters used are summarized in Table 14-6. Based on SGS's experience with open pit exploration projects and mining operations, The Authors consider the assumptions listed in Table 14-6 to be appropriate reporting assumptions for the purposes of the current report.

A Whittle pit shell at a revenue factor of 1.0 was selected as the ultimate pit shell for the purposes of the current Mineral Resource Estimate (Figure 14-9; Figure 14-10). The corresponding strip ratio is 8.35:1.

The reader is cautioned that the results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cut-off grade.

The 2019 Mineral Resource Estimate for the Granada deposit is presented in Table 14-7 (Figure 14-10 and Figure 14-11). Highlights of the Granada deposit Mineral Resource Estimate are as follows:

• The open pit mineral resource includes, at a base case cut-off grade of 0.4 g/t Au, 762,000 ounces of gold (22.3 million tonnes at an average grade of 1.06 g/t Au) in the Measured and Indicated category, and 455,000 ounces of gold (6.9 million tonnes at an average grade of 2.04 g/t Au) in the Inferred category.

Parameter	Value	<u>Unit</u>			
Gold Price	\$1300	US\$ per ounce			
Exchange Rate	0.76				
Assumed Mining and Processing Costs	5				
Pit Slope	50	Degrees			
Mining Cost	\$2.20	US\$ per tonne mined			
Processing Cost (incl. crushing)	\$12.00	US\$ per tonne milled			
General and Administrative	\$2.50	US\$ tonne of feed			
Assumed Metal Recoveries					
Gold Recovery	95	Percent (%)			
Mining loss / Dilution	5 / 5	Percent (%) / Percent (%)			

#### Table 14-6 Whittle<sup>™</sup> Pit Optimization Parameters



Category	Tonnes	Grade (g/t Au)	Contained Au (oz)	
Measured	12,637,000	1.02	413,000	
Indicated	9,630,000	1.13	349,000	
Measured & Indicated	22,267,000	1.06	762,000	
Inferred	6.930.000	2.04	455.000	

### Table 14-7Granada Deposit 2019 Mineral Resource Estimate, January 24, 2019

(1) CIM (2014) definitions were followed for Mineral Resources.

(2) Mineral resources which are not mineral reserves do not have demonstrated economic viability. An Inferred Mineral Resource has a lower level of confidence than that applying to a Measured and Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

(3) All figures are rounded to reflect the relative accuracy of the estimate. Composites have been capped where appropriate.

(4) Open pit mineral resources are reported at a cut-off grade of 0.4 g/t Au within a conceptual pit shell. Cut-off grades are based on a gold price of US\$1,300 per ounce, a foreign exchange rate of US\$0.76, and a gold recovery of 95%.

(5) A fixed specific gravity value of 2.78 was used to estimate the tonnage from block model volumes.

(6) The results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cut-off grade.

(7) Mineral Resources are exclusive of material that has been mined.



# Figure 14-10 Isometric View Looking South-southeast showing the distribution of Granada Deposit Mineral Resource Blocks by Grade, and the Whittle Pit



Figure 14-11 Isometric View Looking South-southeast showing the distribution of the Granada Deposit Mineral Resource Blocks by Resource Category, and the Whittle Pit





### 14.12 Model Validation and Sensitivity Analysis

The total volume of the Granada deposit resource blocks in the grade-controlled wireframe model at a 0.0 g/t Au cut-off grade value compared well to the total volume of the Granada deposit grade-controlled wireframe model (Table 14-8). Visual checks of block gold grades against the composite data on vertical section showed good correlation between block grades and drill intersections.

A comparison of the average gold composite grade with the average gold grade of all the Au blocks in the block model, at a 0.0 g/t Au cut-off grade was completed and is presented in Table 14-9. The block model average grade (in-pit) is approximately 13% lower than the average capped composite grade likely as a result of smoothing during grade interpolation.

For comparison purposes, additional grade interpolation models were generated using the inverse distance cubed (ID3) and nearest neighbour (NN) interpolation methods. The results of these models are compared to the ID2 model at various cut-off grades in a series of grade/tonnage graphs shown in Figure 14-12. In general the ID2 and ID3 models show similar results and both are more conservative and smoother than the NN model. For models which are well-constrained by wireframes and well-sampled (close spacing of data), ID2 yields very similar results to other interpolation methods such as ID3 or Ordinary Kriging.



# Table 14-8Comparison of Block Model Volume with Total Volume of the GranadaGrade-Controlled Wireframe Model

Deposit	Total Model Volume	Block Model Volume	Difference %	
Granada Deposit	127,139,863	127,140,092	0.00%	

### Table 14-9 Comparison of Average Composite Grades with Block Model Grades

Deposit Variable		Total	AU (g/t)
Granada Deposit	Composites	46,351	0.44
	Composites Capped	46,351	0.41
	Composites Capped in-pit	35,577	0.47
	Total Blocks	1,079,320	0.32
Total Blocks in-pit		819,704	0.41

# Figure 14-12 Comparison of Inverse Distance Cubed ("ID<sup>3</sup>"), Inverse Distance Squared ("ID<sup>2</sup>") & Nearest Neighbour ("NN") Models for the In-Pit Mineral Resource



#### 14.12.1 Sensitivity to Cut-off Grade

The Granada Deposit mineral resource has been estimated at a range of cut-off grades presented in Table 14-10 to demonstrate the sensitivity of the resource to cut-off grades. The current mineral resource is reported at a base case cut-off grade of 0.4 g/t Au within the conceptual pit shells.

Open Pit <sup>(1)</sup>									
	Measured			Indicated			Inferred		
Cut-off Au g/t	Tonnes	Au (g/t)	Contained Au (oz)	Tonnes	Au (g/t)	Contained Au (oz)	Tonnes	Au (g/t)	Contained Au (oz)
0.3	16,499,000	0.86	456,000	13,114,000	0.92	388,000	9,075,000	1.64	479,000
<u>0.4</u>	<u>12,637,000</u>	<u>1.02</u>	<u>413,000</u>	<u>9,630,000</u>	<u>1.13</u>	<u>349,000</u>	<u>6,930,000</u>	<u>2.04</u>	<u>455,000</u>
0.5	10,061,000	1.16	376,000	7,482,000	1.32	318,000	5,576,000	2.43	436,000
0.6	8,218,000	1.30	344,000	6,025,000	1.51	293,000	4,672,000	2.80	420,000
0.7	6,844,000	1.43	315,000	4,985,000	1.69	271,000	3,984,000	3.17	406,000
1.0	4,222,000	1.80	245,000	3,067,000	2.23	220,000	2,862,000	4.08	376,000

 Table 14-10
 Granada Deposit Mineral Resource at Various Gold Cut-off Grades

(1) Open pit mineral resources are reported at a base case cut-off grade of 0.4 g/t Au within a conceptual pit shell. Values in this table reported above and below the base case cut-off grade should not be misconstrued with a Mineral Resource Statement. The values are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade. All values are rounded to reflect the relative accuracy of the estimate and numbers may not add due to rounding.

(2) All figures are rounded to reflect the relative accuracy of the estimate. Composites have been capped where appropriate.

(3) Mineral Resources are exclusive of material that has been mined.



#### 14.12.2 Sensitivity to Metal Price

A price sensitivity analysis was prepared using a downside scenario gold price of US\$1,200/oz as well as an upside scenario at US\$1,400/oz. Whittle<sup>™</sup> pit optimization was completed using the same optimization parameters as for the current Mineral Resource Estimate except for changing the gold price. The results of the sensitivity analysis are presented in Table 14-11. Table 14-11 and Figure 14-13 demonstrate that the Granada deposit in-pit Mineral Resource Estimate is not sensitive to a ± US\$100 change in gold price.

# Table 14-11In-PitMineralResourcesEstimatedatUS\$1,200/oz,US\$1,300/ozandUS\$1,400/ozGold Price and Reported at a base case 0.4 g/tAu Cut-offGrade

Gold Price		Gold <sup>(1)</sup>						
US\$/oz	Tonnes	Grade (g/t)	Ozs					
Measured								
\$1,200	12,163000	1.03	402,000					
\$1,300	12,637,000	1.02	413,000					
\$1,400	12,916,000	1.01	419,000					
	Indicated							
\$1,200	7,984,000	1.10	281,000					
\$1,300	9,630,000	1.13	349,000					
\$1,400	10,220,000	1.11	363,000					
Inferred								
\$1,200	6,178,000	2.08	413,000					
\$1,300	6,930,000	2.04	455,000					
\$1,400	7,048,000	2.04	462,000					

(1) Open pit mineral resources are reported at a base case cut-off grade of 0.4 g/t Au within the conceptual pit shells. The base case cut-off grades are based on a gold price of US \$1,300 per ounce, Values in this table reported at a gold price of US \$1,200 and US \$1,400 are provided as an upside and down side scenario for in-pit resources without changing cut-off grade or other parameters. These values should not be misconstrued as a current Mineral Resource Statement.

(2) Mineral Resources are exclusive of material that has been mined.





# Figure 14-13 Comparison of the In-Pit Granada Deposit Mineral Resource Estimate at Varied Gold Price

## 14.13 Comparison to Previous Mineral Resource Estimate

1.5

2.0

1.0

0

0.0

0.5

A comparison of the current Granada deposit Mineral Resource Estimate (open pit) to previous Mineral Resource Estimates is presented in Table 14-12. The current Mineral Resource Estimate compares well with the 2013 resource estimate when looking at the total of the Measured, Indicated and Inferred resources.

2.5

Cut-off Grade (Au g/t)

3.0

3.5

4.0

4.5

SGS is of the opinion that the current Mineral Resource Estimate is based on much improved and stringent 3D mineral resource wire frame modeling, a better understanding of the deposit derived from significant increases in drilling density and the belief that the Granada deposit, based on deposit size and grade distribution, will be mined by open pit methods.



0.00

5.0

Voor	Gold Price Cut-off Grade		Tennes <sup>(1)</sup>	Au (g/t)				
real	Cdn \$/oz	(Au g/t)	Tonnes	Grade	Ozs			
Measured								
2012	1,300	0.40	2,902,000	1.02	95,300			
2013	1,450	0.36	24,992,000	1.01	811,300			
2014	1,450	1.69	152,500	4.64	22,700			
2019	1,710	0.40	12,637,000	1.02	413,000			
		Inc	dicated					
2012	1,300	0.40	12,490,000	1.08	435,600			
2013	1,450	0.36	9,336,000	1.18	354,600			
2014	1,450	1.69	369,700	5.52	65,600			
2019	1,710	0.40	9,630,000	1.13	349,000			
	•	Measure	d + Indicated					
2012	1,300	0.40	15,392,000	1.07	530,900			
2013	1,450	0.36	34,328,900	1.06	1,166,000			
2014	1,450	1.69	522,200	5.26	88,300			
2019	1,710	0.40	22,267,000	1.06	762,000			
Inferred								
2012	1,300	0.40	3,403,000	1.24	135,600			
2013	1,450	0.36	449,800	0.77	11,100			
2014	1,450	1.69	21,000	5.57	3,800			
2019	1,710	0.40	6,930,000	2.04	455,000			

# Table 14-12Comparison of Previous In-Pit Granada Deposit Mineral Resource Estimatesto the Current Resource Estimates

(1) Current open pit mineral resources are reported at a base case cut-off grade of 0.40 g/t Au within a conceptual pit shell

## 14.14 Disclosure

All relevant data and information regarding the Project are included in other sections of this Technical Report. There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading.

The Authors are not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the Mineral Resource Estimate.

# 15 MINERAL RESERVE ESTIMATES

There are no current Mineral Reserve estimates stated on this Property. This section does not apply to the Technical Report.



# **16 MINING METHODS**



# **17 RECOVERY METHODS**



# **18 PROJECT INFRASTRUCTURE**



# **19 MARKET STUDIES AND CONTRACTS**



# 20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT



# 21 CAPITAL AND OPERATING COSTS



# 22 ECONOMIC ANALYSIS



## 23 ADJACENT PROPERTIES

The Property lies in an area of active exploration and development. Several mining companies are active including Yorbeau Resources Inc. ("Yorbeau") located directly north of the Granada Gold Property. The information presented regarding the Rouyn Property of Yorbeau has been publicly disclosed by Yorbeau on their website www.yorbeauresources.com.

The Authors have been unable to verify the information from the Rouyn Property, and the information is not necessarily indicative of the mineralization on the Granada Gold Property.

There is no other information on properties adjacent to the Granada Gold Property necessary to make the technical report understandable and not misleading.

#### 23.1 Yorbeau Resources Inc. - Rouyn Property

The Rouyn Property is located in Canada's well-known Abitibi Greenstone Belt ("Abitibi"), a 2.5 billion year old sequence of volcanic, sedimentary and granitic rocks that stretches 700 km from northeastern Ontario into northwestern Quebec (www.yorbeauresources.com). Since the early 1900s, this belt has produced almost 200 million ounces of gold from world-class mines such as the McIntyre (29 million ounces), Kerr-Addison (11 million ounces), Sigma-Lamaque (11 million ounces), Lakeshore (8 million ounces) and numerous others. The Abitibi Greenstone Belt also hosts many base-metal deposits with high gold content, such as the historic Horne mine, which in addition to copper also produced more than 10 million ounces of gold.

One characteristic of gold deposits in the Abitibi is that they tend to be located near major fault zones, which acted as conduits along which gold-bearing solutions traveled before forming deposits in nearby geological structures. The Cadillac-Larder Lake Break is one such major fault zone. It extends more than 250 km east-west from west of Kirkland Lake, Ontario to east of Val-d'Or, Quebec and has yielded more than 100 million ounces of gold from mines such as Lakeshore, Macassa, Kerr-Addison, Doyon, Bousquet, LaRonde, East-Malartic, Kiena and Sigma-Lamaque.

The Rouyn Property covers a 12-kilometre stretch of the Cadillac-Larder Lake Break (Figure 23-1). It consists of one mining concession and 94 claims, and covers a total area of nearly 2,700 ha (www.yorbeauresources.com).

The Rouyn Property is a mere 4 km south of Rouyn-Noranda, Quebec. With a long history of mining, the city of Rouyn-Noranda offers many advantages for mining exploration, including political and social stability, good access and infrastructure, skilled mining personnel, and one of the most mining-friendly jurisdictions in the world.

Because of its large size, the property has been subdivided into seven major "Blocks" (from west to east): Augmitto, Cinderella, Durbar, Lake Gamble, Wright-Rouyn, Astoria and Lake Bouzan.

Mineral Resource estimates, compliant to NI-43-101 regulations, have been completed for two distinct deposits, namely the Astoria and Augmitto deposits (www.yorbeauresources.com).

Mineral Resource estimates for the Augmitto project (cut-off: 3.4 g/t Au) includes Measured and Indicated Resources totalling 247,000 t at 6.08 g/t Au containing 48,300 gold ounces. Inferred Resources total 633,000 t at 7.79 g/t Au for 158,800 gold ounces.

Mineral Resource estimates for the Astoria project (cut-off: 3.0 g/t Au) includes Measured + Indicated Resources totalling 1,429,564 t at 5.18 g/t Au containing 238,084 gold ounces. Inferred Resources total 302,597 t at 5.40 g/t Au for 52,536 gold ounces.



## Figure 23-1 Location of the Augmitto and Astoria Gold Deposits of Yorbeau Resources Inc. (Yorbeau Resources Inc. website, January 2, 2019)





## 24 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information available that is necessary to make the current technical report understandable and not misleading. To SGSs' knowledge, there are no significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information or Mineral Resource estimate.


#### 25 INTERPRETATION AND CONCLUSIONS

SGS was contracted by Granada Gold to complete a Mineral Resource estimate for the Granada deposit Granada Gold Property, located approximately 5 km south of the historic mining community of Rouyn-Noranda, Quebec, Canada, and to prepare a technical report written in support of the Mineral Resource Estimate. The reporting of the updated Mineral Resource estimate complies with all disclosure requirements for Mineral Resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classification of the updated Mineral Resource is consistent with current CIM Definition Standards - For Mineral Resources and Mineral Reserves (2014).

Completion of the current Mineral Resource Estimate involved the assessment of a drill hole database, which included all data for drilling completed through early 2017, an updated three-dimensional (3D) gradecontrolled wireframe model, revised pit optimization parameters, evaluation of the underground resource potential, review of the classification of the mineral resource estimate (Measured, Indicated and Inferred) and review of available written reports.

Inverse Distance Squared ("ID2") restricted to a grade-controlled wireframe model was used to Interpolate gold grades (g/t Au) into a block model. The Mineral Resource Estimate takes into consideration that the current Deposit will be mined by open pit mining methods.

The 2019 Mineral Resource Estimate for the Granada deposit is presented in Table 14-7 (Figure 14-10 and Figure 14-11). Highlights of the Granada deposit Mineral Resource Estimate are as follows:

• The open pit mineral resource includes, at a base case cut-off grade of 0.4 g/t Au, 762,000 ounces of gold 22.3 million tonnes at an average grade of 1.06 g/t Au) in the Measured and Indicated category, and 455,000 ounces of gold (6.9 million tonnes at an average grade of 2.04 g/t Au) in the Inferred category.

In order to determine the quantities of material offering "reasonable prospects for eventual economic extraction" by an open pit, Whittle<sup>™</sup> pit optimization software and reasonable mining assumptions and metal recovery assumptions are used to evaluate the proportions of the block model that could be "reasonably expected" to be mined from an open pit were used. The pit optimization was completed by SGS. The pit optimization parameters used are summarized in Table 14-6. Based on SGS's experience with open pit exploration projects and mining operations, The Authors consider the assumptions listed in Table 14-6 to be appropriate reporting assumptions for the purposes of the current report.

A Whittle pit shell at a revenue factor of 1.0 was selected as the ultimate pit shell for the purposes of the current Mineral Resource Estimate (Figure 14-10; Figure 14-11). The corresponding strip ratio is 8.35:1.

The reader is cautioned that the results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cut-off grade.

All geological data has been reviewed and verified by Authors as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. There were no errors or issues identified with the database. Armitage and Dupéré are of the opinion that the database is of sufficient quality to be used for the current resource estimate.

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or



marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.

#### 25.1 Risks and Opportunities

Approximately 36% of the contained metal at the reported cut-off grades for open pit current Mineral Resource is in the Inferred Mineral Resource classification. The Inferred Resource is based on limited information and although it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated or Measured Mineral Resources with infill drilling, it is not guaranteed.

There is an opportunity on the Project to extend known mineralization at depth and along strike on the Property. Granada Gold's intentions are to direct their exploration efforts towards resource growth in 2019 with a focus on extending the limits of known mineralization and testing other targets on the greater land package. Granada Gold will continue to drill the Deposit with a focus on extending the known limits of the Deposit.



#### 26 RECOMMENDATIONS

The Authors consider that the Granada deposit contains a significant open pit Mineral Resource that is associated with a well-defined gold mineralized trend and model. The current Mineral Resource Estimate has shown that the Deposit can likely be mined by conventional open pit mining method. Deeper drilling recently completed also demonstrates that the Property has the potential for an underground resource.

The Authors consider the Property to have significant potential for delineation of additional Mineral Resources and that further exploration is warranted. Granada Gold's intentions are to continue to drill the Deposit in 2019 and plan to direct their exploration efforts towards resource growth (in-pit and underground), with a focus on extending the limits of known mineralization along strike and at depth, as well as infill drill the existing deposit in order to convert portions of Inferred mineral resources into Indicated or Measured.

Given the prospective nature of the Property, it is the Author's opinion that the Property merits further exploration and that a proposed plan for further work are justified. A proposed work program by SGS will help advance the Deposit towards a pre-development stage and will provide key inputs required to evaluate the economic viability of a mining project (open pit and underground) at a pre-feasibility level.

SGS is recommending Granada Gold conduct further exploration, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves. For 2019, a total of 45,000 metres of drilling is proposed to continue to focus on expanding and extending mineral resources, upgrading existing Inferred resources as well as exploring the Deposit at depth.

The total cost of the recommended work program is estimated at C\$10,625,000 million (Table 26-1).

Item	Cost in Cdn\$
Resource Expansion Drilling and Resource Classification improvement 2019 (Open Pit; <500 m depth) 15,000 m	\$2,250,000
Resource Identification Drilling (Underground; > 500 m depth) drilling 20,000 to 30,000 m	\$6,000,000
Assays/Geochemistry	\$1,400,000
Additional Metallurgical Testing	\$250,000
Continued geotechnical studies for improved pit optimization parameters	\$150,000
Environmental Baseline Studies	\$150,000
Updated Resource Estimate	\$75,000
Preliminary Economic Assessment and Related Studies	\$350,000
Total:	\$10.625.000

#### Table 26-1 Recommended 2019 Work Program for the Granada Deposit



### 27 REFERENCES

- NI 43-101 Technical Report for the Granada Mine Property, Rouyn Township, Quebec, and Report prepared for Consolidated Big Valley Resources Inc., October 2006. Robinson, D., 2006.
- NI 43-101 Technical Report, Granada gold project resource estimate, Rouyn-Noranda, Québec, and Report prepared for Gold Bullion Development Corp., April 2<sup>nd</sup>, 2012. SGS Canada Inc.: Claude Duplessis, Gilbert Rousseau, Karina Sarabia, and Jonathan Gagné, 2012:
- NI 43-101 Technical Report, Preliminary Economic Assessment (PEA) Granada Gold Project, Rouyn-Noranda, Québec, and Report prepared for Gold Bullion Development Corp., February 4<sup>th</sup> 2013. SGS Canada Inc.: Claude Duplessis, Gilbert Rousseau, Gaston Gagnon, and Jonathan Gagné, 2013.
- NI 43-101 Technical Report Prefeasability Study (PFS) Phase 1 Open Pit Granada Gold Project Rouyn Noranda, Québec, and Report prepared for Gold Bullion Development Corp., June 19<sup>th</sup>, 2014. SGS Canada – GoldMinds Geoservices - Roche: Claude Duplessis, Gilbert Rousseau, Jonathan Gagné, and Martin Stapinsky, 2014



## 28 DATE AND SIGNATURE PAGE

This report titled "TECHNICAL REPORT ON THE GRANADA GOLD PROJECT MINERAL RESOURCE ESTIMATE ROUYN-NORANDA, QUEBEC, CANADA" dated February 13, 2019 (the "Technical Report") for Granada Gold Mines Inc. was prepared and signed by the following authors:

The effective date of the report is November 11, 2018. The date of the report is February 13, 2019.

Signed by:

Qualified Persons Allan Armitage, Ph.D., P. Geo., Maxime Dupéré, B.Sc., geo. February 13, 2019 Company SGS Canada Inc. ("SGS") SGS Canada Inc. ("SGS")



# 29 CERTIFICATES OF QUALIFIED PERSONS



# **QP CERTIFICATE – ALLAN ARMITAGE**

To accompany the report entitled: Technical Report on the Granada Gold Project Mineral Resource Estimate Rouyn-Noranda, Quebec, Canada, dated February 13, 2019 and with an effective date of November 11, 2018.

I, Allan E. Armitage, Ph. D., P. Geol. of 62 River Front Way, Fredericton, New Brunswick, hereby certify that:

- 1. I am a Senior Resource Geologist with SGS Canada Inc., 10 de la Seigneurie E blvd., Unit 203 Blainville, QC, Canada, J7C 3V5 (www.geostat.com).
- 2. I am a graduate of Acadia University having obtained the degree of Bachelor of Science Honours in Geology in 1989, a graduate of Laurentian University having obtained the degree of Masters of Science in Geology in 1992 and a graduate of the University of Western Ontario having obtained a Doctor of Philosophy in Geology in 1998.
- 3. I have been employed as a geologist for every field season (May October) from 1987 to 1996. I have been continuously employed as a geologist since March of 1997.
- 4. I have been involved in mineral exploration and resource modeling for gold, silver, copper, lead, zinc, nickel, and uranium in Canada, United States, Mexico, Honduras, Chile, Cuba and Peru at the grass roots to advanced exploration stage since 1991, including resource estimation since 2006.
- 5. I am a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta and use the title of Professional Geologist (P.Geol.) (License No. 64456; 1999).
- 6. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia and use the designation (P.Geo.) (Licence No. 38144; 2012).
- 7. I am a member of The Association of Professional Geoscientists of Ontario (APGO) and use the designation (P.Geo.) (Licence No. 2829; 2017).
- 8. I have read the definition of qualified person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of National Instrument 43-101.
- 9. I am an author of this report and responsible for sections 1, 2 to 8, 13, 14, 23, 24, 25 and 26. I have reviewed these sections and accept professional responsibility for these sections of this technical report.
- 10. I have not personally inspected the subject property.
- 11. I have had no prior involvement with the subject property
- 12. I am independent of Granada Gold Mine Inc. as defined in Section 1.5 of National Instrument 43-101.
- 13. As at the effective date of the technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
- 14. I have read National Instrument 43-101, Form 43-101F1 and confirm that this technical report has been prepared in accordance therewith.



Signed and dated this 13<sup>th</sup> day of February 2019 at Fredericton, New Brunswick.

"Original Signed and Sealed"

Allan Armitage, Ph. D., P. Geo., SGS Canada Inc.



# **QP CERTIFICATE – MAXIME DUPÉRÉ**

To accompany the report entitled: Technical Report on the Granada Gold Project Mineral Resource Estimate Rouyn-Noranda, Quebec, Canada, dated February 13, 2019 and with an effective date of November 11, 2018.

I, Maxime Dupéré, P. Geo., Quebec, do hereby certify that:

- 1. I am a geologist with SGS Canada Inc, Geostat, with an office at 10 Boul. de la Seigneurie Est, Suite 203, Blainville Quebec Canada, J7C 3V5.
- 2. I am a graduate from the Université de Montréal, Québec in 1999 with a B.Sc. in geology;
- 3. I am a member in good standing of the Ordre des Géologues du Québec (#501, 2006),
- 4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of Manitoba and use the title of Professional Geologist (P.Geo.) (Certificate No. 43252; 2018).
- 5. I have practiced my profession continuously since 2001. I have 17 years of experience in mining exploration in diamonds, gold, silver, base metals, and Iron Ore. I have prepared and made several mineral resource estimations for different exploration projects including lithium at different stages of exploration. I am aware of the different methods of estimation and the geostatistics applied to metallic, non-metallic and industrial mineral projects.
- I have read the definition of "qualified person" set out in the National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be an independent qualified person for the purposes of NI 43-101;
- 7. I am an author of this report and responsible for the Items 9, 10, 11 and 12 of the Technical Report.
- 8. I visited the property site on November 15, 2018.
- 9. I have had no prior involvement with the subject property
- 10. I am independent of Granada Gold Mine Inc. as defined in Section 1.5 of National Instrument 43-101.
- 11. I have no personal knowledge as of the date of this certificate of any material fact or change, which is not reflected in this Report;
- 12. Neither I, nor any affiliated entity of mine, is at present, under an agreement, arrangement or understanding or expects to become, an insider, associate, affiliated entity or employee of Granada Gold Mine Inc, or any associated or affiliated entities;
- 13. Neither I, nor any affiliated entity of mine, own, directly or indirectly, nor expect to receive, any interest in the properties or securities of Granada Gold Mine Inc., or any associated or affiliated companies;
- 14. I have read NI 43-101 and Form 43-101F1 and have prepared corresponding items of the Technical Report in compliance with NI 43-101 and Form 43-101F1; and have prepared the corresponding items of the report in conformity with generally accepted Canadian mining industry practice, and as of the date of the certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 13<sup>th</sup> day of February 2019 at Blainville, Québec.

"Original Signed and Sealed"

Maxime Dupéré, géo., SGS Canada Inc – Geostat

