



**MINE DEVELOPMENT ASSOCIATES**  
MINE ENGINEERING SERVICES

**TECHNICAL REPORT AND ESTIMATED RESOURCES FOR THE  
LAS MINAS PROJECT,  
VERACRUZ, MEXICO**



Submitted to:



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### Appendix A Tabulation of Las Minas Project Drill Holes

*Frontispiece: magnetite-chalcopyrite mineralized skarn from the El Dorado zone at a depth of 133.6 – 136.0 meters, drill hole LM-17-ED-40.*



## **MINE DEVELOPMENT ASSOCIATES**

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### **1.0 SUMMARY**

Mine Development Associates (“MDA”) has prepared this independent technical report on the Las Minas project, located in Veracruz State, Mexico, at the request of Mexican Gold Corporation (“Mexican Gold” or the “Company”). Mexican Gold is a Canadian reporting issuer listed on the TSX Venture Exchange (“TSX-V”) and the Company’s corporate office is in Vancouver, Canada. Mexican Gold is involved in the acquisition, exploration, and development of precious and base metal properties in the Americas and Las Minas is one of their primary projects.

The purpose of this report is to provide a technical summary and updated mineral resource estimate for the Las Minas project. This report and the resource estimates have been prepared in accordance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators’ National Instrument 43-101 (“NI 43-101”), Companion Policy 43-101CP, and Form 43-101F1, as well as with the Canadian Institute of Mining, Metallurgy and Petroleum’s “CIM Definition Standards - For Mineral Resources and Reserves, Definitions and Guidelines” (“CIM Standards”) adopted by the CIM Council on May 10, 2014.

### **1.1 Property Description and Ownership**

The Las Minas property consists of six mining concessions that cover approximately 1,616 ha located in central Veracruz State, Mexico, approximately 160 km northwest of the city of Veracruz and 250 km east of Mexico City. The project area is located within and surrounding the village of Las Minas in the municipalities of Las Minas and Tatatila. The project has an approximate geographic center at 19° 41’ 28” N latitude and 97° 08’ 46” W longitude.

The mining concessions are valid for 50 years from the date titled and can be renewed for another 50 years. All of the concessions are owned by Mexican Gold with five of the concessions, including the two concessions containing the current mineral resource, subject to a 1.5% net smelter return (“NSR”) royalty for production. The title opinion provided by Mexican Gold represents that all mining concession fees have been paid and legally required annual proof of mining investments and work have been filed with the appropriate agency as of the Effective Date of this report. Several agreements are in place with individual land owners to grant surface access for exploration.

Historic mining in the area has left numerous underground workings and there has been small-scale surface mining associated with the underground workings. None of the workings exhibit drainage and only minor evidence of tailings or dumps are present.

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Mexican Gold has had an exploration permit issued by the federal agency Secretaria de Medio Ambiente y Recursos Naturales (“SEMARNAT”) in place since November 2018. This permit, which allows for 25,000 m of drilling, expires in three years from the date of issuance, and covers all exploration-related activities at the project.

The author is not aware of any significant factors and risks that may affect access, title or the right or ability to perform work on the property.

## **1.2 Exploration and Mining History**

The Tatatila – Las Minas region is one of the oldest recognized mining regions in the state of Veracruz. Initial mining activities for gold date back to pre-Colonial times and were continued by the Spaniards. European interests employing stamp mills and a concentrating table conducted operations in the late 1800s to early 1900s, prior to the Mexican Revolution. It was during this time that most of the historical workings within the current Las Minas resource area, along with workings within many of the current exploration targets, were constructed. Following the Mexican Revolution, some small-scale extraction of gold and copper occurred with high-grade ore being shipped to San Luis Potosi, New York, and Europe.

More recent activity includes an evaluation in the 1970s by the federal Consejo de Recursos Minerales (“CRM”) which is now the Servicio Geológico Mexicano (“SGM”). This program included geologic mapping and sampling. In 1996, concessions were acquired by International Northair who also conducted a surface and underground sampling program. Results from surface and underground workings confirmed gold-copper mineralization over a wide area. International Northair formed a joint venture in 1996 with Battle Mountain Gold (“BMG”) to explore the property. BMG subsequently terminated their participation in the project.

In 2006, Bell Resources acquired an option on properties in the Las Minas area and subsequently optioned them to Chesapeake Gold (“Chesapeake”) in 2007. Chesapeake undertook an extensive sampling program which showed several areas are anomalous in gold and copper, including the Las Minas area. Chesapeake consolidated additional ground in the area via staking and purchasing a small mineralized area from the CRM. Apparently, neither Chesapeake nor Bell Resources ever controlled the core of Las Minas district, having never optioned the principal claims, although their sampling covered it.

In 2010, Mexican Gold (then called Source Exploration Corp.) leased the three claims that make up the principal part of the Las Minas project. Several other claims located peripheral to these were subsequently acquired. Mexican Gold initiated sampling in 2010 and their first drilling campaign was carried out in 2011. Prior to this, no known drilling has occurred in the resource area.

In 2017, Mexican Gold commissioned the first, and no longer current, mineral resource estimate for the project. Gold, copper, and silver resources within the El Dorado and Santa Cruz zones were estimated with inverse distance cubed ( $ID^3$ ) methods for potential open pit and underground mining scenarios using gold equivalent (“AuEq”) cut-off grades of 0.46g AuEq/t and 1.6g AuEq/t, respectively. The reported open pit resources were constrained within an economic pit shell while the underground resources were those resources outside the pit shell. Metal prices used for this were \$1,250/ounce gold, \$2.85/lb copper, and \$16.75/ounce silver. Total Measured and Indicated resources were



4,970,000 tonnes at an average grade of 1.9g AuEq/t, for 304,000 gold equivalent ounces. Total Inferred resources were 10,304,000 tonnes at an average grade of 2.17g AuEq/t, for 719,000 gold equivalent ounces. The 2017 estimate is relevant only for historical completeness, is not considered current, and has been superseded by the current mineral resources described in this report.

### **1.3 Geology and Mineralization**

The Las Minas project is located in southeastern Mexico within the eastern portion of the Trans Mexico Volcanic Belt (“TMVB”), an east-west belt of Miocene to recent volcanic rocks that transects the country from the Pacific coast to the Gulf of Mexico. The pre-Miocene basement in the Las Minas region consists of a sequence of Jurassic and Cretaceous marine sedimentary rocks including sandstone, siltstone, limestone and shale. These have been intruded by Tertiary and Mesozoic plutonic rocks mapped as dominantly granodiorite and porphyritic dacite, with lesser amounts of granite, diorite and tonalite.

The units exposed in and surrounding Mexican Gold’s concessions are: (1) Cretaceous limestone; (2) Miocene-age diorite intrusions, and (3) Quaternary dacitic to rhyolitic pyroclastic rocks. These units are cut by northeast-striking normal faults. The intrusion(s) exhibits a roughly circular outcrop pattern approximately 10 km in diameter surrounding Las Minas. The intrusions within the Las Minas property have been interpreted as the upper exposed portion of a batholith though it should be noted that the geometry at depth is largely unknown because most drill holes end in the intrusion. It has been suggested that the intrusion may represent a large sill as the upper contact is mostly planar and parallel with the overlying sedimentary sequence.

Copper and gold mineralization have been recognized in three settings within the Las Minas property: proximal skarn, distal skarn and quartz veins. Proximal-type skarn is the dominant skarn alteration observed within the Las Minas resource zones (El Dorado and Santa Cruz) while distal and gold-bearing quartz veins occur in the exploration targets to the east and north of the Las Minas resources.

Proximal skarn developed along marble-diorite contacts, both as exoskarn developed within the sedimentary rock, and as endoskarn developed within the intrusion. The skarn alteration has a typical zoning of marble-exoskarn-endoskarn-diorite. The distinction between exoskarn and endoskarn can be very difficult because the skarn alteration (especially garnet replacement) can be texturally destructive.

Proximal skarn alteration is dominantly garnet-rich with lesser amounts of pyroxene, and locally garnet appears to have replaced pyroxene. The skarn contains variable amounts of magnetite and lesser sulfide minerals. At least some magnetite is usually present and can range from several percent of the rock to massive black metallic magnetite containing lesser calc-silicate minerals. Within the Las Minas resource zones, chalcopyrite is the dominant sulfide mineral with lesser amounts of bornite and pyrite. Sulfide grains usually are associated with magnetite and are present as relatively coarse-grained disseminations while sulfide blebs, bands, and veinlets cutting magnetite are also observed. Pyrite occurs as an accessory mineral in the main resource area, but is locally abundant in some of the peripheral skarn occurrences in the district, such as Cinco Senores and Las Minillas.

Distal skarn, such as seen at Changarro, is highly variable in character consisting of massive sulfides and/or massive magnetite in stockworks, pipes, and replacement pods within the variably marbled limestone.



A low-temperature hematite-jasperoid-calcite distal alteration type is also present in which all of the textures are hydrothermal and there is no evidence of a direct genetic relationship with any of the diorite dikes observed in the mineralized zones.

There are also narrow gold-bearing veins, which are found primarily at Pueblo Nuevo, have widths ranging from 0.2 m to 0.8 m, strike generally within 10 degrees of north-south, and have near-vertical dips. Veins with significant gold values persist over >1.5 km of strike and >650 m of elevation within a 600 m wide deformation zone, though the veining and deformation may actually be much more extensive. Vein gangue material is almost exclusively quartz, and gold is associated with pyrite that forms <5% of the vein fill, and with highly variable quantities of iron-rich sphalerite, galena and minor copper and silver minerals. These veins are prominent in both undeformed dioritic rocks and in the overlying greywacke-quartzite and sheared limestone.

Outcrops of mineralized skarn were obvious to early explorers and were the locus of historical activity at the Juan Bran mine area, on the west side of the Rio Las Minas canyon, and at the El Dorado mine on the east side of the canyon. Both historical mine areas are marked by shallow adits and surface excavations worked along the canyon bottom though greater production appears to have come from the El Dorado workings.

The El Dorado mineral zone had previously been considered a single contiguous, sub-horizontal skarn that extends to the south into the sub-surface under the rising canyon topography south of the Las Minas pueblo. The recent drilling by Mexican Gold indicates that the El Dorado zone occurs as two horizons that are separated by a barren north-northwest trending, 100 m to 150 m wide, diorite dike(?). The current modeling indicates that the El Dorado skarn zone on the west side of the diorite dike has an 800 m northwest strike length, extends up to 450 m to the southwest away from the diorite dike, is on average 15 to 20 m thick, and can reach over 50 m in thickness along the northwest-striking contact with the diorite dike. In contrast, the El Dorado zone on the east side of the dike has a strike length of 250 m northwest, extends up to 200 m to the northeast from the diorite dike, and is 5 to 10 m in thickness.

The highest metal grades are often within the skarn just below the marble-skarn contact. This contact can be very sharp with often a <0.1-meter transition from weakly mineralized marble to high-grade skarn. The lower mineral contact is more gradational as the skarn alteration decreases into the weakly altered intrusion. The intrusive contact is sub-parallel to the observed remnant bedding in the overlying marble which indicates that the intrusive contact might represent the upper contact of a thick sill.

The more significant drill intercepts within the Las Minas resource area occur where the El Dorado skarn forms an east-dipping “keel” that extends into the diorite along the west side of the dike. Where the dike extends up into the carbonate section, the dike-skarn contacts can be highly variable due to local sill-like intrusions that extend out along gently east-dipping bedding planes. The result is an interlayering of marble, skarn and intrusions more than 100 m in thickness.

Extending away from the diorite dike to the west and east, the mineralized skarn becomes generally thinner, but is technically still open, especially to the west. However, the mineralization becomes progressively deeper in these directions under the steeply rising canyon topography making exploration by surface drilling increasingly expensive. The El Dorado mineralization is also open to the northwest.



The Santa Cruz zone lies about 0.5 km south of the Las Minas pueblo and is well exposed on a west-facing canyon wall just above a tributary of the Rio Las Minas. Skarn within the Santa Cruz zone lies along the west side of the dike, immediately to the south of and stratigraphically higher than the El Dorado zone. The primarily east-dipping mineralization at Santa Cruz is more complex and discontinuous than observed at El Dorado due to the more variable intrusive-marble contact orientations (both near-vertical dike and east-dipping sills).

The Santa Cruz zone has a 200-meter northwest strike length, extends up to 200 m downdip to the northeast from the topographic surface, and can be up to 50 m thick though thickness is highly variable and often consists of stacked sequences of mineralized skarn. Occasional skarn intervals >100 m in thickness have been intersected, though this would include some intervals of dike and marble. Both exoskarn and endoskarn are interlayered with generally <5 m intervals of intrusion or marble.

#### **1.4 Project Database**

The Las Minas project data is in UTM WGS84 metric coordinates and the database contains records for a total of 25,977 m of diamond-core drilling in 181 holes in the Las Minas property. Of this total, 149 drill holes are within the resource areas and contribute to the geologic models and grade estimates. Mexican Gold, and its predecessor company Source Exploration, have completed all of the known drilling on the Las Minas property. Drill-hole depths are 150 m on average, but depths increase on the periphery of the resource areas where the sub-horizontal mineralization extends to greater drill depths, laterally, beneath the steep canyon walls.

#### **1.5 Metallurgical Testing and Mineral Processing**

Preliminary metallurgical testing of the Las Minas skarn mineralization was conducted by ALS Metallurgy of Kamloops, British Columbia, Canada in 2015 using fifty-nine kilograms of half-core material designated as the El Dorado (“ED”) composite. The principal scope of this metallurgical test program was to:

- Assess the chemical and mineralogical characteristics of the skarn mineralization;
- Complete a Bond abrasion and a Bond ball mill work index test;
- Complete Davis tube magnetic separation tests; and
- Evaluate metallurgical performance of the composite by completing preliminary flowsheet development testing.

The testing indicated basic flotation processing resulted in metal recoveries of 95% for copper, 88% for gold, and 84% for silver. There were also indications that magnetic separation had the potential to produce a saleable, high-grade magnetic concentrate. ALS recommended:

- Further optimization of the flotation circuit;
- Detailed magnetic separation testing on the rougher tails to determine viability of producing saleable iron concentrate; and



- Testing of samples from across the deposit to determine possible variations in metallurgical performance.

## 1.6 Mineral Resource Estimate

The estimated mineral resources occur within the Las Minas gold-copper-silver skarn deposit, which consists of the El Dorado and Santa Cruz zones. These zones, though spatially distinct, have similar geological and mineralogical characteristics and would potentially be developed using the same mine and processing infrastructure. All modeling of the Las Minas resources was performed using Geovia<sup>®</sup> mining software.

The drill-hole information, including geology, metal grades, and the topographic surface were plotted on a set of N30W-looking cross sections. The cross-sections are spaced at 25 m and 12.5 m intervals and cover the full 1,000 m strike length of the Las Minas mineralization. Using information from surface mapping, geologic logs, core photos, and geochemical data, sectional interpretations (2D polygons) were created of the deposit lithologies, including overburden, limestone (primarily marble), pre- and syn-mineral intrusions, post-mineral intrusions, and magnetite-rich skarn rock types. The default rock type in the cross-sectional geology model is the magnetite-poor garnet-pyroxene skarn, which was not modeled explicitly. This rock type includes both exoskarn and endoskarn, because in most cases distinguishing the parent lithology was not possible.

The mineral resources at Las Minas were modeled by evaluating the drill data statistically, utilizing geologic interpretations to construct mineral domains on N30W-looking vertical cross sections, and rectifying the mineral domains on 3.0 m spaced long sections. The mineral domain model is based on calculated gold equivalent (“AuEq”) sample values. The initial statistical analysis of the drill data indicated a close relationship between the three metals, especially the two dominant metals, gold and copper, such that there would be insignificant differences between the separate mineral models and the AuEq model.

The mineral domains were then used to code the block model, and assays within the modeled domains were evaluated geostatistically to establish estimation parameters. This was followed by estimating gold, copper, and silver grades into a three-dimensional, 3.0 m by 3.0 m by 3.0 m block model.

The volume inside each mineral domain was estimated using only composites from inside that domain. The final block-diluted metal grade assigned to each model block is a volume-weighted average based on the proportion of each domain within the block.

The density values used in the current resource estimate are based on 1,637 density measurements collected by Mexican Gold from drill core in the Las Minas resource area. The density values used in the model are 1.8 g/cm<sup>3</sup> for overburden, 2.75 g/cm<sup>3</sup> for limestone and intrusions, 3.2 g/cm<sup>3</sup> for skarn, and 3.8 g/cm<sup>3</sup> for magnetite skarn. As with the assay data, the density assigned to each model block is a volume-weighted average based on the percentage of each lithology within the block.

Grade estimation used inverse distance to the third power (“ID<sup>3</sup>”) to interpolate grades into the domains, ordinary kriging and nearest neighbor estimates were also made as checks on the ID<sup>3</sup> estimate. To aid in determining search distances classification criteria for each deposit, variograms for gold and copper were made in numerous orientations and at various lag lengths.



The main El Dorado zone was modeled having a sub-horizontal orientation reflective of the generally flat-lying, basal marble-intrusion contact. The Santa Cruz and the northwest portion of the El Dorado zone are located along the west side of the diorite dike and mineralization in these areas occurs along northeast-dipping intrusion-marble contacts.

The Las Minas resources are restricted to the Indicated and Inferred classification. Table 1.1 shows the total reported mineral resources. The stated resources are fully diluted to 3 m cubed blocks and are tabulated on a gold-equivalent (“AuEq”) cutoff grade of 1.5g AuEq/t. The Las Minas resources are based on potential exploitation by underground mining methods.

**Table 1.1 Las Minas Project Mineral Resources**  
(cutoff grade of 1.5g AuEq/t)

Class	Tonnes	g Au/t	oz Au	g Ag/t	oz Ag	% Cu	lbs Cu	g AuEq/t	oz AuEq
Indicated	5,457,000	1.782	313,000	6.5	1,148,000	1.250	150,319,000	3.674	645,000
Inferred	2,514,000	1.252	101,000	5.5	446,000	0.938	51,965,000	2.679	217,000

Note: rounding may cause apparent inconsistencies

The principal risk with the resource estimate is continuity of mineralization within the skarn zones. The drilling to-date suggests good continuity and just minor complexity within the El Dorado zone. The drilling can be fairly widely spaced (>30 m) within these zones, and it is possible that with more closely-spaced drilling, increased local complexity might be apparent, such as seen at Santa Cruz. None of these risks are high enough to preclude classifying portions of the Las Minas deposit as Indicated mineral resources.

## 1.7 Conclusions and Recommendations

The Las Minas resource block model reflects the proximal skarn mineralization as interpreted for the El Dorado and Santa Cruz zones. Mineralization in all zones occurs within pervasive garnet-pyroxene exoskarn and endoskarn alteration along marble-diorite contacts. The potentially economic mineralization is associated with magnetite-rich horizons containing disseminated chalcopyrite and minor bornite. It is believed that the current mineral resource model and estimate is a reasonable portrayal of the Las Minas skarn deposit and can be used in future economic analyses.

The estimated resources are open to the south, northwest, and east at El Dorado. The Santa Cruz zone is limited in growth due to the increased presence of generally unaltered intrusion to the south and at depth. Further drilling at Las Minas could result in the conversion of Inferred resources to Indicated resources, and also contribute to expanding the current resources. There is the potential for Measured resources if further infill drilling provides confidence in local skarn continuity within the El Dorado zone. Underground development with detailed sampling could also lead to Measured resources.

The Las Minas project is a project of merit and warrants additional exploration and development work. The recommended work would include core drilling, along with further geochemical and geophysical analyses, plus additional metallurgical testing and an environmental baseline study. More accurate



topography is also needed and a LiDAR survey should be completed over the project area before any significant future development is begun. The recommended work totals approximately \$1.1 million.

Continued core drilling is recommended in order to:

- Upgrade and expand the current resources;
- Provide material for additional metallurgical and geotechnical testing; and
- Increase the project-wide resources by defining additional mineralized skarn zones, such as at the Cinco Senores, Las Minillas, Los Boquillas, and Changarro targets, and the high-grade vein systems at Pueblo Nuevo; and
- Evaluate the potential for skarn mineralization *beneath* the intrusion within the concessions as a whole.

A program of approximately 6,000 m of core drilling is recommended to complete the above tasks. Total costs for the drill program would be approximately \$720,000.

The proposed drilling would provide samples for the proposed metallurgical testing. Costs for the metallurgical testing would be approximately \$80,000.

An environmental baseline study is also recommended for Las Minas. Total costs for the study would be approximately \$85,000.

The recommended LiDAR topographic survey would cost approximately \$65,000.

Upon drilling completion and positive drill, metallurgical, and environmental baseline study results, an updated mineral resource estimate and a preliminary economic assessment (“PEA”) is recommended. The estimated cost for the resource update and PEA, including the accompanying technical reports, is approximately \$150,000.



## **2.0 INTRODUCTION AND TERMS OF REFERENCE**

Mine Development Associates (“MDA”) has prepared this independent technical report on the Las Minas project, located in Veracruz, Mexico, at the request of Mexican Gold Corporation (“Mexican Gold”). Mexican Gold is a Canadian reporting issuer based in Vancouver, British Columbia, and is listed on the TSX Venture Exchange (TSX-V:MEX).

This report has been prepared in accordance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators’ National Instrument 43-101 (“NI 43-101”), Companion Policy 43-101CP, and Form 43-101F1, as well as with the Canadian Institute of Mining, Metallurgy and Petroleum’s “CIM Definition Standards - For Mineral Resources and Reserves, Definitions and Guidelines” (“CIM Standards”) adopted by the CIM Council on May 10, 2014.

### **2.1 Project Scope and Terms of Reference**

The purpose of this report is to provide a technical summary and updated resource estimate for the Las Minas project. The mineral resources were estimated and classified under the supervision of Mr. Paul Tietz, Senior Geologist for MDA. Mr. Tietz is a qualified person under NI 43-101 and has no affiliations with Mexican Gold except that of independent consultant/client relationship. The mineral resources reported herein are estimated to the standards and requirements stipulated in NI 43-101.

The scope of this study included a review of pertinent technical reports and data provided to MDA by Mexican Gold relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, drilling programs, and metallurgy. The author has fully relied on the data and information provided by Mexican Gold for the completion of this report, including the supporting data for the estimation of the mineral resources.

Mr. Tietz visited the Las Minas project on April 2 through April 4, 2019. The site visit included an update on the project status in the Las Minas office, a review of project procedures, including drilling, sampling, and quality assurance/ quality control methods, and a field tour focused on the geology and drilling results within the two primary mineralized zones: El Dorado and Santa Cruz. Field verification of the historical drilling was also conducted.

This report supersedes a previous technical report issued by Mexican Gold and authored by Read, J.J., and Shoemaker S.J., titled, “*NI 43-101 Technical Report Mineral Resource Estimate Las Minas Gold-Copper Project*” dated September 13, 2017 (the “2017 technical report”). The 2017 technical report has been used as a primary source for much of the project history, geology, and prior exploration and drilling activities discussed in this report.

Previous reports had used the name “El Dorado/Juan Bran” when referring to the sub-horizontal skarn mineralization extending south from the historical Juan Bran and El Dorado mine areas. Mexican Gold has chosen to use “El Dorado” as the mineral zone name and this terminology will be used throughout this technical report. The use of “Juan Bran” will refer to only the historical mine area.

Mr. Tietz has relied almost entirely on data and information derived from work done by Mexican Gold and its predecessor operators of the Las Minas project. The author has reviewed much of the available



data and made a site visit, and has made judgments about the general reliability of the underlying data. Where deemed either inadequate or unreliable, the data were either eliminated from use or procedures were modified to account for lack of confidence in that specific information. The author has made such independent investigations as deemed necessary in his professional judgment to be able to reasonably present the conclusions discussed herein.

The Las Minas project data is in UTM WGS84 Zone 14 coordinates.

The Effective Date of this technical report is September 12, 2019. The database used in the resource estimate was finalized June 19, 2019. The final review of the mineral resource estimate was completed September 12, 2019.

## **2.2 Frequently Used Acronyms, Abbreviations, Definitions, and Units of Measure**

In this report, measurements are generally reported in metric units. Where information was originally reported in Imperial units, MDA has made the conversions as shown below.

Currency, units of measure, and conversion factors used in this report include:

### **Linear Measure**

1 centimeter = 0.3937 inch

1 meter = 3.2808 feet = 1.0936 yard

1 kilometer = 0.6214 mile

### **Area Measure**

1 hectare = 2.471 acres = 0.0039 square mile

### **Capacity Measure (liquid)**

1 liter = 0.2642 US gallons

### **Weight**

1 tonne = 1.1023 short tons = 2,205 pounds

1 kilogram = 2.205 pounds

**Currency** Unless otherwise indicated, all references to dollars (\$) in this report refer to currency of the United States.



**Frequently used acronyms and abbreviations**

AA	atomic absorption spectrometry
Ag	silver
Au	gold
cm	centimeters
core	diamond core-drilling method
Cu	copper
°C	degrees centigrade
°F	degrees Fahrenheit
g/t	grams per tonne
ha	hectares
ICP	inductively coupled plasma analytical method
kg	kilograms
km	kilometers
l	liter
lbs	pounds
µm	micron
m	meters
Ma	million years old
mm	millimeters
NSR	net smelter return
oz	ounce
ppm	parts per million
ppb	parts per billion
QA/QC	quality assurance and quality control
RC	reverse-circulation drilling method
RQD	rock-quality designation
t	metric tonne or tonnes



### **3.0 RELIANCE ON OTHER EXPERTS**

The author is not an expert in legal matters, such as the assessment of the legal validity of mining claims, private lands, mineral rights, and property agreements in Mexico. Furthermore, the author did not conduct any investigations of the environmental, permitting, or social-economic issues associated with the Las Minas project, and the author is not an expert with respect to these issues.

The author has therefore relied fully upon information and opinions provided by Mexican Gold and a letter dated August 20, 2019 from Rios Zertuche, Gonzalez Lutteroth y Rodriguez, S.C. (“RGR”), legal counsel for Mexican Gold, with regards to the following:

- Section 4.2, which pertains to mineral and surface land tenure; and
- Section 4.3, which pertains to legal agreements and encumbrances;

The author has fully relied on Mexican Gold and RGR to provide complete information concerning the legal status of Mexican Gold and related companies, as well as current legal title, material terms of all agreements, and material environmental and permitting information that pertain to the Las Minas project.



## 4.0 PROPERTY DESCRIPTION AND LOCATION

The author is not an expert in land, legal, environmental, and permitting matters. This Section 4.0 is based on information provided to the author by Mexican Gold. The author presents this information to fulfill reporting requirements of NI 43-101 but expresses no opinion regarding the legal or environmental status of Las Minas.

### 4.1 Location

Mexican Gold's Las Minas property is located in central Veracruz State, Mexico, approximately 160 km (by road) northwest of the city of Veracruz and 250 km east of Mexico City (Figure 4.1). The project area is located within and surrounding the village of Las Minas in the municipalities of Las Minas and Tatatila. The project has an approximate geographic center at 19° 41' 28" N latitude and 97° 08' 46" W longitude.

### 4.2 Land Tenure

The Las Minas property consists of six mining concessions as listed in Table 4.1 that cover approximately 1,616 ha (Figure 4.2). The mining concessions are titled according to Mexican mining law. The titles are valid for 50 years from the date titled and can be renewed for another 50 years. The current mineral resources underlie the Pepe, and Pepe Tres concessions. All of the concessions are owned by Mexican Gold subject to underlying royalty agreements on five of the concessions as discussed in Section 4.3. The San Valentin concession was staked by Source Exploration Corp. ("Source") in 2012 and carries no royalty burden.

**Table 4.1 Las Minas Mineral Concessions**

<u>Concession ID</u>	<u>Title No.</u>	<u>Issuance Date</u>	<u>Expiration Date</u>	<u>Size (ha)</u>
Pepe	195045	August 25, 1992	August 26, 2042	984
Pepe Tres	219668	March 27, 2003	March 27, 2053	121
San Jose	203831	October 8, 1996	October 9, 2046	12.69
Pueblo Nuevo	213450	May 10, 2001	May 10, 2051	97.5
La Luz I	215140	February 7, 2002	February 7, 2052	56
San Valentin	239890	February 29, 2012	February 28, 2062	345.18

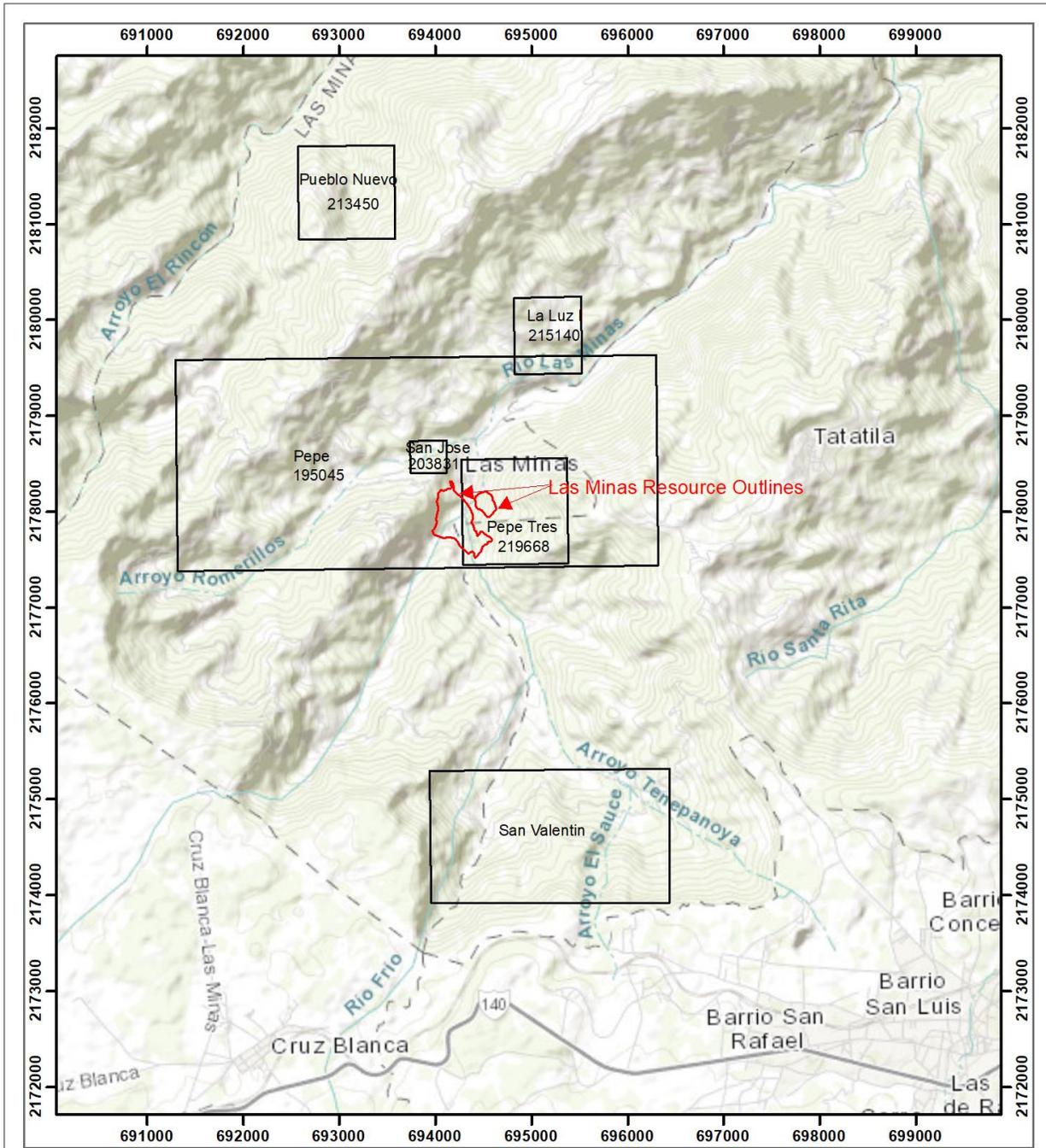


Figure 4.1 Location of the Las Minas Project





Figure 4.2 Las Minas Property Map



Client



Project

**LAS MINAS PROJECT  
 VERACRUZ, MEXICO**

Consultant



Title

**Concession Boundaries**

Coordinate System: WGS 1984 UTM Zone 14N / Units: meters

Date: 24 September 2019



### **4.3 Agreements and Encumbrances**

The Pepe, Pepe Tres, and San Jose concessions were initially optioned in 2010 by Mexican Gold (formerly Source Exploration Corp.) through Roca Verde Exploración de Mexico (“Roca Verde”) a wholly-owned subsidiary of Mexican Gold. Mexican Gold purchased full ownership of the concessions via the following two underlying agreements, as per the title opinion provided by RGR, Mexican Gold’s legal counsel. All of the concessions are owned by Mexican Gold with five of the concessions, including the two concessions containing the current mineral resources, subject to a 1.5% net smelter return (“NSR”) royalty for production

#### **4.3.1 Farias Agreement**

On May 9, 2017, Roca Verde and Mr. Ramon Farías Garcia executed an assignment of rights agreement regarding the Pueblo Nuevo and La Luz I concessions. The agreement was duly registered on July 12, 2017 at the Registro Público de Minería (“RPM”). With the execution of the agreement, Roca Verde granted Mr. Farías the right to a 1.5% net smelter return (“NSR”) royalty for production from these two concessions.

#### **4.3.2 Fernandez and Langenscheidt Agreement**

On June 5, 2017, Roca Verde executed a purchase and sale agreement with Maria Elena Fernandez Anchondo (“Fernandez”) and Amalia Langenscheidt Salcedo (“Langenscheidt”), with reservation of domain regarding the Pepe, Pepe Tres, and San Jose concessions. The agreement on the Pepe Tres and San Jose concessions was duly registered on August 30, 2018 at the RPM, while the agreement regarding the Pepe concession was in progress according to the August 20, 2019 RGR title opinion.

On December 18, 2018, Fernandez and Langenscheidt executed an agreement to cancel the reservation of domain over the Pepe, Pepe Tres, and San Jose concessions. On February 13, 2019, said agreement was filed before the RPM and its recordation is still in progress as of the Effective Date of this report. With the execution of the agreement, Roca Verde granted Fernandez and Langenscheidt a 1.5% NSR for production from these three concessions.

#### **4.3.3 Concession Status**

The RGR title opinion states that all mining concession fees have been paid and legally required annual reports of proof of mining investments and work have been filed with the appropriate agency as of the Effective Date of this report.

#### **4.3.4 Surface Ownership**

Surface ownership across the property is mixed. Most of the surface is owned by various individuals, one very small parcel in the village is owned by the local ejido, one parcel covering the hydroelectric plant is owned by the Comision Federal de Electricidad (“CFE”), and Mexican Gold owns one parcel covering the Santa Cruz deposit, purchased in 2014. Several agreements are in place with individual land owners to grant surface access for exploration. The author has not conducted a review of these documents and is



not aware if an independent legal review of surface ownership and Mexican Gold surface rights has been completed.

#### **4.4 Environmental Liabilities**

Historic mining in the area has left numerous underground workings, mostly exposed near the canyon bottom, and there has been small-scale surface mining associated with the underground workings. Available information indicates that the majority of these are not extensive; most within the resource area have an underground extent on the order of 10 to 30 m .

Of the workings observed during the author's site visit, none exhibited drainage. Only minor evidence of tailings or dumps are present, most were likely washed away by the Rio Las Minas during storm events.

#### **4.5 Environmental Permitting**

Mexican Gold has had an exploration permit issued by the federal agency Secretaria de Medio Ambiente y Recursos Naturales ("SEMARNAT") in place since November 2018. The current permit, which allows for 25,000 m of drilling, expires in three years from the date of issuance, and covers all exploration-related activities at the project. The permit can be extended under certain circumstances. The author has not reviewed this permit.

The author is not aware of any significant factors and risks that may affect access, title or the right or ability to perform work on the property.



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

### **5.1 Access to Property**

The property is centered on the village of Las Minas which is connected by four-lane highways to the cities of Veracruz to the south and Mexico City to the west. From Veracruz, the village can be accessed by highway 180 and then highway 140 for a distance of 150 km, then turning north at the village of Cruz Blanca onto a 15 km gravel road that descends into the Rio Las Minas canyon. From Mexico City, access is via highways 150D and 140D for a distance of 250 km to the turn-off at Cruz Blanca.

### **5.2 Climate**

Las Minas has a temperate humid climate with an average annual temperature of 17.6°C. Average temperatures vary from around 12°C in the winter to 20°C in the summer. Rainfall typically averages around 1,500 mm per year with rain common in the summer and into early autumn. Mining and exploration can be conducted year-round.

### **5.3 Physiography**

The Las Minas property is characterized by very steep topography with moderately dense vegetation. The village of Las Minas, and the gold-copper skarn deposits which are the focus of the current resource estimate, lie at the bottom of the Las Minas canyon at an elevation of around 1,400 m. Project elevations at outlying exploration targets, such as Changarro [also spelled as “Changaro” on many maps and in reports; the names appear to be interchangeable. “Changarro” will be used in this current report] or Pueblo Nuevo, reach up to 1,800 m elevation with extreme (>500 m) local elevation differences. Access into these outlying targets is by footpath, many of which have been rehabilitated by Mexican Gold.

### **5.4 Local Resources and Infrastructure**

The village of Las Minas has an estimated population of 2,900 people and labor can be sourced locally. Mexican Gold has a field office in the village and living and office accommodations are available. The town of Perote (population 38,000) is located 25 km southwest of Las Minas and is a primary source of supplies. The main economic activity in Las Minas is farming. Corn, beans and coffee are the main crops grown, and scattered pastures are maintained for the grazing of goats and sheep.

The Las Minas hydroelectric plant is located 0.5 km up-river from the village and has a capacity of 15 MW. The Rio Las Minas flows through the village and directly over the skarn deposit; this river is a source of ample water.

The author is not an expert in geotechnical issues but due to the limited volume expected from the potential underground operation there should be ample room within the Las Minas canyon for waste storage. Processing facilities and tailings storage areas could be sited down-canyon just north of the Las Minas village while concentrate would be trucked out on the existing road network.



## 6.0 HISTORY

The information presented in this section is derived primarily from Twomey (2013), and Read and Shoemaker (2017), with additional input from Mexican Gold. Mr. Tietz has reviewed this information and has no reason to believe that this summary does not accurately represent the history of the Las Minas property as presently understood.

### 6.1 Exploration and Mining History

The Tatatila – Las Minas region is one of the oldest recognized mining regions in the state of Veracruz. Initial mining activities for gold date back to pre-Colonial times and were continued by Spaniards using arrastras. During the 1800s, several individuals had filed *denuncios* (mineral claims) in the region, but only minor extraction of ore occurred. European interests employing stamp mills and a concentrating table conducted operations in the late 1800s to early 1900s, prior to the Mexican Revolution. Reportedly, high-grade ore (20g Au/t to 40g Au/t and 15% to 30% Cu) was produced during the period from 1870 to 1910. It was during this time that most of the historical workings within the current Las Minas resource areas, along with workings within many of the current exploration targets, were constructed. Following the Mexican Revolution, some small-scale extraction of gold and copper occurred with high-grade ore being shipped to San Luis Potosi, New York, and Europe.

More recent activity includes an evaluation in the 1970s by the federal Consejo de Recursos Minerales (“CRM”) which is now the Servicio Geológico Mexicano (“SGM”). This program included geologic mapping and sampling. In 1996, concessions were acquired by International Northair who also conducted a surface and underground sampling program. Results from 583 channel samples from surface and underground workings confirmed gold-copper mineralization over a wide area. The average metal grade from all samples was 1.7g Au/t and 0.39% Cu. International Northair formed a joint venture in 1996 with Battle Mountain Gold (“BMG”) to explore the property. BMG subsequently terminated their participation in the project.

In 2006, Bell Resources acquired an option on properties in the Las Minas area and subsequently optioned them to Chesapeake Gold (“Chesapeake”) in 2007. Chesapeake undertook an extensive sampling program which showed several areas are anomalous in gold and copper, including the Las Minas area. Chesapeake consolidated additional ground in the area via staking and purchasing a small mineralized area from the Consejo de Recursos Minerales.

Apparently neither Chesapeake nor Bell Resources ever controlled the core of Las Minas district, having never optioned the principal claims, although their sampling covered it. Chesapeake, however, still controls a large land position surrounding Mexican Gold’s concessions.

In 2010, Mexican Gold (then named Source Exploration Corp.) leased the Pepe, Pepe Tres, and San Jose claims which make up the principal part of the Las Minas project. Several other claims located peripheral to the principal area were subsequently acquired. Mexican Gold’s first sampling took place in 2010 and their first drilling campaign was carried out in 2011. Prior to this, no known drilling has occurred in the resource area. Source changed their name to Mexican Gold Corp. in April of 2017.



Exploration and drilling by Mexican Gold is discussed in Sections 9.0 and 10.0, respectively

## 6.2 Historical Mineral Resource Estimate

One historical mineral resource estimate was completed on the Las Minas project. In 2017, Mexican Gold commissioned Boyd and Associates (“Boyd”) to prepare an independent technical report on the Las Minas project and to estimate the mineral resources. The report had an effective date of July 31, 2017 and was reportedly prepared to NI 43-101 standards (Read and Shoemaker, 2017). The 2017 estimate is relevant only for historical completeness, is not considered current, and has been superseded by the current mineral resources described in Section 14.0.

Boyd used inverse distance cubed ( $ID^3$ ) to estimate gold, copper, and silver resources within the El Dorado and Santa Cruz zones. Wireframes for the two zones, each based on an approximate 0.5g AuEq/t cut-off grade, were used to constrain mineralization and each metal was estimated independently within the wireframe. The block model used a variable block size of 10 m by 10 m by 10 m, sub-blocked to a minimum of 5 m by 5 m by 5 m, and model coding was block-in/block-out. A density of 3.28 g/cm<sup>3</sup> was used for mineralized rock and 2.7 g/cm<sup>3</sup> was used for waste. Both open pit and underground resources were estimated using gold equivalent (“AuEq”) cut-off grades of 0.46g AuEq/t and 1.6g AuEq/t for potential open pit and underground mining scenarios, respectively. The reported open pit resources were constrained within an economic pit shell calculated using the Whittle pit optimizer while the underground resources were those resources outside the pit shell. The metal prices used for the gold equivalent (“AuEq”) calculations are shown in Table 6.1 and the total estimated resources are shown in Table 6.2.

**Table 6.1 Metal Prices and Recoveries Used by Boyd**  
(from Read and Shoemaker, 2017)

	<b>Metal Price</b>	<b>Recovery</b>
Au	\$1,250/oz	88%
Cu	\$2.85/lb	95%
Ag	\$16.75/oz	84%



**Table 6.2 Resource Table Summarizing 2017 Historical Open Pit and Underground Resources**  
 (from Read and Shoemaker, 2017)

Las Minas Mineral Resource Estimate								
Mining Method	Classification	Cutoff Grade (g/t Au)	Estimated Grade				Tonnes	Contained Gold Equivalent Troy Ounces
			Gold Equivalent (g/t Au)	Gold (g/t Au)	Copper (% Cu)	Silver (g/t Ag)		
Open Pit	Measured	0.46	2.32	1.24	0.65	4.66	62,000	5,000
	Indicated	0.46	1.86	0.90	0.58	4.33	4,685,000	281,000
<b>Subtotal</b>	<b>Measured+ Indicated</b>	<b>0.46</b>	<b>1.87</b>	<b>0.91</b>	<b>0.58</b>	<b>4.34</b>	<b>4,747,000</b>	<b>286,000</b>
	Inferred	0.46	2.06	1.02	0.64	3.69	9,121,000	605,000
Underground	Measured	1.60	0.00	0.00	0.00	0.00	0	0
	Indicated	1.60	2.46	1.24	0.74	5.05	223,000	18,000
<b>Subtotal</b>	<b>Measured+ Indicated</b>	<b>1.60</b>	<b>2.46</b>	<b>1.24</b>	<b>0.74</b>	<b>5.05</b>	<b>223,000</b>	<b>18,000</b>
	Inferred	1.60	2.99	1.57	0.86	6.25	1,183,000	114,000
OP+UG	Measured	---	2.32	1.24	0.65	4.66	62,000	5,000
	Indicated	---	1.89	0.92	0.58	4.36	4,908,000	299,000
<b>Subtotal</b>	<b>Measured+ Indicated</b>	<b>---</b>	<b>1.90</b>	<b>0.92</b>	<b>0.59</b>	<b>4.37</b>	<b>4,970,000</b>	<b>304,000</b>
	Inferred	---	2.17	1.08	0.66	3.99	10,304,000	719,000

1. The effective date for this mineral resource estimate is July 31, 2017 and are reported on a 100% ownership basis.
2. Mineral Resources are calculated at a gold price of US\$1,250 per troy ounce, a copper price of US\$2.85 per pound and a silver price of US\$16.75 per troy ounce. Gold equivalent grade is calculated as AuEq (g/t) = Au (g/t) + Ag (g/t) \* 0.013 + Cu (%) \* 1.564. The factors for silver (0.013) and copper (1.564) will change depending on the metal price. The metal price numbers listed above were used to determine the conversion factors presented herein.
3. The mineral resources presented above are global and do not include a detailed pit or underground design, only an economic pit shell was used to determine the in-pit mineral resources. The underground mineral resources are that material outside of the designated open pit mineral resources above the stated underground cutoff grade.

This estimate uses the classification categories of NI 43-101, but is relevant only for historical completeness. Mr. Tietz has not done sufficient work to classify the historical estimate as current mineral resources. Mexican Gold is not treating this historical estimate as current mineral resources and the reader is cautioned not to rely on this estimate.



## **7.0 GEOLOGIC SETTING AND MINERALIZATION**

The information presented in this section is drawn from Read and Shoemaker (2017) and other sources, as cited, with additional input from Mexican Gold. Mr. Tietz has reviewed this information and believes this summary accurately represents the geology and mineralization of the Las Minas property as presently understood.

### **7.1 Regional Geology**

The Las Minas project is located in southeastern Mexico within the eastern portion of the Trans Mexico Volcanic Belt (“TMVB”), an east-west belt of Miocene to recent volcanic rocks that transects the country from the Pacific coast to the Gulf of Mexico. These rocks are dominantly of calc-alkaline affinity and are related to subduction of the Rivera Plate to the west, and the Cocos Plate to the east, off the southern coast of Mexico (Ferrari et al, 2012; Gomez- Tuena et al, 2003). Portions of the TMVB are presently volcanically active. The high plains surrounding the Rio Las Minas canyon are comprised of pumaceous deposits, basalt flows and andesitic and rhyolitic tuffs. In this portion of the TMVB, the volcanic rocks are principally of Pleistocene to Holocene ages. Large stratovolcanos and shield volcanos occur in the region (e.g., Cofre de Perote, located just southeast of the town of Perote; and Pico de Orizaba, located approximately 60 km south of Perote on the Veracruz-Puebla border).

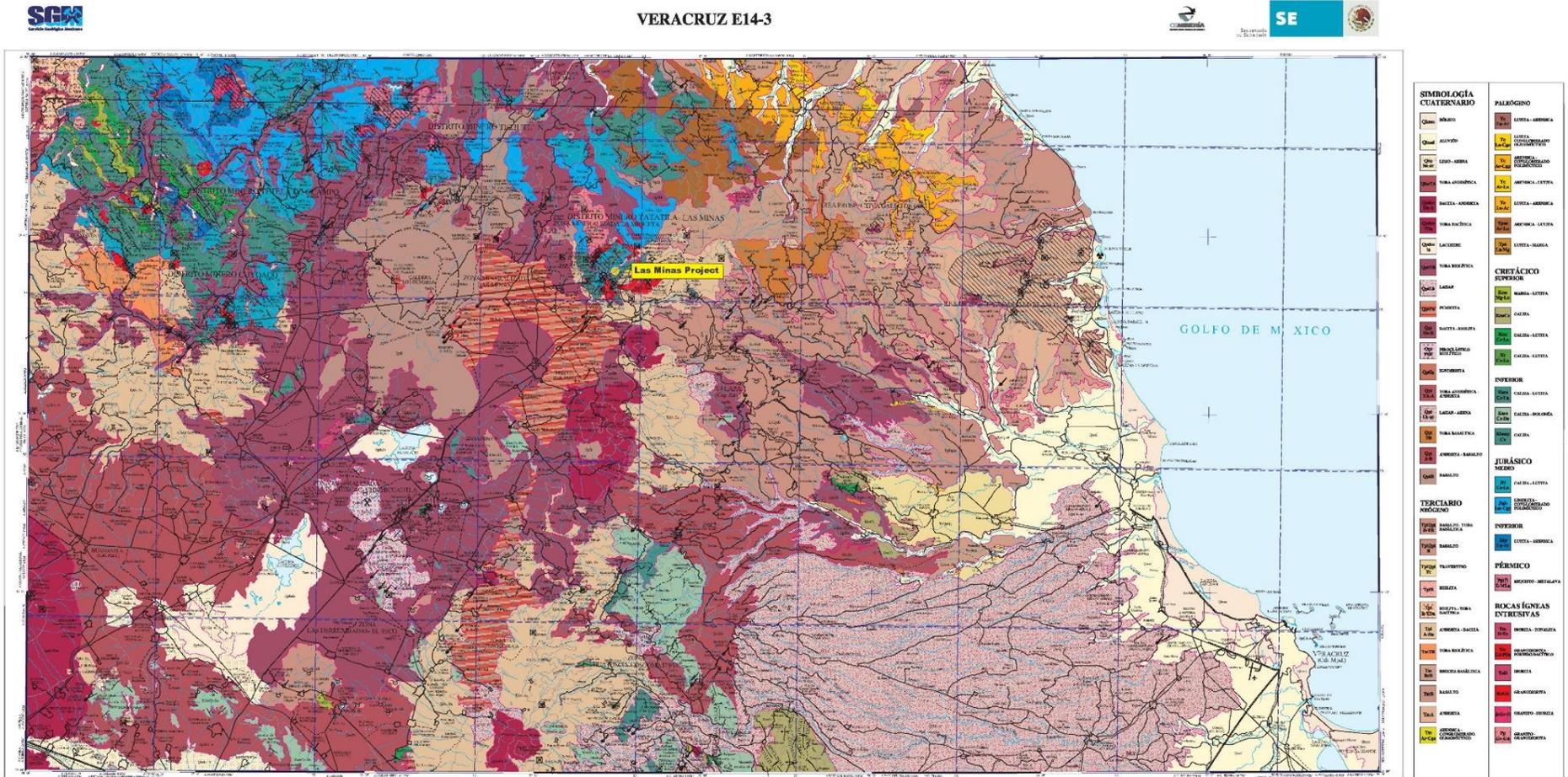
The pre-Miocene basement in the Las Minas region consists of a sequence of Jurassic and Cretaceous marine sedimentary rocks including sandstone, siltstone, limestone and shale (Vergara Martinez et al., 2002). Local intrusions of Tertiary (and some Mesozoic) plutonic rocks occur throughout the region. These have been mapped as dominantly granodiorite and porphyritic dacite, with lesser amounts of granite, diorite and tonalite (Vergara Martinez et al., 2002). In the project area, the intrusive rocks, though mapped as granodiorite, are principally dioritic in composition. Figure 7.1 shows the regional geology of the Las Minas area.

### **7.2 Property Geology**

The property geology has been compiled and mapped by Mexican Gold geologic staff and by Geoconsulting Ingenieros S.C. (2010). The units exposed in and surrounding Mexican Gold’s concessions are: (1) Cretaceous limestone which the Servicios Geologicos Mexicanos (“SGM”) has assigned to the Orizaba Formation (SGM, 2007a; 2007b); (2) Miocene-age dioritic intrusions, and (3) Quaternary dacitic to rhyolitic pyroclastic rocks. These units are cut by northeast-striking normal faults, one of which is where the Rio Las Minas canyon is located. The intrusion(s) exhibits a roughly circular outcrop pattern approximately 10 km in diameter surrounding Las Minas (Figure 7.1). The intrusions within the Las Minas property have been interpreted as the upper exposed portion of a batholith (Vergara Martinez et al., 2002), though it should be noted that the geometry at depth is largely unknown because most drill holes end in the intrusion. It has been suggested (M. Liard, pers. comm.) that the intrusion may represent a large sill as the upper contact is mostly planar and parallel with the overlying sedimentary sequence.



Figure 7.1 Regional Geologic Setting of the Las Minas Area  
 (from Vergara Martinez et al., 2002)





The principal intrusion and adjacent skarn are mainly exposed at lower elevations near the bottom of the Rio Las Minas canyon. These units are also exposed at somewhat higher elevations in the Santa Cruz area. Tertiary volcanic rocks are exposed mainly at higher elevations surrounding the project area, although some dacitic rocks occur along the river northeast of the pueblo, presumably occupying a small graben or occurring as valley-fill. Figure 7.2 depicts the geology in the project area.

The limestone of the Orizaba Formation is part of a platform carbonate sequence with thicknesses greater than 1 km. Geoconsulting Ingenieros S.C. (2010) described the unmetamorphosed limestone as pale gray in color and fossiliferous with local black chert. The marbleized part is pale gray to white and varies from fine- to coarse-grained with a granoblastic texture (anhedral, equigranular texture locally with sutured grain boundaries). The sedimentary sequence is horizontal to subhorizontal with regional dips up to 10°. Within the resource area, the sedimentary sequence dips gently to the east.

Recent mapping by Mexican Gold within the lowest canyon elevations in the Pueblo Nuevo claim shows clastic meta-sedimentary rocks, primarily phyllitic arkosic greywacke and quartzite, lying beneath the limestone just above the diorite intrusion.

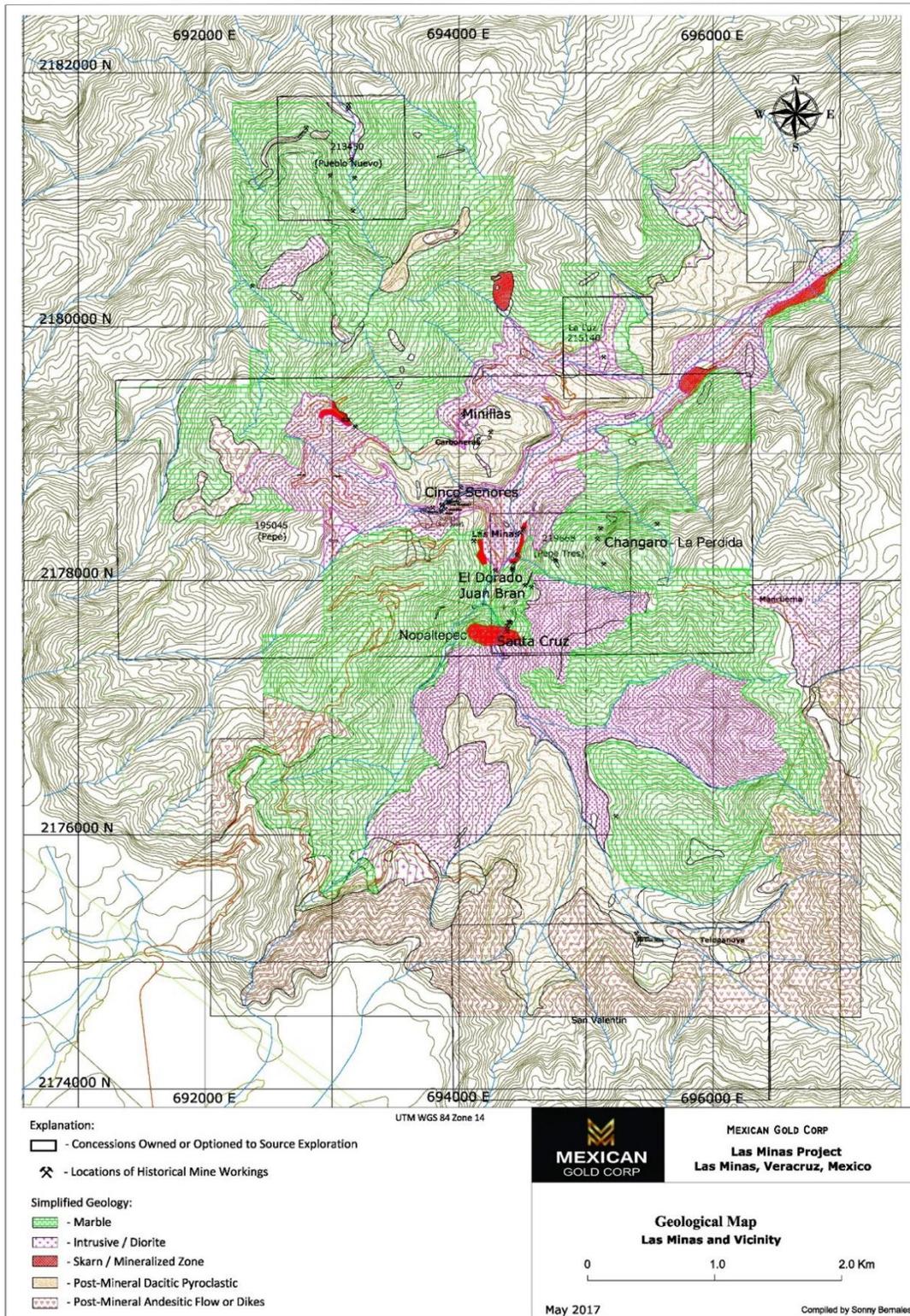
Geoconsulting Ingenieros (2010) mapped the principal intrusion(s) in the project area dominantly as granodiorite, but ranging in composition from diorite to granite. The unit is green and white with a fine- to medium-grained equigranular texture. The rock is usually magnetic. The green color is presumably due to chloritization and sausseritization of the original mafic minerals. It is composed of calcic plagioclase with hornblende and may or may not include biotite. Accessory minerals include magnetite and ilmenite spatially associated with hornblende.

The diorite is intimately spatially and genetically associated with skarn development. Drill hole logging indicated multiple phases of the diorite though this might be a reflection of type and degree of alteration. Locally there is evidence of a post-mineral phase as the diorite occurs as dike-like bodies that “cut out” skarn. In these cases, the intrusion appears nearly identical to the diorite elsewhere. Less well-defined is a post-mineral feldspar-porphyrific intrusive phase that has been intersected in a few drill holes. It displays equant, zoned plagioclase phenocrysts in a black fine-grained groundmass and is distinct from the diorite. The exact geometry and relationship to the main diorite body are unknown at this time.

Several volumetrically minor, unmineralized dikes and sills composed of feldspar porphyry are known to cut the principal intrusion and sedimentary rocks in the project area. These are interpreted as post-mineral dikes and sills that are unrelated to the mineralization summarized below.



**Figure 7.2 Geology of Las Minas Resource Area**  
 (from Mexican Gold, 2017)





## 7.3 District Alteration and Mineralization

Copper and gold mineralization have been recognized in three settings: proximal skarn, distal skarn and quartz veins.

### 7.3.1 Proximal Skarn

Proximal-type skarn is the dominant skarn alteration observed within the Las Minas deposits. Proximal skarn crops out in a narrow band along the canyon bottom to the west and south (Juan Bran historical mine area) and east (El Dorado mine area) of the Las Minas pueblo, and in a broader area in the Santa Cruz-Nopaltepec area which is located approximately 0.5 km south of village (see Figure 7.2 or for a smaller scale view of the immediate resource areas see Figure 10.1). At surface, the skarn occurs as a dark, weathered outcrops, commonly with copper staining, which are the focus of many small historical underground workings. The skarn developed along a somewhat irregular contact between marble and diorite. This is due to local irregularities in the contact geometry of the intrusion (sill, dike, and sub-horizontal basement contacts), and to the fact that some of the intrusion was altered to endoskarn.

Skarn alteration is dominantly garnet-rich with lesser amounts of pyroxene. Locally garnet appears to be replacing pyroxene. Geoconsulting Ingenieros S.C. (2010) described the garnet as grossularite to andradite in composition, although it is not clear that this is based on actual mineral chemistry or just color variations. Pyroxene is a pale to medium green color. The skarn contains variable amounts of magnetite and sulfide minerals. At least some magnetite is usually present and can range from several percent of the rock to massive black metallic magnetite containing lesser calc-silicate minerals. In places, garnet has been observed cutting magnetite, indicating that magnetite was deposited early at high temperature. This is common in many proximal skarn occurrences.

Retrograde alteration of garnet and pyroxene to hydrous calc-silicate minerals is very minor at Las Minas. Epidote is occasionally abundant, with or without quartz, and is interpreted as being relatively late stage. Sulfide deposition likely occurred at lower temperatures during retrograde alteration. At Las Minas, chalcopyrite is the dominant sulfide mineral. Sulfide mineral content is variable, but less than magnetite. Sulfide grains usually are associated with magnetite and are present as relatively coarse-grained disseminations. Blebs, bands, and veinlets cutting magnetite were also observed. Pyrite occurs as an accessory mineral in the main resource area, but is locally abundant in some of the peripheral skarn occurrences in the district such as Cinco Senores and Las Minillas. Lesser, though locally abundant, amounts of bornite also occur. Chalcopyrite with quartz was also observed sporadically. Copper carbonate minerals (malachite, azurite) occur at the ground surface. Within the Santa Cruz skarn zone, calc-silicate mineralogy locally includes olivine and serpentine. This magnesian skarn assemblage probably reflects local dolomitic protolith in the carbonate sequence.

Skarn within the Las Minas resource zones occurs both as exoskarn developed within the sedimentary rock and as endoskarn developed within the intrusion. The skarn alteration has a typical zoning of marble-exoskarn-endoskarn-diorite. Overall, this sequence occurs in a vertical sense from up (marble) to down (diorite) in the El Dorado zone. The alteration sequence can be inverted or horizontal in the more complex Santa Cruz zone where sill or dike contacts are more irregular than at El Dorado. Contacts of exoskarn



with the weakly skarn-altered marble are commonly knife-edge (Figure 7.3) with massive magnetite sometimes occurring at the contact.

**Figure 7.3 Marble/Magnetite Knife Edge Contact**  
(from Read and Shoemaker, 2017)



The distinction between exoskarn and endoskarn can be very difficult because the skarn alteration (especially garnet replacement) can be texturally destructive. However, somewhat commonly, banded texture is observed in the skarn, reflecting relict bedding in the marble. This sometimes is exhibited as thin bands of magnetite-chalcopyrite in skarn (Figure 7.4).



### Figure 7.4 Exoskarn Banding of Magnetite and Chalcopyrite

(from Read and Shoemaker, 2017)



Less commonly, igneous texture can be observed, indicating an intrusive protolith. The endoskarn transitions somewhat gradationally to chloritized, sausseritized diorite and finally into fresh diorite.

For the majority of skarn intervals intersected in drilling, distinguishing protolith within the skarn is sufficiently difficult that it can lead to problematical interpretation of the internal geometry of the skarn. Accordingly, initial attempts to differentiate between exoskarn and endoskarn during 3-dimensional modeling were abandoned and just a single “skarn” rock type was coded into the current block model.

There is a zone of pervasive, post-mineral pyrite that affects, most notably, the Cinco Senores and Las Minillas areas. Here, the chalcopyrite-rich magnetite skarn has been strongly overprinted by pyrite, and the multiple, prominent dioritic dikes typical of these areas are also strongly pyritized and clay-altered. Pyrite flooded diorite may contain significant gold values of 300 to 1,300 ppb Au over 10’s of meters, with or without associated skarn, as seen at Cinco Senores. It is not known whether the pyritization is late-stage retrograde alteration, or a later Miocene event.

Gold within the proximal skarn occurs in magnetite- and sulfide-bearing skarn, especially with chalcopyrite. The author’s review of assays on drill hole traces, and assay statistics, indicates a strong correlation of gold and copper. Strong skarn alteration without appreciable magnetite or sulfide minerals



generally does not contain significant gold. There is a tendency for exoskarn to contain more gold than endoskarn. Assays generally trail off down-hole into the endoskarn and altered diorite. Copper occurs dominantly in chalcopyrite and in lesser, though locally abundant amounts in bornite. Silver is also present in the mineralized skarn, associated with gold and copper. It is not known in what phase(s) silver occurs.

Within mineralized skarn, gold grades average about 0.8g Au/t with a maximum of 39.3g Au/t in individual drill samples. Copper grades average 0.5% Cu, with values up to 11.7% Cu, and silver averages 3.2g Ag/t with a maximum of 148g Au/t. There are only three drill samples with greater than 100g Ag/t and they would be considered outliers.

There is also a general correlation of gold with arsenic, bismuth, and zinc, although these associations are far from one-to-one. There exist many mineralized intervals that are below detection (<10 ppm) in arsenic and bismuth. Where arsenic is present, it is usually in concentrations of 100 ppm to 500 ppm, and rarely exceeds 1,000 ppm. Bismuth where present is usually in the 10 ppm to 50 ppm range. Zinc locally can be >1% and appears to correlate a little more strongly with copper than gold.

Proximal skarn zones are often characterized by hydrothermal dissolution breccias having random, anastomosing form extending up to 500 m into the limestone above the known skarns. The breccia matrix consists mainly of fine-grained calcite and iron-carbonate, and is generally strongly hematitic red but may be dark green where unoxidized. Breccia clasts are very poorly sorted, angular to sub-rounded fragments of sub-mm to 30-cm sizes. Textures indicating clast rotation, milling and dissolution are common. In marble, this event is expressed more as multiple, irregular anastomosing breccia “veins” that are 1 cm to 20 cm wide. Hydrothermal breccia is also observed in intrusive rocks and skarn, with associated local areas of diorite altered to dark green chlorite and clay.

### **7.3.2 Distal Skarn**

Distal skarn is exposed within the canyon walls at elevations from ~1,700 m to 2,100 m. The distal skarn is highly variable in character. Distal skarn consists of massive sulfides and/or massive magnetite in stockworks, pipes, and replacement pods within the variably marbleized limestone.

There are also swarms of discrete, narrow, co-planar magnetite-sulfide veins, all hosted in marble. When directions can be established, the co-planar veins generally trend north-south with near-vertical dips and with sub-horizontal conjugates, though east-west striking, near-vertical vein orientations are also observed.

Sulfide minerals include (in order of abundance) chalcopyrite, sphalerite and galena. As at Las Minas, pyrite, as a late alteration product, is rare and pyrrhotite or arsenic sulfides have not been noted.

A low-temperature hematite-jasperoid-calcite alteration type is also present spatially associated with areas of distal skarn. All of the textures are hydrothermal and there is no evidence of a direct genetic relationship with any dikes which may be found in the mineralized zones.

Mineralization associated with various distal skarn mineral types is seen within the Changarro – La Perdida area (see Figure 9.3) at various locales such as: Mina Changarro which appears to have exploited a near-vertical pipe of massive magnetite plus sulfides that has a width of 50 m to 100 m; Guadalupe 2 presents



a stockwork of massive chalcopyrite stringers, with high gold grades, in shattered marble adjacent to a significant north-south trending fault, and two closely-spaced prospect pits in the canyon wall near Mina Escondida, expose texturally identical sheeted swarms of veinlets of gold-bearing sphalerite in one prospect pit, and veinlets of barren magnetite in the other pit.

The low-temperature jasperoid alteration type was worked at Mina La Perdida - Mina Escondida. The gold-bearing jasperoid contains no sulfide minerals, and gold values is relatively proportional to intensity of jasperoid alteration.

### **7.3.3 Gold-bearing Quartz Veins**

Gold-bearing veins are found primarily at Pueblo Nuevo which is located about 4 km north of the Las Minas village. The veins are narrow, with widths ranging from 0.2 m to 0.8 m, strike generally within 10° of north-south, and have near-vertical dips. Veins with significant gold values persist over >1.5 km of strike and >650 m of elevation within a 600 m wide deformation zone, though the veining and deformation may actually be much more extensive. Vein gangue material is almost exclusively quartz, showing repeated or zoned open-space filling textures. Gold is associated with pyrite that forms < 5% of the vein fill, and with trace to locally 10% iron-rich sphalerite, galena and minor copper and silver minerals. These veins are prominent in both undeformed dioritic rocks (believed to be the same intrusion that underlies the main skarn deposits at Las Minas), and in the overlying clastic meta-sedimentary rocks and sheared limestone (as observed at the La Miqueta mine). The lower levels of the veins within the meta-clastics tend to show higher gold grades than in the higher level, limestone-hosted portions of the veins. Wallrock alteration is generally minimal in all country rock types.

## **7.4 Deposit Geology and Mineralization**

The following information describes the two primary mineral zones that contribute to the current resource estimate, with additional summary information on other exploration targets within the Las Minas property. The deposit location with the resource outlines and drill holes are shown in Figure 10.1. Cross-sections through the deposits are in Section 14.0.

### **7.4.1 El Dorado Zone**

Previous reports had used the name “El Dorado/Juan Bran” when referring to the sub-horizontal skarn mineralization extending south from the historical Juan Bran and El Dorado mine areas. Recent exploration has shown that the mineralization at both areas extends to the south along the same geologic horizon and has similar geologic characteristics. Due to the noted similarities, Mexican Gold has chosen to use just “El Dorado” as the zone name and this terminology will be used throughout this technical report. “Juan Bran” in this report designates only the historical mine area. The northern portion of the El Dorado mineral zone crops out along the canyon bottom to the southwest and southeast of the Las Minas pueblo (Figure 7.2).

El Dorado skarn occurs primarily at the contact between diorite and overlying marble. Being visually distinctive from the surrounding marble and intrusion, the skarn is seen in outcrop as dark-colored, with significant iron- and copper-staining. The occurrence of mineralized skarn was obvious to early explorers and was the locus of historical activity at the Juan Bran mine area on the west side of the canyon and El



Dorado mine on the east side of the canyon. Both historical mine areas are marked by shallow adits and surface excavations worked along the canyon bottom, though greater production appears to have come from the El Dorado workings. Figure 7.5 shows the surface exposure and historical workings at El Dorado.

**Figure 7.5 El Dorado Surface Workings**



The El Dorado mineral zone had previously been considered a single contiguous, sub-horizontal skarn that extends to the south into the sub-surface under the rising canyon topography south of the Las Minas pueblo. The recent drilling by Mexican Gold indicates that the El Dorado zone is broken into two horizons that are separated by a barren, north-northwest trending, 100 m to 150 m wide diorite dike(?) that extends up from the lower diorite intrusion.

The current modeling indicates that the El Dorado skarn mineral zone on the west side of the diorite dike has an 800 m northwest strike length, extends up to 450 m to the southwest away from the diorite dike, is on average 15 to 20 m thick, and can reach over 50 m in thickness along the northwest-striking contact with the diorite dike. In contrast, the El Dorado zone on the east side of the dike has a strike length of 250 m northwest, extends up to 200 m to the northeast from the diorite dike, and is 5 to 10 m in thickness.



Highest metal grades within both zones are often within the skarn just below the marble-skarn contact. This contact can be very sharp with often a <0.1-meter transition from weakly mineralized marble to high-grade skarn. The lower mineral contact is more gradational as the skarn alteration decreases into the weakly altered intrusive. The intrusive contact is sub-parallel to the observed remnant bedding in the overlying marble, which indicates that the intrusive contact might represent the upper contact of a thick sill.

The more significant drill intercepts within the Las Minas resource area occur where the Juan Bran skarn forms an east-dipping “keel” that extends into the diorite along the west side of the dike. Where the dike extends up into the carbonate section, the dike-skarn contacts can be highly variable due to local sill-like intrusions that extend out along gently east-dipping bedding planes. The result is an interlayering of marble, skarn and intrusions more than 100 m in thickness.

Extending away from the diorite dike to the west and east, the El Dorado mineralized skarn becomes generally thinner, but is technically still open, especially to the west. However, the mineralization becomes progressively deeper in these directions under the steeply rising canyon topography making exploration by surface drilling increasingly expensive. The El Dorado mineralization is also open to the northwest towards Cinco Senores.

A cross-section through the El Dorado zone is shown in Figure 14.2 with the cross-section location shown on the drill hole map in Figure 10.1.

#### **7.4.2 Santa Cruz Zone**

The Santa Cruz zone lies about 0.5 km south of the Las Minas pueblo and is well exposed on a west-facing canyon wall just above a tributary of the Rio Las Minas. Skarn within the Santa Cruz zone lies along the west side of the dike, immediately to the south of and stratigraphically higher than the El Dorado and Juan Bran zones. The primarily east-dipping mineralization at Santa Cruz is more complex and discontinuous than observed at El Dorado due to the more variable intrusive-marble contact orientations (both near-vertical dike and east-dipping sills). In contrast to the El Dorado zone, magnesian skarn is common as indicated by the presence of olivine and serpentinite along the intrusive contacts. The increased magnesian skarn indicates a more dolomitic protolith.

Due to the steep west-dipping topography, drilling has been primarily east-directed, which is sub-parallel to the bedding/sill/mineralization orientation, making geologic interpretations somewhat uncertain. The Santa Cruz zone has a 200 meter northwest strike length, extends up to 200 m downdip to the northeast from the topographic surface, and can be up to 50 m thick, though thickness is highly variable and often consists of stacked sequences of mineralized skarn.

Occasional skarn intervals >100 m in thickness have been intersected, though this would include some intervals of dike and marble. In fact, quite commonly skarn (both exoskarn and endoskarn) are interlayered with thin (generally <5 m intervals of intrusion or marble).

A cross-section through the Santa Cruz zone is shown in Section 14.0 with the cross-section location shown on the drill map in Figure 10.1.



### 7.4.3 Other Mineralized Occurrences

There are several other skarn occurrences within the Mexican Gold property which have been subject to historical development and have been the focus of initial Mexican Gold exploration mapping, sampling, and limited drilling. Figure 7.2 shows the location of these historical prospect areas and a summary of the sampling results is discussed in Section 9.2. Mr. Tietz did not visit these occurrences and is relying on information taken from Twomey (2013) with additional input from Mexican Gold.

**Changarro – La Perdida** [information from Mexican Gold 7-24-2018 press release unless otherwise cited]: The Changarro-La Perdida area is an historical skarn mining zone extending more than 400 m by 850 m on surface. The zone is exposed on the canyon walls between 280 m and 600 m above and to the east of the Las Minas resource skarn deposits. Gold occurs in both high-temperature, proximal skarn (garnet–magnetite-sulphides) related to dike contacts and structurally-controlled, low-temperature distal skarn (jasperoid-magnetite-tremolite-wollastonite +/- sulphides). A number of small historical mines are within this area including Changarro, La Perdida, Escondida, Guadalupe 2 and Guadalupe 3. Chip sampling by Mexican Gold in 2011 within the Changarro mine adit, where massive magnetite skarn occurs within a vertical pipe in marble, returned a number of high-grade assays including an 8.0 m chip string averaging 9.92 g/t Au, 20.78 g/t Ag, 0.63% Cu (Twomey, 2013). Additional sampling has returned significant mineralization from many of the historical workings as shown in Figure 9.3.

**Pueblo Nuevo** [information from Mexican Gold 7-10-2018 press release]: Pueblo Nuevo is located about 4 km north of the Las Minas village. Mineralization within many small historical workings is hosted within both skarn and gold-bearing quartz veins. Most of the mines within the area are within the basement diorite below the contact with the overlying carbonate rocks, but the largest mine resides in altered carbonates above the contact. The La Miqueta mine, which has 21 known levels, lies within a 400-metre-wide zone of quartz-biotite schist developed within silicified limestone.

The quartz veins have been the focus of recent Mexican Gold surface exploration. The veins are generally 0.20 m to 0.70 m in width, strike north-northeast with sub-vertical dips and show no post-mineral deformation. The dioritic wall rock hosts argillic alteration and sulphides (generally pyrite and marmatite) over a few cms to one meter on each side of the veins. Wider zones of multiple, parallel quartz veinlets and high-grade cross-structure veins have recently been found in some areas. Select chip samples of the veins assay greater than 10g Au/t values. Sample locations with gold values are shown in Figure 9.2

**Cinco Senores** [information from Twomey (2013) unless otherwise cited]: Cinco Senores is located approximately one-half kilometer northwest of the Las Minas village. The mineralized skarn at Cinco Senores is extensive and includes mining areas with numerous adits including Mayates, Narisillas, Muertos, San Antonio and Santa Elena, which are the names of the five senores (men). The mineralized skarn deposit extends for 150 m or more on strike along both sides of the Rio Las Minas streambed and was the first area developed by the Spanish in the 1700's. The vertical distance between the lower and the upper adits was estimated to be approximately 25 m and mineralization extends upwards from the streambed to a roadcut located approximately 75 m vertically above the valley floor.

Mexican Gold has drilled 17 core holes in the area and have encountered skarn mineralization and host rocks similar to that within the El Dorado resource zone. Cinco Senores lies about 700 m northwest of the



Juan Bran historical workings and the area between Juan Bran and Cinco Senores has not been drilled. There is the potential that the sub-horizontal mineralization connect beneath the topographic ridge that separates Cinco Senores from the Las Minas resource deposits (Mexican Gold 9-28-2017 press release)

**San Jose del Oro** [information from Twomey (2013)]: The San Jose del Oro deposit is located one kilometer north of the Las Minas village in rugged terrain above the Rio Las Minas valley floor. Mineralization exposed at the Minillas open pit has a higher pyrite content than other skarn deposits within the project area. The Minillas mine was developed in a number of eras, lastly evaluated in 1914 and 1936.

Mexican Gold chip samples from underground workings at San Jose del Oro returned up to 16 m horizontally of 2.65 g/t Au, 14.0 g/t Ag and 0.32% Cu. This zone remains an excellent drill target.



## 8.0 DEPOSIT TYPE

The information presented in this section is drawn from Read and Shoemaker (2017) and other sources, as cited, with additional input from Mexican Gold. Mr. Tietz has reviewed this information and believes this summary accurately represents the Las Minas deposit type and the deposit model being used for exploration as presently understood.

The mineralized zones in the Las Minas district are Au-Cu-bearing skarn deposits. In general, skarn deposits can be classified by their principal contained metal such as Cu, Fe, W, Au, Pb-Zn, Sn (e.g., Meinert, 1992; Einaudi et al., 1981). In addition to primary metal content, these skarn classes can have distinct differences in calc-silicate minerals (e.g., garnet: pyroxene ratio), mineral composition, associated geochemistry and genetically associated plutonic rocks. The fact that the Las Minas skarns contain both abundant gold and copper, and are low in the base metals Pb and Zn, indicates that they can be best classified as belonging to either the gold skarn type or the copper skarn type. Copper skarns have long been described in the literature and are well understood. Many examples are well-known worldwide (see for example, Einaudi et al., 1981). They are commonly, but not always, associated with porphyry copper deposits. Copper skarn deposits are generally typified by abundant andraditic garnet > diopsidic pyroxene and are characteristically associated with granodioritic plutonic rocks. Copper grades are on the order of 1% or greater and gold grades are generally <1 g/t (Meinert, 1987; Einaudi et al., 1981).

Gold grades can be significantly higher in some copper skarns, particularly in zones of high sulfide concentration or in those not related to porphyry copper deposits (Meinert, 1987). Skarn deposits that contain Au as the principal metal component have been recognized and studied over the last 20 years or so and numerous examples exist, e.g., Hedley, British Columbia; Fortitude/Phoenix, Nevada; McCoy, Nevada; Elkhorn, Montana; and the skarns of the Guerrero gold belt in western Mexico (Meinert, 2000; Meinert 1992; Everson and Read, 1992; Myers and Meinert, 1989; M3 Engineering, 2015). These gold skarns exhibit some distinct differences to copper skarns. They are generally typified by a more reduced mineral assemblage of iron-rich (salitic-hedenbergitic) pyroxene > relatively iron-poor garnet and pyrrhotite >> pyrite. Many examples are associated with equigranular diorite plutons (e.g., Everson and Read, 1992; Myers and Meinert, 1989).

Gold grades in gold skarns are generally > 1 g/t. Gold skarns also usually contain copper, generally < 0.5% but occasionally greater (Meinert, 1987). Another distinctive feature of gold skarns is the Au-As-Bi-Te geochemical association and the close association of gold deposition with bismuth and tellurium. Gold often occurs alongside or intergrown with minerals such as the bismuth telluride hedleyite, bismuthinite, and native bismuth, and gold often occurs in maldonite (Au<sub>2</sub>Bi) (Meinert, 2000; Everson and Read, 1992).

There also exists a sub-class of gold skarns that are more oxidized. These generally have a high garnet: pyroxene ratio, relatively iron-poor garnet and pyroxene, and pyrite > pyrrhotite, e.g., McCoy, Nevada (Brooks et al, 1991).

The Las Minas skarns are characterized by a calc-silicate mineral assemblage consisting of abundant garnet with lesser pyroxene and a metallic mineral assemblage consisting principally of abundant magnetite, chalcopyrite, pyrite, and bornite. The dark brown color of the garnet suggests it may principally



be andradite (Fe-rich) and the pale to medium green color of the pyroxene indicates it is relatively iron-poor diopside. These characteristics bear similarities to many copper skarns, particularly those that are not related to porphyry copper deposits (Meinert, 1992; 1987), but also to the oxidized sub-class of gold skarns (Meinert, 2000; Brooks et al, 1991). Considering all characteristics, the Las Minas skarns have features which suggest the mineralization may be best classified as an example of the non-porphyry-related copper skarn class. However, many features of alteration and mineralization at Las Minas are also consistent with those of the oxidized gold skarn class. Ultimately, the exact classification and differentiation between these two classes may not be of great importance.

Because the Las Minas skarn deposits contain copper and gold in association with iron oxide (magnetite), they could also be considered to have affinity to the so-called IOCG (iron oxide-copper-gold) deposit type, or could be considered a variant thereof.

Within Mexico, the closest significant analogues to the Las Minas skarns are in the prolific Guerrero Gold Belt in the state of Guerrero in southwestern Mexico. The skarn deposits in this area have a long history with the involvement of many different entities (e.g., Teck Resources, Goldcorp, Newmont Mining, Torex Gold Resources, Leagold Mining Corp.). These skarns are closely associated with granodioritic and dioritic stocks, may contain locally abundant magnetite, and have Au grades on the order of 1-15g Au/t developed in both exoskarn and endoskarn (M3 Engineering, 2015; Stantec, 2017). These characteristics are similar to Las Minas mineralization though in general are of higher gold grade than at Las Minas. Copper is present but usually not of ore grade, although the Media Luna deposit (Torex Gold) contains about 1% Cu. A number of these deposits are currently being mined and/or developed, e.g., El Limon-Guajes and Media Luna (Torex Gold) and Los Filos (formerly Goldcorp, sold to Leagold). Total gold endowment in the Guerrero deposits is considerable, currently amounting to approximately 18 Moz Au. Needless to say, the Guerrero province serves as a good example of how productive skarn deposits in Mexico can be.



## **9.0 EXPLORATION**

Exploration by Mexican Gold is summarized in this section. Drilling by Mexican Gold is described in Section 10.0. The information presented in this section for work completed by Mexican Gold before 2017 is drawn from Read and Shoemaker (2017) and other sources, as cited, with additional input from Mexican Gold. The author has not analyzed the sampling methods, quality, and representative nature of surface sampling on the Las Minas property because drilling results form the basis for the mineral resource estimate described in Section 14.0.

Although the Las Minas district has a history of discovery, exploration, and exploitation dating back to pre-Colonial times, exploration in a modern-day sense has only taken place in the last 20 or so years. This was first initiated by Chesapeake with initial reconnaissance mapping and sampling in the area and the staking of a large concession in 2005. Mexican Gold (formerly Source Exploration Corp.) is responsible for the most extensive exploration activities that have been undertaken in the district, beginning in 2010.

Recognizing the district's potential for skarn-hosted mineralization, Mexican Gold's exploration program has targeted known skarn occurrences, many with evidence of historic mining or exploration activity. Certain contact zones between marble and diorite have also been the focus of exploration. These efforts have been guided by surface and underground sampling, a ground magnetic survey and drilling.

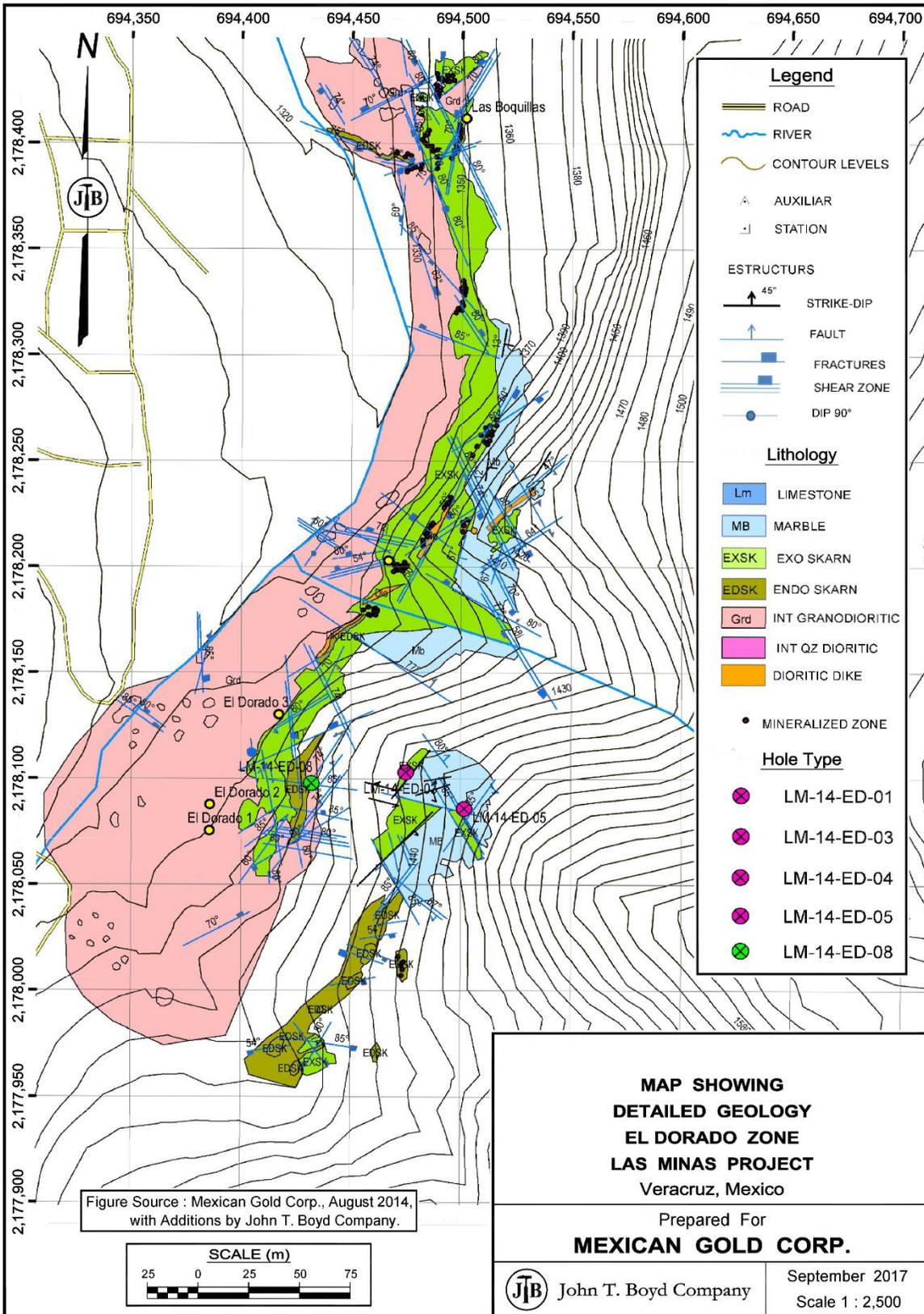
### **9.1 Geologic Mapping**

Geologic mapping within the project area has been carried out by Mexican Gold's geologists and Geoconsulting Ingenieros S.C. ("GISC") of Mexico City. GISC's work included mapping the lithologic units in more detail and further refining the stratigraphy, particularly the Tertiary volcanic section. The project area geologic map is shown in Figure 7.2.

Previous mapping by Chesapeake provided some detail within the immediate vicinity of historical workings at Santa Cruz, El Dorado, and Juan Bran. Mexican Gold mapped the surface in detail over much of the El Dorado zone surface exposures as shown in Figure 9.1



Figure 9.1 El Dorado Zone Detailed Mapping





## 9.2 Surface and Underground Sampling

The Mexican Gold database contains 1,814 chip, grab, and channel samples. As part of their initial reconnaissance work in 2010 and 2011, over 1,400 samples were collected from exposures as part of an extensive program conducted throughout the district. The vast majority of these samples are 2 m channel samples, representing more than 140 separate channels from the various adits and surface exposures associated with the numerous historical workings found throughout Mexican Gold's property. The more recent sampling in 2017 and 2018 focused on the Pueblo Nuevo and Changarro areas where high-grade gold, with associated silver and base-metal mineralization, has been encountered. All of the exploration samples were assayed for Au, Ag, Cu, Pb, and Zn by SGS Labs ("SGS") in Durango, Mexico.

The best channel sample gold values within the resource area came from the Santa Cruz zone though significant mineralization was also encountered at El Dorado and Juan Bran. Some examples include:

Santa Cruz:

- 20 m @ 5.2g Au/t, 1.19% Cu; La Garma adit
- 8 m @ 3.5g Au/t, 1.14% Cu; El Mayate adit

El Dorado:

- 12 m @ 0.76g Au/t, 2.06% Cu; El Dorado 1 adit
- 16 m @ 1.171g Au/t, 2.4% Cu; El Dorado 1 adit

Juan Bran:

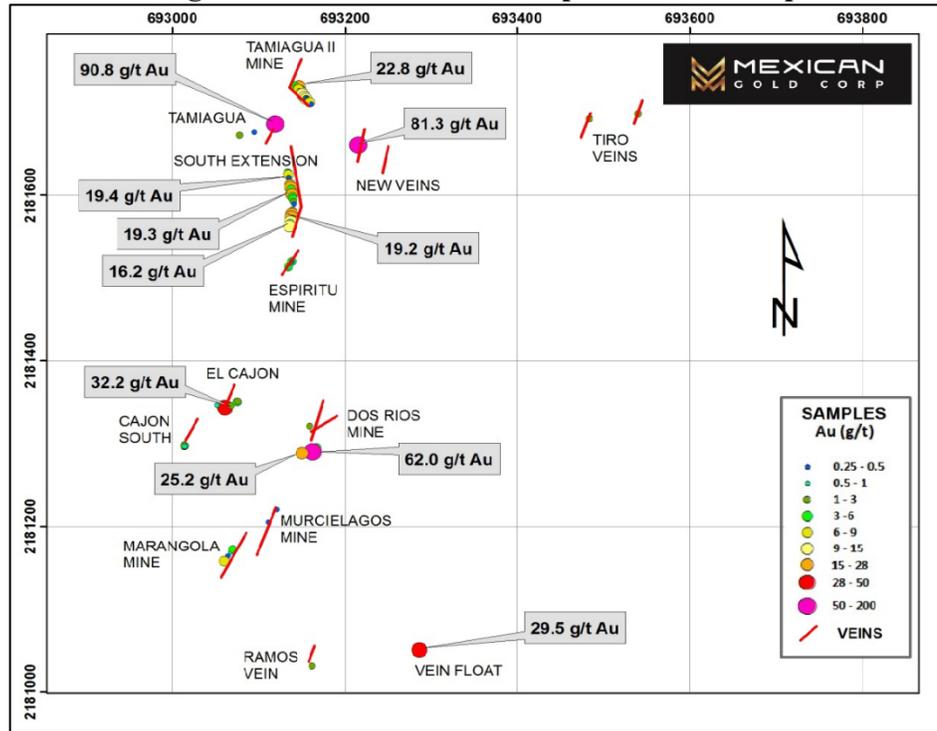
- 12 m @ 2.82g Au/t, 1.5% Cu; Juan Bran 2 adit
- 22 m @ 0.52g Au/t, 0.85% Cu; Juan Bran adit

It should be noted that the channel lengths are not necessarily indicative of true mineralized widths. For example, in the flat-lying El Dorado zone, the horizontal adits and channel samples are oriented along the trend of mineralization, not across it.

Significant gold values (>1g Au/t) were encountered in many of the historical workings outside of the current Las Minas resource, including, but not limited to, Cinco Senores, San Jose del Oro, Las Boquillas, Changarro-La Perdida, and Pueblo Nuevo (see Figure 7.2 for area locations and Section 7.4.3 for a summary description of these mineral occurrences). The high-grade samples assaying over 10g Au/t occur primarily within the Las Boquillas adit #2, located just north of the El Dorado resource zone, and within the Changarro-La Perdida and Pueblo Nuevo target areas. While the Las Boquillas and Changarro gold mineralization, and most of the other district mineralization, is skarn-hosted, the Pueblo Nuevo high-grade gold occurs both within skarn and also as thin (<1 m), banded quartz veins. The latter vein-type mineralization occurs within numerous small working (mostly adits) within the Las Minas diorite and below the contact with the overlying silicified limestone within the district. Mexican Gold created sample location maps for many of the exploration targets. Figure 9.2 and Figure 9.3 are examples of the sample location maps with assay values for Pueblo Nuevo and Changarro, respectively.

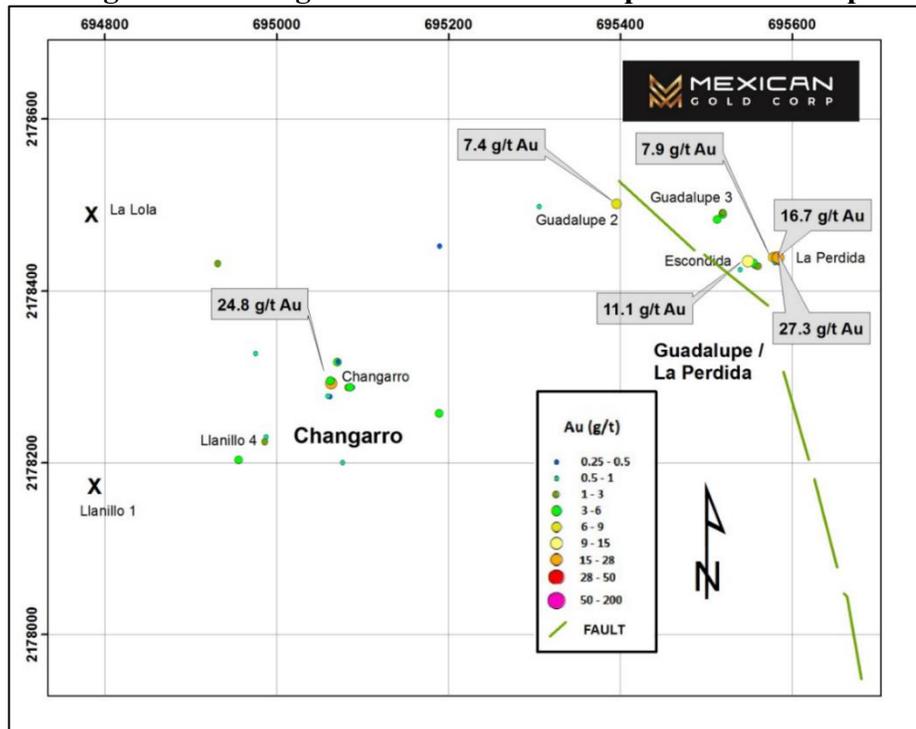


Figure 9.2 Pueblo Nuevo Sample Location Map



Note: 200 m UTM grid for scale.

Figure 9.3 Changarro – La Perdida Sample Location Map



Note: 200 m UTM grid for scale.



## 9.3 Geophysical Surveys

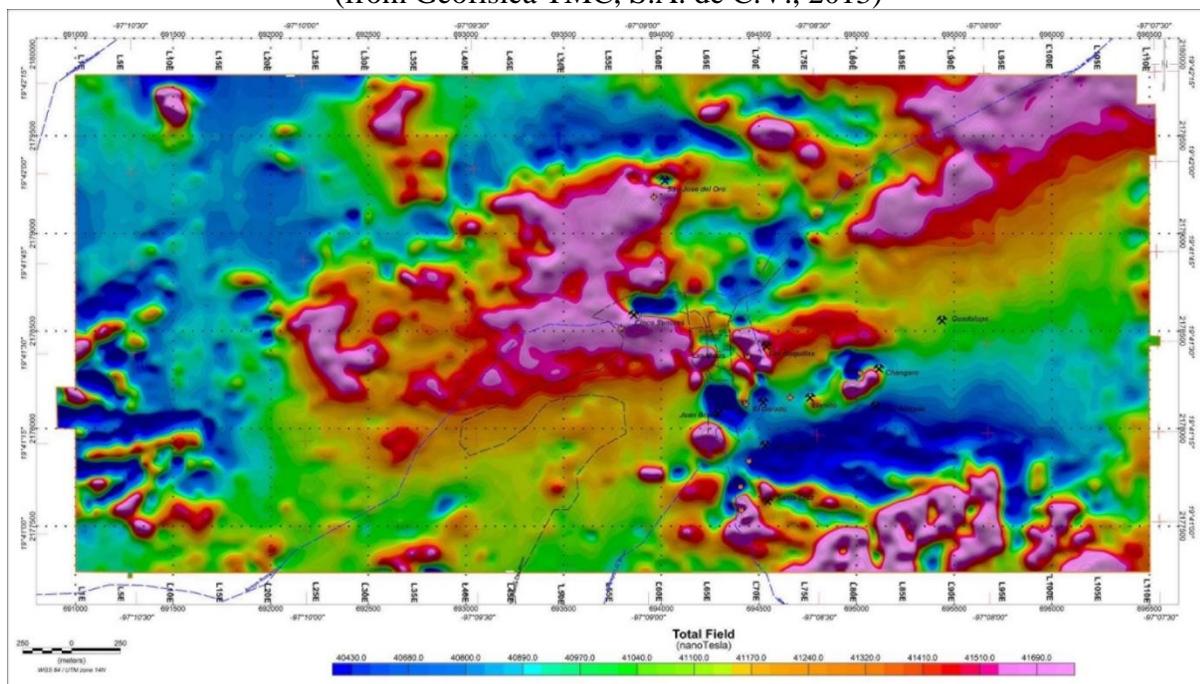
### 9.3.1 Ground Magnetics

A ground magnetic survey was carried out from November 2012 to January 2013 by Geofisica TMC SA de CV, a subsidiary of Geophysique TMC of Quebec. The survey covered an area measuring 5.5 km (east-west) by 2.5 km (north-south), or 13 km<sup>2</sup>, was centered on Las Minas pueblo, and essentially covered the entirety of the Pepe Tres claim. The survey was run on north-south lines spaced 100 m apart; each line was 2.5 km in length. Readings of total magnetic field were collected along the lines every 2 seconds, with locations recorded by GPS (Geofisica TMC, 2013).

Figure 9.4 shows the total magnetic field reduced-to-pole image for the survey area. Numerous zones of magnetic highs exist throughout the survey area, including broad zones located northwest and southeast of Las Minas pueblo. It is likely that, for the most part, the magnetic high anomalies are reflecting underlying (or outcropping) intrusive. As has been noted, the dioritic and granodioritic rocks in the project area have high magnetite contents and thus should give rise to anomalously high total field zones. It is less clear if the magnetite-bearing skarn bodies are reflected in the survey. It is possible that due to the narrowness of the skarn zones compared to the adjacent diorite intrusive, a distinct magnetic anomaly attributable to just the skarn is not produced.

Strongly anomalous zones are present in several mineralized areas, notably Santa Cruz, Juan Bran, Cinco Senores, Las Boquillas, and Changarro, where magnetic highs occur coincident or adjacent to known skarn occurrences. The magnetic survey has served as a good exploration guide in the district and continues to be used by Mexican Gold geologists as a tool for further work.

**Figure 9.4 Magnetic Survey – Total Field Reduced to Pole**  
(from Geofisica TMC, S.A. de C.V., 2013)





### **9.3.2 Induced Polarization**

In conjunction with the ground magnetic survey, Geofisica TMC completed an induced polarization/resistivity (“IP/Res”) orientation study of three test lines just east of Las Minas pueblo, within the magnetic survey grid. The IP/Res survey was carried out using a pole-dipole array with spacing at 100 m (Geofisica TMC, 2013). These three lines were oriented north-south, spaced at 200 m, and each was 2.4 km in length, covering the Las Boquillas, El Dorado, and Santa Cruz mineralized zones. These mine areas are characterized by low resistivity, but are somewhat indistinct in chargeability response. Chargeability highs occur just north and south of Rio Las Minas, approximately 0.5 km northeast of the pueblo. The source of this anomalous chargeability is not known.

### **9.3.3 2017 Moving Loop TEM and Ground Magnetics Surveys**

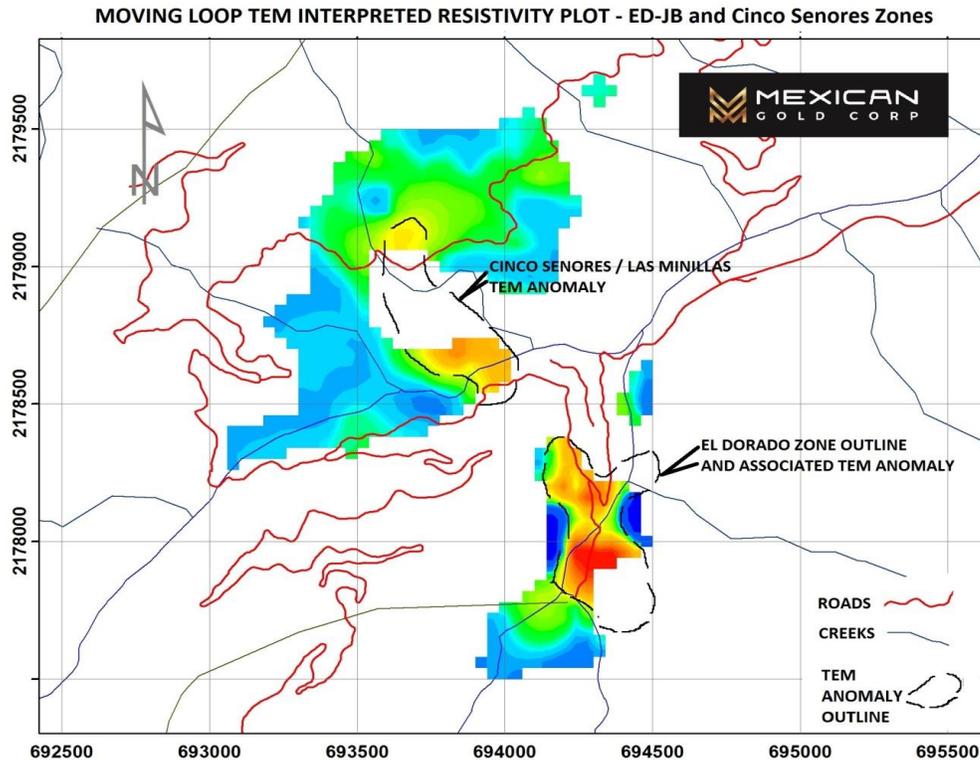
Geotem Ingeniería of Mexico City performed ground-based, moving-loop, time-domain electromagnetic (“TDEM”) surveys and limited ground magnetic (“MAG”) surveys on the Pepe claim in September and October 2017 (Geotem Ingeniería, 2017). The purpose of the surveys was to upgrade potential drill targets at Cinco Senores and Las Minillas.

The TDEM survey was conducted over three grids; an orientation survey over the known Las Minas deposits, then the second at Cinco Senores and the third at Las Minillas. Analyses of the Las Minas TDEM sections and pseudosections were highly successful with both the intensity and the depth of the known mineralization over the El Dorado zone being well-resolved. Two anomalies were identified as Cinco Senores; a previously drilled target (with limited drill success) near the historical mine area, and a second as yet undrilled target northeast of the historical area. There were no appreciable anomalies on the Las Minillas grid, not even near the historic mine and showing. This could be the result of the pyrite-clay overprint destroying connectivity of conductive minerals (Mexican Gold, pers. comm.).

In 2018, the TDEM data was reprocessed by Bob Lo, geophysicist, from Toronto, Canada (Lo, 2018). Apart from the El Dorado zone mineralization, two strong anomalies which persist into late times are seen in the resistivity image (Figure 9.5), at Cinco Senores and north in the south-central Las Minillas grid area. These anomalies appear to be connected, though deep overburden between them precludes further surveying.



**Figure 9.5 Moving Loop Time Domain Electromagnetic (TEM) Survey**  
(data from Geotem Ingeniería, 2017; reprocessed by Lo, 2018)



MAG was also performed in parts of the three grids, on east-west lines orthogonal to the 2012 ground mag survey to better discriminate north-south trending features. The main magnetic anomaly at Las Minillas was much better resolved than previously, and some magnetite skarn may be visible on the margins of a thick dike. Some of the dikes at Cinco Senores also may show up more clearly.



## 10.0 DRILLING

The information presented in this section is derived primarily from the author’s review of the project data, though some details on the pre-2017 drilling are based on information in Read and Shoemaker (2017).

### 10.1 Summary

The Las Minas database contains records for a total of 25,977 m of diamond-core (“core”) drilling in 181 holes in the Las Minas property. The project drilling compiled by target area is summarized in Table 10.1. Figure 10.1 shows the locations of the Las Minas drill-hole collars along with the location of the Santa Cruz and El Dorado resource zones and the more significant exploration targets.

**Table 10.1 Las Minas Drill Database - Yearly Summary by Target Area**  
 (MDA database, June 2019)

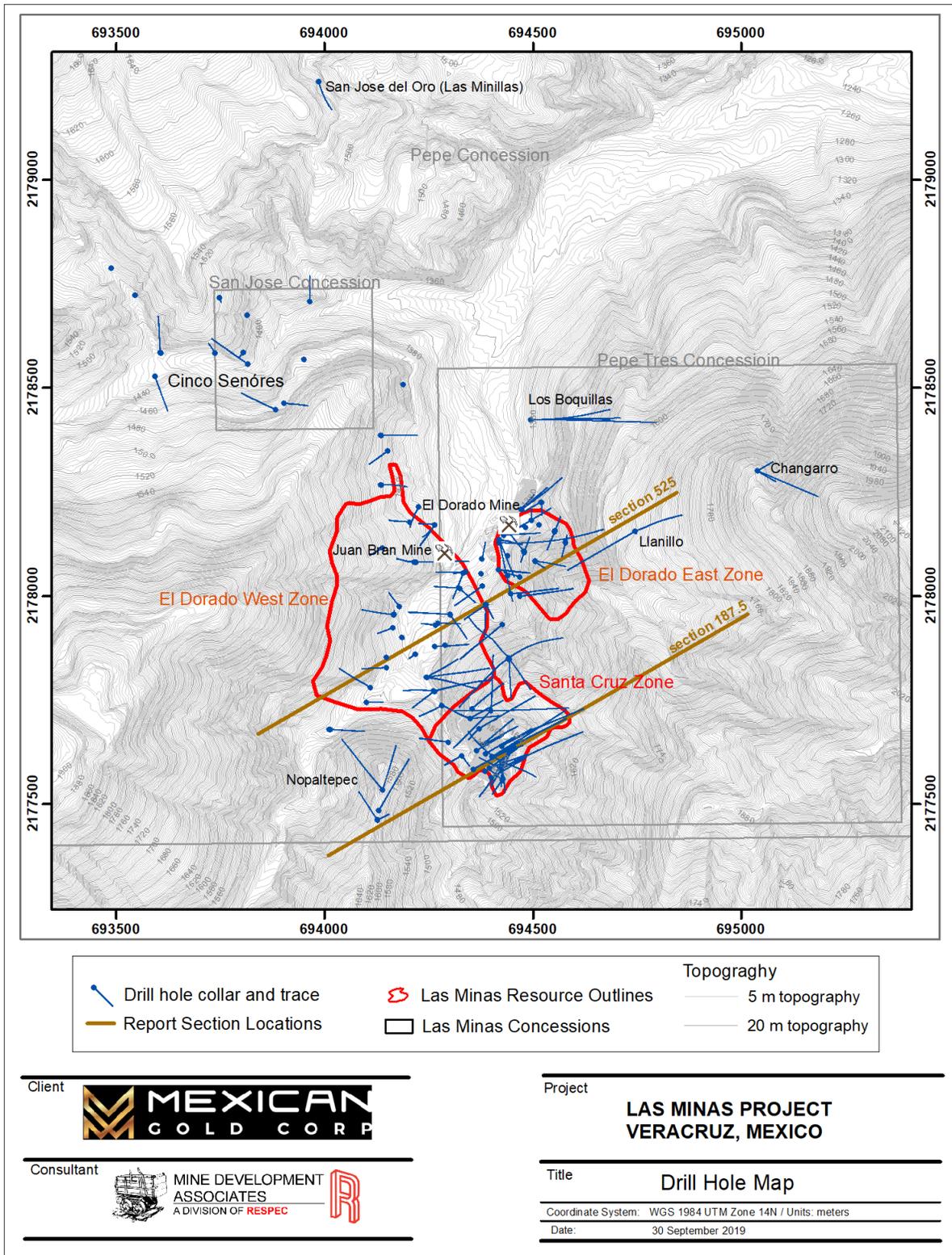
Year	Target	core holes	core (m)
2011	Cinco Senores	5	331.8
	El Changarro	4	646.5
	El Dorado	14	1,193.2
	Las Boquillas	5	1,095.7
	Las Minillas	2	255.2
	Llanillo	4	1,137.5
	Santa Cruz	16	4,327.6
2012	Santa Cruz	10	1,081.4
2014	Cinco Senores	3	300.0
	El Dorado	27	2,916.7
	Santa Cruz	12	1,536.8
2015	El Dorado	6	762.0
	Santa Cruz	9	1,140.8
2017	Cinco Senores	8	916.9
	El Dorado	39*	5,315.2
2018	Cinco Senores	1	79.3
	El Dorado	8	1,371.9
	Santa Cruz	8**	1,569.1
	total	181	25,977.3

\*includes one hole wedged off existing hole

\*\* includes three holes that re-entered and deepened existing holes



Figure 10.1 Location of Las Minas Project Drill Holes and Mineral Zones





Mexican Gold, and its predecessor company Source Exploration, has completed all of the known drilling on the Las Minas property. The drilling was performed in 2011, 2012, 2014, 2015, 2017, and 2018 with the initial drilling located within both the current resource areas and also various targets throughout the project area. The more recent drilling has focused on the resource zones. A full listing of all drill holes within the Las Minas property is provided in Appendix A.

Of the project-wide drill total within the current database, 149 core holes are within or directly adjacent to the Las Minas resource areas and contribute data used in the current resource block model. Drilling for the Santa Cruz deposit totals 55 holes with many of these angled to the east, which is not the most favorable drill direction to target east-dipping mineralization. This drill angle is forced by the extremely steep topography rising to the east above the deposit area and the difficulty in siting drill locations upslope. The result are significant drill-indicated mineral widths within the east-dipping drill holes that often are much greater than true mineral widths. The sub-horizontal El Dorado zone was drilled by primarily vertical or steeply inclined core holes so drill-indicated skarn mineral widths are close to true mineralized widths.

Representative drilling cross-sections through the Santa Cruz and El Dorado zones are shown in Figure 14.1 and Figure 14.2, respectively. Locations of the cross-sections are shown in brown on Figure 10.1.

## **10.2 Drilling Methods**

The first two drill campaigns (2011 and 2012) were contracted to Drilcor, S.A. de C.V. based in Durango, Mexico. Drilling in 2014 through 2018 was done by KDL Mexico, S.A. de C.V. of Durango, Mexico, a direct subsidiary of Kluane Drilling Ltd. of Whitehorse, Yukon Territory, Canada.

All drilling on the property has been diamond core drilling. The 2011 and 2012 drilling used HQ and NQ-sized core. The 2014 through 2018 drilling utilized NTW (NQ Thin-Wall; 56 mm) core size. Core drilling has been carried out using man-portable drills. This has allowed for constructing drill sites (by hand methods) in places that would not be amenable to road construction due to the steep topography in the project.

When drilling, a single drill rig operated and drill crews worked two 12-hour shifts per day. Core runs were a maximum 1.524 m (the core barrel was actually 5 ft) though the occasional shorter run was used within broken ground. The rock is generally weakly fractured and core recovery has been consistently good.

Upon drill-hole completion, the collar was marked with a wooden stake, though some holes located in the valley just south of the Las Minas village have a concrete monument marking the drill-hole location. During the author's field verification, it was also noted that on the steep hillsides many of the hole location wooden stakes can no longer be seen. Combined with the rapid natural re-vegetation, this makes finding the actual collar location difficult. This uncertainty is somewhat lessened due to the very small drill-pad sites that were constructed (some just 4 m x 4 m, or less), which limits the collar locations to within small areas.



### **10.3 Drill Collar Surveys**

Drill collars were surveyed during each yearly drill campaign by Topografia Digital Prissmax (“Prissmax”), an independent surveyor based in Jalapa, Veracruz. The survey was done using optical total station methods because the steep canyon walls make GPS surveying difficult. Collar coordinates are in UTM meters, WGS84 datum.

It was noticed in 2017 that database collar elevations for some drill holes did not coincide with available topographic mapping. Mexican Gold re-surveyed a number of drill collars which confirmed that the collar surveys were correct and that the topography was in error. See Section 14.2.1 for a further discussion of this issue.

### **10.4 Downhole Surveys**

Downhole directional surveys were conducted in 157 of the 181 drill holes in the Las Minas drill database. Within the resource area, 143 of the 149 drill holes have downhole surveys. Azimuth and inclination readings were taken at 3 m intervals in the 2011 and 2014 drill holes, and at variable intervals from 30 m to 100 m in the 2012, 2015, 2017, and 2018 drill campaigns. A reading was also taken approximately 1 m above total depth in all drill holes. Data were directly downloaded from the apparatus.

During the 2011 and 2012 drilling campaigns, the majority of drill holes were surveyed using a Maxibor optical instrument with a few holes surveyed with a gyro. Both methods are not susceptible to variations in the local magnetic field (i.e. magnetite content of the rock). Subsequent campaigns have used Reflex “EZ-Shot” or “Devi-Shot” methods which are susceptible to variations in the magnetic field and could lead to spurious results depending on proximity of the instrument (survey depth) to magnetite zones in the skarn. During the 2014 drilling, both gyro and “EZ shot” methods were used and some double surveys were done to check the accuracy of the EZ shot method with no discernable differences observed (M. Liard, pers. comm.). It is standard practice that all downhole readings for every drill hole are inspected by the Mexican Gold senior geologist looking for sharp deviations in the azimuth or inclination readings and/or anomalous values for the instrument’s magnetic field reading. As a result, approximately 5% to 10% of the data has been discarded. Most holes were relatively shallow and showed only minor deviation. Some of the earlier, lengthier holes show some drooping of the drill trace with depth, which is expected.

### **10.5 Core Recovery and RQD**

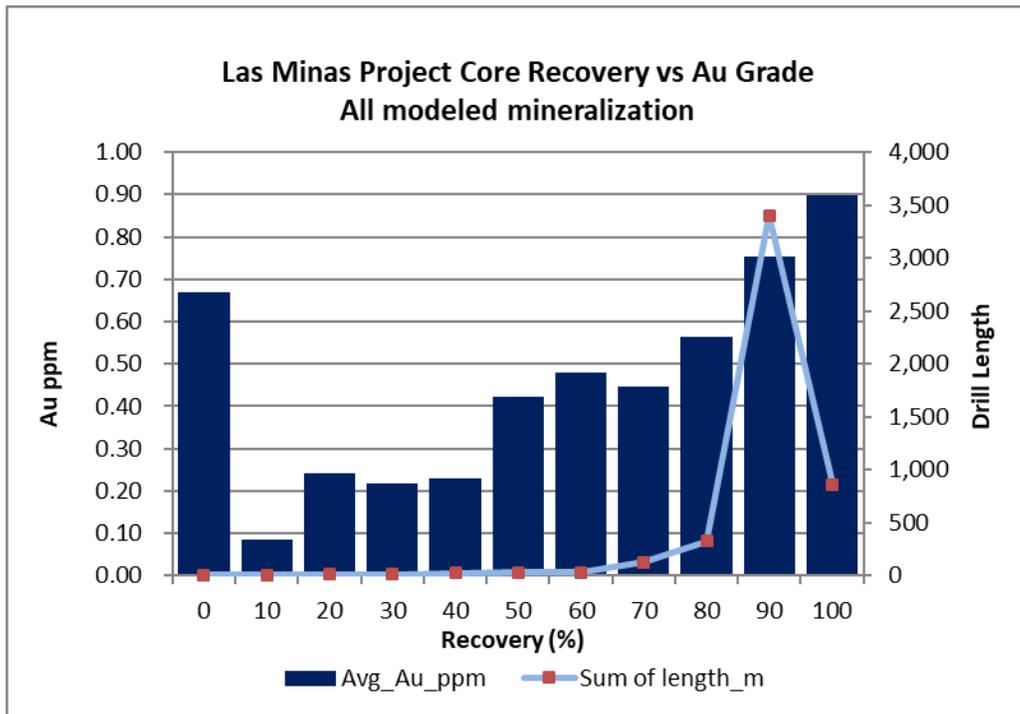
Average core recovery for all Las Minas core holes is 90%, while average core recovery for those intervals contributing to the current mineral estimate (i.e., are within the modeled mineral domains as described in Section 14.0) is 95%. The core is generally weakly fractured both within and adjacent to the mineralized intervals, and rock quality designation (“RQD”) measurements for those intervals contributing to the current mineral estimate average 70%. Three-meter drill runs of solid, unfractured core are not uncommon.

Intervals of poor core recovery may have an impact on grade assessment. The drill data was analyzed to determine if there was a deposit-wide relationship between poor recovery intervals and gold grades. Figure 10.2 shows the mean gold grade (blue vertical bars) and the drill footage (light blue line with orange data



points) plotted in the vertical axes, while core recovery is plotted along the horizontal axis. The figure includes all mineralized intervals within the Las Minas resource block model though six intervals assaying over 10g Au/t were removed since they skew the gold statistics. The core recovery data have been separated into distinct bins for each 10% increase in recovery. As an example, the “70” value in the horizontal axis contains all data points which have core recovery values between 70 and 79%. The “100%” core recovery bin includes all drill intercepts with 100% or greater core recovery. Approximately 2% of these drill intercepts have calculated core recovery values greater than 100%. These infrequent intercepts are the result of core re-drill or minor depth measurement errors.

**Figure 10.2 Core Recovery versus Gold Grade – All Modeled Mineralization**



There is a fairly consistent decrease in gold grade with decreasing core recovery though the great majority of drill intervals have core recovery values greater than 90%. For those intervals with core recoveries less than 80%, gold grades are less than half than intervals with 100% recovery. The less than 80% recovery intervals make up less than 6% of the total drill intervals, so the potential strong negative bias from these intervals has a limited effect on the global resource. It is likely true that the generally lower gold grades associated with intervals of less than 90% core recovery lend a conservative aspect to the current resource estimate.

## 10.6 Summary Statement

The author believes that the drilling procedures used by Mexican Gold provided samples that are representative and of sufficient quality for use in the mineral resource estimations discussed in Section 14.0. Mr. Tietz is unaware of any drilling, sampling or recovery factors that materially impact the mineral resources discussed in Section 14.0.



## **11.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY**

The information presented in this section is derived primarily from the author's review of the project data and observations made during the author's site visit. Some details on the pre-2017 drilling are based on information in Read and Shoemaker (2017).

### **11.1 Core Handling, Logging and Sampling Procedures**

The drill core was retrieved daily at the drill site by Mexican Gold staff, or drill contractor staff, and was brought to the Mexican Gold's secure core logging and sample preparation facility located at the north end of the Las Minas townsite. The core was laid out on tables and reviewed to make sure the core run blocks were inserted and marked, and then arranged so that the individual core pieces "fit" together. Trained Mexican Gold technicians then measured and recorded the RQD data (core recovery, rock determination, and number of fractures). All core boxes were then photographed.

The core was logged by Mexican Gold project geologists. Logging was done electronically on a laptop computer utilizing GEMS Logger software. Recorded geologic parameters include: lithology, alteration, sulfide minerals, and magnetite content. Lithology was detailed by basic rock type, e.g., intrusion, marble, exoskarn, endoskarn. More detailed coding was applied to capture attributes for unique mineralogy or alteration-style of the various major lithologies. A verbal geologic description of the core was also entered into GEMS Logger. A consistent geologic log coding system has been used for the last few drill campaigns; initial campaigns utilized more simplified lithologic log codes. Re-logging of early holes has been done to apply the more recent log codes to these holes.

After logging was completed, the geologist marked the "from-to" sample intervals in the core box with a stapled sample tag and also marked a cut line on the core. The sample ID was a "blind" sample number from a project worksheet which correlated the sample ID with the actual from-to sample meterage. Maximum sample lengths were generally 2 m with the occasional shorter interval at geologic breaks. The geologist also added additional sample tags for those intervals where quality assurance / quality control ("QA/QC") samples were to be inserted.

The core was then cut in a diamond saw by Mexican Gold technicians following the cut line marked on the core by the geologist, and half-core samples were collected and bagged. The bags were marked with the sample ID, and laid out in numerical sequence on the floor of the facility. Where the sample interval was marked to insert a field duplicate, the half core to be sampled was cut into quarter core. One quarter was considered the "regular" sample while the other quarter was inserted as the field duplicate. The entire sample stream, including the QA/QC samples, were then put into large sacks, sealed with a secure band, and stored until transport to the SGS laboratory in Durango, Mexico. Transport to the SGS lab was usually by trucks belonging to SGS, though occasionally, if the sample shipment was small, the samples would be transported by Mexican Gold personnel in company trucks.

### **11.2 Sample Preparation and Analysis**

All Las Minas project drill and surface samples have been sent to SGS for processing, except for a limited number of second-lab QA/QC check samples that were sent to ALS Minerals ("ALS", see Section 11.4.5). SGS is presently accredited by the International Organization for Standardization (ISO) and has ISO 9001



certification and fulfills ISO/IEC 17025 testing requirements. SGS and ALS are independent of Mexican Gold and its subsidiaries.

Samples were prepared following protocol for mineral sample preparation including weighing, drying, crushing, sieving, splitting, and pulverization. Samples were analyzed for gold and silver using fire assay techniques, and for copper and 33 other elements using inductively coupled plasma - atomic emission spectroscopy (“ICP-AES”) techniques. SGS has used the same analytical methods and procedures for all of Mexican Gold’s drill samples commencing in 2011. The SGS analytical methods used were:

**Gold:** 30 g fire assay with atomic absorption spectroscopy (“AAS”) finish (SGS code FAA313); analytical limits of 0.005 ppm to 10.0 ppm. For samples that assayed greater than 10.0 ppm, a 30 g fire assay with a gravimetric finish (SGS code FAG303) was performed.

**Silver:** 2 g aqua regia digest with AAS determination; (SGS code AAS12E); 0.3 - 300 ppm analytical limits). For samples that assayed greater than 300 ppm, a 30 g fire assay with gravimetric finish was performed (SGS code FAG313).

**34 elements:** Major, minor and trace elements including Cu were assayed using ICP-AES following an aqua-regia digestion (SGS code ICP14B); various analytical limits including 0.5 ppm to 10,000 ppm limits for Cu. For samples that assayed greater than 10,000 ppm Cu, another ICP-AES determination was performed following a sodium peroxide fusion (SGS code GO-ICP90Q).

### 11.3 Sample Security

The author has visited the core processing facility within the Las Minas townsite and confirmed the storage of all project core and returned sample pulps is within a fenced enclosure with a locked gate. Though not observed by the author, Mexican Gold reports that the drill core was retrieved daily from the drill site by Mexican Gold staff, or drill contractor staff, and brought to the gated enclosure for processing and storage.

### 11.4 Quality Assurance/Quality Control

QA/QC samples were inserted into the sample stream sent to SGS on a regular basis for all Mexican Gold drill campaigns. The QA/QC samples consisted of pulp blanks, certified reference materials (“CRM”s or “standards”), and duplicate samples. The duplicate samples consisted of field duplicates (quarter-core splits), preparation pulp duplicates from coarse rejects, and second-lab pulp re-assays (check samples). The QA/QC samples have made up about 10% of the total samples analyzed.

#### 11.4.1 Pulp Blanks

Analytical “pulp” blanks were used to monitor possible contamination or calibration problems during the assaying process. Mexican Gold used four different commercial blank pulps supplied by CDN Resource Laboratories (“CDN”) for the QA/QC program. All four blanks were composed of crushed and pulverized granitic rock.

A total of 196 pulp blank analyses are within the project database. These blanks have been inserted into the sample stream at a consistent rate of one every 30<sup>th</sup> drill sample for the 2011 drilling and then one



every 40<sup>th</sup> drill sample for the 2012 through 2018 drilling. It would have been preferable if the blanks were placed in the sample stream within, or immediately following, a set of mineralized samples. It is realized though that pulp blanks, as compared to coarse preparation blanks, cannot be used to evaluate the sample preparation process (crushing and pulverizing), which is usually the greatest source of sample contamination.

Table 11.1 is a summary of the pulp blanks results for all of the Mexican Gold drill campaigns. Blank results that are greater than five times the lower detection limit of the relevant analyses are typically considered failures that require further investigation and possible re-assaying of associated drill samples. The lower detection limit of the blank pulp analyses was 0.005g Au/t, so blank samples assaying in excess of 0.025g Au/t are considered to be failures. CDN did not provide copper or silver contents of the pulp blanks. An approximate copper failure limit though can be determined from evaluating SGS’s pulp blank assays and calculating an average baseline (a substitute for the detection limit), and then a five-times-baseline failure limit. These vary slightly between the four different CDN blanks and are shown in the “limit (%)” copper column in Table 11.1.

**Table 11.1 Pulp Blanks Results**

Blank Sample	Date	Count	Gold			Copper		
			limit (g/t)	Failures	Fail_%	limit (%)	Failures	Fail_%
BL-7	4/11 - 10/11	45	0.025	3	6.7%	0.020	3	6.7%
BL-8	10/11 - 12/11	32	0.025	1	3.1%	0.010	0	0.0%
BL-9	12/11 - 1/12	17	0.025	0	0.0%	0.010	0	0.0%
BL-10	2012-2018	102	0.025	1	1.0%	0.025	1	1.0%
Total		196		5	2.6%		4	2.0%

In total, there were five gold analyses which exceeded the failure threshold, for an average failure rate of 2.6%. The highest gold failure rate of 6.7% was for the BL-7 pulp blank. The BL-7 blank was used at the start of the Mexican Gold drill program in 2011 and all three failures occurred within the first five blank samples analyzed. This points to either some problem with the lab, or possibly clerical issues within Mexican Gold at start-up. The failure rate in the gold analyses declined and from 2012 through the 2018 drilling, there was just one failure. The highest blank gold value is 0.291g Au/t, which was the single failure in the BL-10 sample data. This pulp sample was inserted into the sample stream of drill hole LM-18-SC-05A. It is not believed that Mexican Gold conducted any re-assaying of associated drill holes due to any of the blank failures.

For the copper blank analyses, there were four copper analyses which exceeded the failure threshold, for an average failure rate of 2.0%. The highest copper failure rate was for pulp BL-7 in the same three failures as the gold analyses. The one copper failure in the BL-10 data set is also for the same sample as in the gold data. Since different analytical methods were used for the two metals, the failures are not likely calibration or analytical failures, but were either inherent in the sample (not actually a “blank” due to numbering or other mix ups) or from some unknown source of contamination.

Figure 11.1 and Figure 11.2 are graphical representations of the 2012 – 2018 pulp blank BL-10 gold analyses. Similar graphs were completed for all other blank samples. Figure 11.1 plots the gold blank



values in the y-axis while the numbered temporal sequence of analyses is plotted in the x-axis of the graph. The over-limit failure value is indicated by the red line. The single gold failure near the end of the sequence as an isolated point in the upper right-hand corner of the graph.

Figure 11.1 Gold in Pulp Blank BL-10 (2012 – 2018 Analyses)

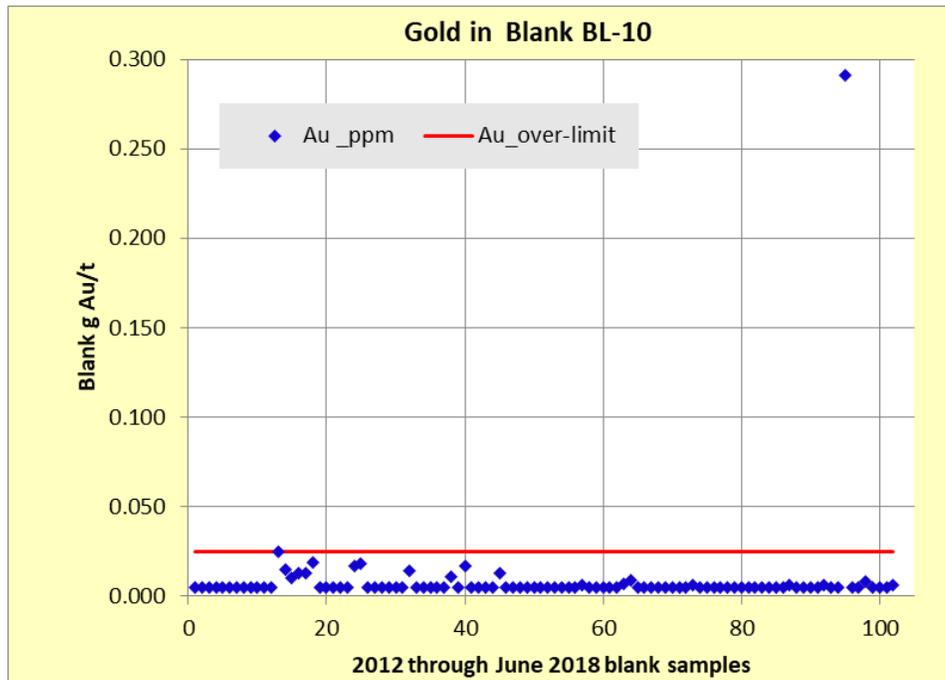
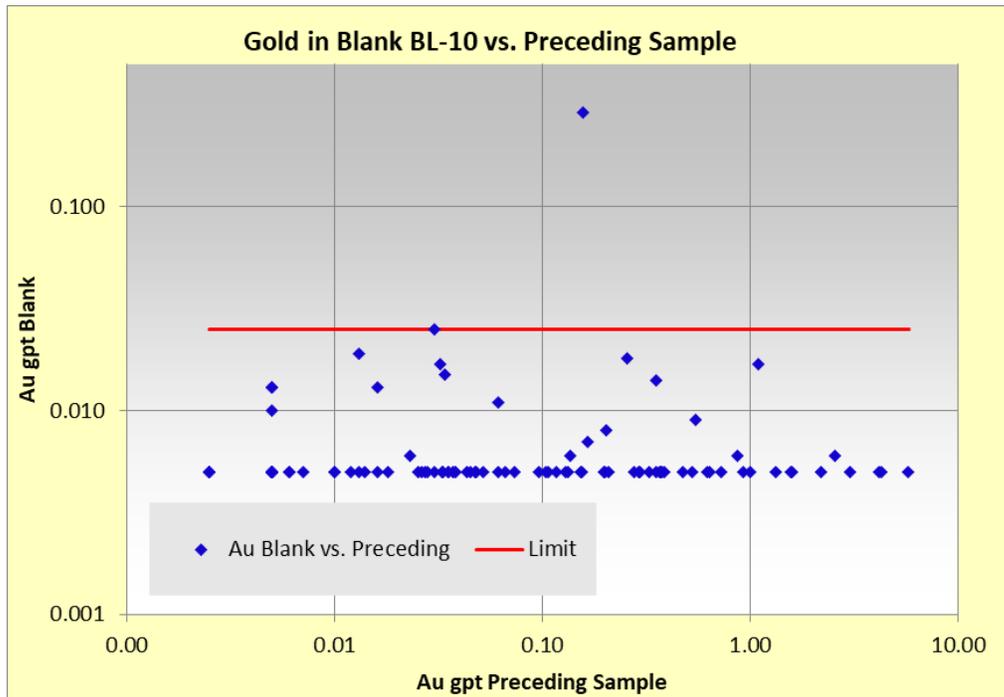


Figure 11.2 presents the gold pulp blank analyses, again in the y-axis, versus the preceding sample's gold value in the x-axis. There is no relation between the blank failure and higher-grades within the preceding samples so the failure is not likely due to contamination. In fact, the blank failure has a higher gold value than the very low-grade preceding sample. There is the same lack of correlation between blank failures and the preceding sample values in the gold and copper analyses in all other drill campaigns.



Figure 11.2 Gold in Pulp Blank BL-10 vs Preceding Sample (2012 – 2018 Analyses)



While the blank data shows the occasional failure in the gold and copper analyses, there is no evidence of significant contamination or calibration problems during the determination of gold concentrations. The few failures are not considered to have a material negative impact on the use of the assay data in resource estimation and classification. It is recommended though that preparation blanks be used in future drill campaigns to better assess possible contamination in the sample preparation process.

#### 11.4.2 Reference Standards (CRMs)

CRMs were used to monitor the laboratory’s analytical accuracy and precision. Mexican Gold has used 11 different commercial CRMs during the various drill campaigns. The standards used were pulp material purchased from CDN. Table 11.2 is a listing of the various standards and includes the expected value and standard deviation (“SD”), for each reference standard. As indicated in Table 11.2 only eight of the CRMs were certified for copper.



Table 11.2 Las Minas Project Reference Standards (CRMs)

Standard	Gold (g/t)		Copper (%)	
	Expected	SD	Expected	SD
CGC-22	0.64	0.03	0.725	0.014
CGC-26	1.64	0.055	1.58	0.035
CGC-28	0.727	0.038	2.033	0.054
CM-13	0.74	0.047	0.786	0.018
CM-15	1.253	0.059	1.28	0.045
CM-24	0.521	0.028	0.371	0.009
GS-4B	3.77	0.175	n/a	n/a
GS-5L	4.74	0.11	n/a	n/a
GS-5T	4.86	0.13	n/a	n/a
ME-11	1.38	0.05	2.44	0.055
ME-2	2.1	0.055	0.48	0.009

A total of 440 analyses of CRM gold samples and 349 analyses of CRM copper samples are within the project database. These have been inserted into the sample stream at a consistent rate of two every 30 drill samples for the 2011 drilling and then two every 40 drill samples for the 2012 through 2018 drilling. The CRMs are pulps which are not blind to the laboratory. All 11 CRMs were not used in all drill campaigns. Usually just one or two different CRMs were inserted within the same sample shipment. This resulted in just a handful of analyses for some of the standards.

The gold and copper analyses for each CRM were evaluated independently and a summary of the results listed by date is shown in Table 11.3 and Table 11.4. A graphical example of the individual analysis is presented in Figure 11.3 Each table shows the number of reference samples (“Count”), the expected mean value from CDN, the actual mean of the reference analyses, and the difference in percent between the expected and analytical mean value (“diff%”). The difference values for gold range from 0.3% to 9%, and averages 3.7%, indicating a slight positive bias in the SGS analyses. For copper, the difference values range from -5.5% to 5.1%, and averages 1.0%, indicating no material bias in the SGS analyses.



**Table 11.3 Reference Standards – Gold Analyses**

Standard	Date	Lab	Count	Expected mean (g Au/t)	Analyses mean (g Au/t)	Mean Diff%	Analyses SD	Analyses Warnings (>±2SD)	Warnings %	Analyses Failures (>±3SD)	Failures %
ME-11	2011	SGS	44	1.38	1.465	6.2%	0.056	2	4.5%	0	0.0%
ME-2	2011	SGS	43	2.1	2.151	2.4%	0.040	4	9.3%	0	0.0%
CGC-28	2011-2012	SGS	18	0.727	0.772	6.2%	0.065	0	0.0%	0	0.0%
CM-13	2011-2012	SGS	19	0.74	0.757	2.3%	0.033	0	0.0%	1	5.3%
CGC-22	2011-2014	SGS	68	0.64	0.662	3.5%	0.041	3	4.4%	0	0.0%
CGC-26	2011-2014	SGS	94	1.64	1.659	1.2%	0.067	4	4.3%	1	1.1%
GS-4B	2012-2015	SGS	38	3.77	3.949	4.8%	0.161	2	5.3%	0	0.0%
CM-24	2014-2015	SGS	29	0.521	0.537	3.1%	0.037	0	0.0%	0	0.0%
CM-15	2017-2018	SGS	32	1.253	1.366	9.0%	0.051	1	3.1%	0	0.0%
GS-5L	2017-2018	SGS	29	4.74	4.755	0.3%	0.133	1	3.4%	0	0.0%
GS-5T	2017-2018	SGS	26	4.86	4.935	1.5%	0.123	3	11.5%	0	0.0%
all			440			3.7%		20	4.5%	2	0.5%

**Table 11.4 Reference Standards – Copper Analyses**

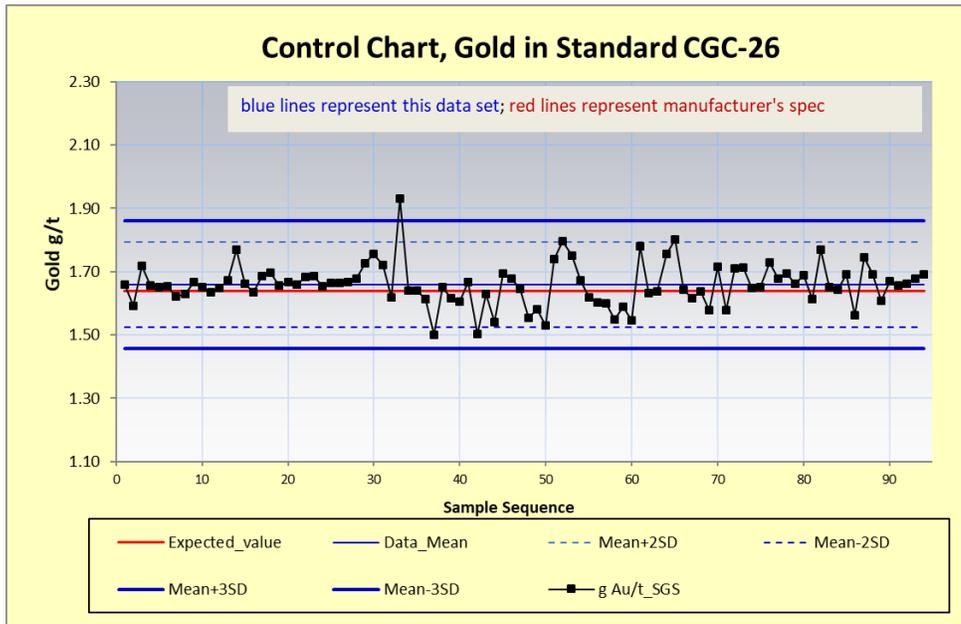
Standard	Date	Lab	Count	Expected mean (Cu_pct)	Analyses mean (Cu_pct)	Mean Diff%	Analyses SD	Analyses Warnings (>±2SD)	Warnings %	Analyses Failures (>±3SD)	Failures %
ME-11	2011	SGS	44	2.44	2.370	-2.9%	0.162	1	2.3%	1	2.3%
ME-2	2011	SGS	43	0.480	0.503	4.9%	0.017	2	4.7%	0	0.0%
CGC-28	2011-2012	SGS	18	2.033	1.921	-5.5%	0.056	1	5.6%	0	0.0%
CM-13	2011-2012	SGS	19	0.786	0.826	5.1%	0.050	1	5.3%	0	0.0%
CGC-22	2011-2014	SGS	68	0.725	0.736	1.5%	0.054	0	0.0%	2	2.9%
CGC-26	2011-2014	SGS	94	1.580	1.589	0.6%	0.085	1	1.1%	3	3.2%
CM-24	2014-2015	SGS	29	0.371	0.372	0.3%	0.008	2	6.9%	0	0.0%
CM-15	2017-2018	SGS	32	1.28	1.329	3.8%	0.100	2	6.3%	1	3.1%
all			347			1.0%		10	2.9%	7	2.0%

Analytical precision, which is based on the actual SGS laboratory results, is noted in the columns on the right side of Table 11.3 and Table 11.4. The analytical standard deviation is noted in the “Analyses SD” column while number of samples and percentage of samples greater than ±2SD (warning level) and ±3SD (failure level) are shown in the respective columns. Overall just 4.5% of the gold analyses (Table 11.3) fall in the warning category and just 0.5% (two samples) are considered failures. For the copper analyses (Table 11.4), 2.9% of the reference samples are in the warning category but 2.0% (seven samples) are failures. MDA is not aware of any re-assaying of the original samples due to the occasional CRM failure.

A control chart for CGC-26 gold analyses is shown in Figure 11.3. Similar charts were prepared for both gold and silver for all CRMs. In the Figure 11.3 chart, the expected value is shown as the red line while the analytical mean (“data mean”) and ±2SD and ±3SD limits are shown as blue solid or dashed lines. The slight 1.2% positive bias in the data, as noted in Table 11.3, is evident as are the four warning samples, which are barely outside the warning limits, and the one failure.



Figure 11.3 CRM CGC-26 – Gold Analyses



### 11.4.3 Quarter-Core Field Duplicates

Field duplicates are secondary quarter-core samples collected from the same drill interval as the original sample. They are mainly used to assess the natural grade variability of the deposit, as well as to evaluate the total subsampling variances attributable to splitting both in the field and in all subsequent subsampling steps in the laboratory.

The field duplicate sampling procedure was to take both the original and duplicate as quarter-core samples from the same half-cut core piece. A total of 64 field duplicate samples were analyzed by SGS from 2011 through 2018.

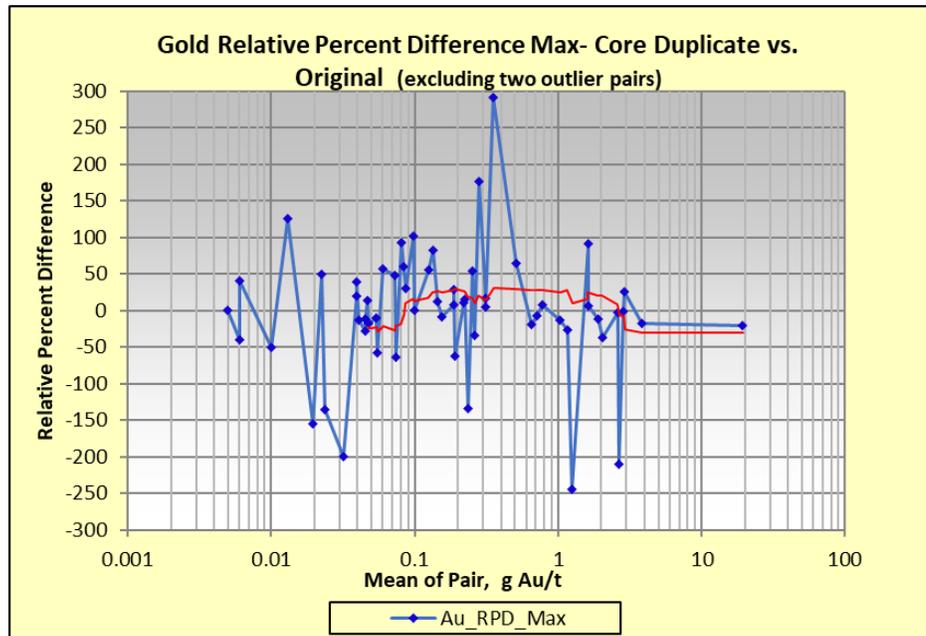
The relative-difference graph in Figure 11.4 shows the percentage difference (plotted on the y-axis) of each field-duplicate gold assay relative to its paired primary-sample gold analysis. This relative difference (“RD”) is calculated as follows:

$$100 \times \frac{(\text{duplicate} - \text{original})}{\text{lesser of } (\text{duplicate}, \text{original})}$$

The x-axis of the graph plots the means of the gold values of the paired data (the mean of the pairs, or “MOP”) in a logarithmic fashion so all grade ranges are easily observed. The red line shows the moving average of the RPDs of the pairs, thereby providing a visual guide to trends in the data that aids in the identification of potential bias. Positive RD values indicate that the duplicate-sample analysis is greater than the primary-sample assay. Two sample pairs characterized by unrepresentatively high RDs (>500%), along with samples having less than detection original or duplicate assay results, are excluded from Figure 11.4.



Figure 11.4 Relative Percent Difference – Quarter-Core Field Duplicates – Gold



The graph indicates generally a positive bias in the duplicate gold results relative to the original assays over the low-grade portions of the data and a negative bias in the high-grade (>1.0g Au/t) portions of the data. It is not known why there is a change in bias relative to gold grade. There can be significant differences between individual sample pairs, as shown by the number of spikes in the data. There are only 13 sample pairs with mean grades greater than 1.0g Au/t, and the data set could be improved by the inclusion of more strongly mineralized duplicate samples. Figure 11.5 plots the absolute value of the relative difference (“AVRD”) data which provides guidance on the total grade variability between the original and duplicate samples. The two sample pairs characterized by unrepresentatively high RDs (>500%) excluded from Figure 11.4 are also excluded from Figure 11.5. The trendline in Figure 11.5 shows that there is a 50% to 60% difference in gold grades between the original and duplicate quarter-core samples. This amount of variability is relatively high and potentially introduces some risk into the resource estimate. The limited number of field duplicate pairs though, especially in the economic gold grades, makes any discussion of results tentative at best.



Figure 11.5 Absolute Relative Percent Difference – Quarter-Core Field Duplicates - Gold

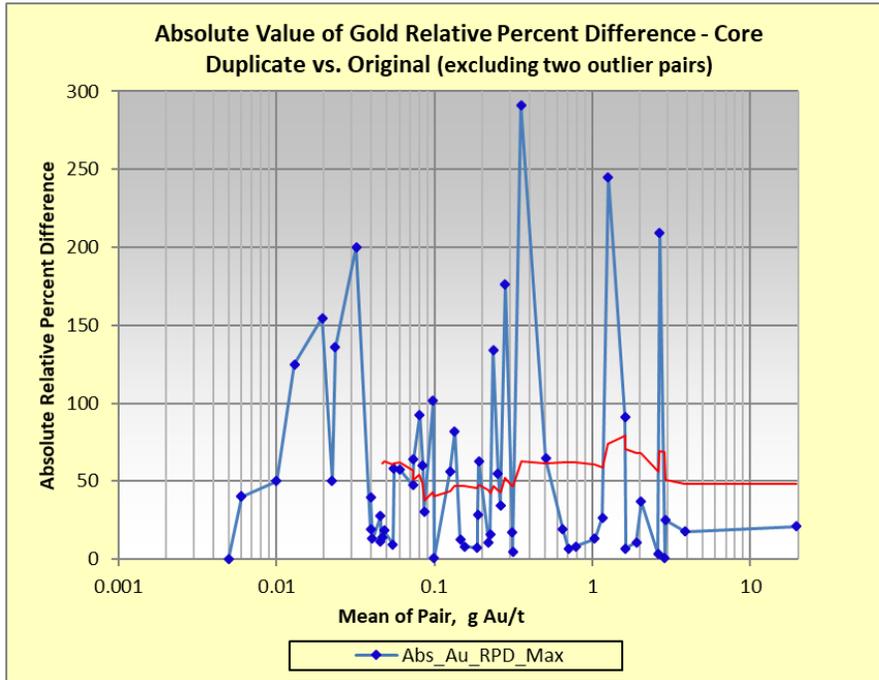


Figure 11.6 shows the plot of the AVRDR data for the field duplicate copper assays. While the average variability is around 50% for the low-grade copper pairs, it decreases to around 25% within the higher grade (>1.0% Cu) portions of the data set. The copper analyses suffer from the same reliance on a limited number of sample pairs.

Figure 11.6 Absolute Relative Percent Difference – Quarter-Core Field Duplicates - Copper

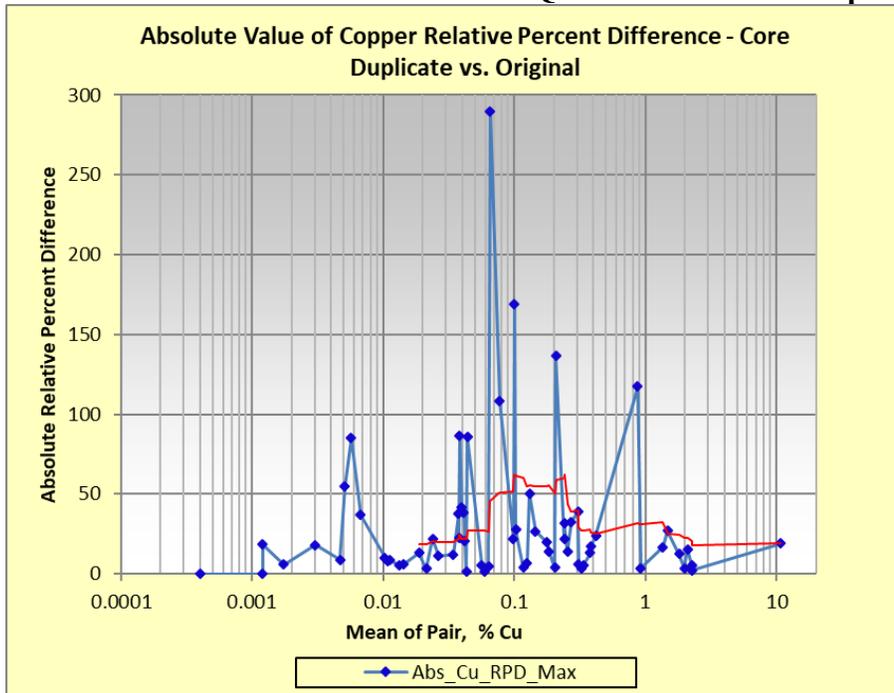




Table 11.5, Table 11.6, and Table 11.7 are statistical summaries of the quarter-core analyses for gold, copper, and silver respectively, listed by metal cut-off grades. The tables include the number of sample pairs in each grade category, along with original and duplicate mean grades, mean grade differences (diff%), RD mean grades (mean rel\_diff%), and AVRDR mean grades (mean abs\_rel\_diff%). The statistics for gold in Table 11.5 are reflective of the graphical representations in Figure 11.4 and Figure 11.5. The increased low bias (-35.5% mean RD) in the higher-grade category must be weighed against the low number of sample pairs and the effect of two, very low RD values as shown in Figure 11.4.

**Table 11.5 SGS Quarter-Core Field Duplicates - Gold (2011 - 2018)**

Au (g/t)	count	mean orig.	mean dupl.	diff%	mean rel_diff%	mean abs_rel_diff
>0.005	59	0.948	0.829	-13.4	0	55.3
>0.1	33	1.660	1.444	-13.9	3.1	54.6
>1.0	13	3.769	3.153	-17.8	-35.5	54.4

**Table 11.6 SGS Quarter-Core Field Duplicates - Copper (2011 - 2018)**

Cu (%)	count	mean orig.	mean dupl.	diff%	mean rel_diff%	mean abs_rel_diff
>0.005	58	0.565	0.531	-6.2	-3.5	33.3
>0.1	31	1.025	0.965	-6	-0.7	28.7
>1.0	8	3.165	2.850	-10.5	-7.1	12.7

**Table 11.7 SGS Quarter-Core Field Duplicates - Silver (2011 - 2018)**

Ag (g/t)	count	mean orig.	mean dupl.	diff%	mean rel_diff%	mean abs_rel_diff
>0.2	43	3.5	3.3	-6.7	-3.4	47.7
>1.0	26	5.5	5.1	-9.1	-3.6	52.5
>10	3	21.6	20.4	-5.6	-8.9	10.4

The summary statistics for copper and silver (Table 11.6 and Table 11.7, respectively) indicate a consistent low-magnitude negative bias in the duplicate versus the original samples. The duplicate samples were inserted into the original core sample stream sent to the lab so the difference in sample results is not caused by temporal analytical “drift” in the lab but likely results from some sample selection bias in the collecting of the original and then duplicate quarter-core sample. As seen in the AVRDR graphs, the copper variability at higher grades is about half the gold variability while the silver average AVRDR values for the full data set are at 50% which is similar to the gold variability. The low (10.4%) variability in the high-grade (10g Ag/t) silver data is likely an artifact of the very limited data set (just three sample pairs).

#### 11.4.4 Coarse Reject Preparation Duplicates

Mexican Gold conducted a limited program of coarse reject duplicate analyses in 2015 and 2015. SGS was directed to create a second pulp from the original sample coarse reject and include that sample within the original core sample stream. A total of 17 coarse reject duplicate analyses are within the project



database. Table 11.8 and Table 11.9 show the summary statistics for the gold and copper coarse reject duplicate results, respectively. Except for the high average RD and AVRD values for the full gold data set (15.9% and 28.5%, respectively), which results from two high RD values in the very low grade range, the RD values show no material bias and the AVRD values are less than 15%.

**Table 11.8 SGS Coarse Reject Preparation Duplicates – Gold (2014 – 2015)**

Au (g/t)	count	mean orig.	mean dupl.	diff%	mean rel_diff%	mean abs_rel_diff
>0.005	13	0.432	0.444	2.7	15.9	28.5
>0.1	7	0.786	0.800	1.8	-2.1	12.3

**Table 11.9 SGS Coarse Reject Preparation Duplicates – Copper (2014 – 2015)**

Cu (%)	count	mean orig.	mean dupl.	diff%	mean rel_diff%	mean abs_rel_diff
>0.005	13	0.258	0.254	-1.6	-2.1	11.3
>0.1	4	0.758	0.751	-0.9	-0.7	4.2

#### 11.4.5 Second-Lab Same-Pulp Check Assays

Same-pulp duplicates, consisting of original assay pulps from the primary laboratory that are analyzed by a second laboratory, were used to test for assaying accuracy. Mexican Gold sent a total of 80 pulps to ALS that were prepared and originally assayed at SGS. These were sent to SGS in three yearly batches in 2014, 2017, and 2018.

MDA evaluated the same-pulp duplicates data in a similar way as the field and coarse reject duplicate analyses shown above in Section 11.4.3 and Section 11.4.4. Total original and duplicate mean grades were evaluated along with RD and AVRD data to assist in determining bias and sample variability, respectively.

Table 11.10, Table 11.11, and Table 11.12 are statistical summaries of the ALS second-lab analyses for gold, copper, and silver respectively, listed by metal cut-off grades. Figure 11.7 and Figure 11.8 are graphical examples of the RD and AVRD data, respectively, for the gold same-pulp duplicates. Six sample pairs with extreme RD values (>300% difference) were excluded from Figure 11.7, Figure 11.8 and the statistical summary. Above 1.0g Au/t, the ALS gold values are on average about 15% lower grade than the SGS assay values. Variability is also relatively high at around 25%. There has been no re-assaying of the pulp by either lab to test for possible clerical or laboratory errors so the reason for the high variability between labs has not been determined.



**Table 11.10 ALS Same Pulp Checks of SGS Drill Hole Gold Assays**

Au (g/t)	count	mean orig.	mean dupl.	diff%	mean rel_diff%	mean abs_rel_diff%
>0.005	73	1.179	1.057	-10.9	-8.3	29.8
>0.1	62	1.382	1.238	-11	-10.6	31.2
>1.0	25	2.606	2.306	-12.2	-16.1	24.4

**Table 11.11 ALS Same Pulp Checks of SGS Drill Hole Copper Assays**

Cu (%)	count	mean orig.	mean dupl.	diff%	mean rel_diff%	mean abs_rel_diff%
>0.005	77	0.7	0.684	-2.3	-1.8	5.2
>0.1	63	0.847	0.827	-2.4	-2.3	4.9
>1.0	15	2.169	2.122	-2.2	-2.3	4.3

**Table 11.12 ALS Same Pulp Checks of SGS Drill Hole Silver Assays**

Ag (g/t)	count	mean orig.	mean dupl.	diff%	mean rel_diff%	mean abs_rel_diff%
>0.2	57	5.3	5.3	-0.2	-5.6	19.3
>1	51	5.9	5.9	-0.2	-6.4	19.8
>10	6	22.7	23.6	3.9	0.2	7.2

**Figure 11.7 Relative Percent Difference: ALS Pulp Checks vs. SGS Original – Gold**

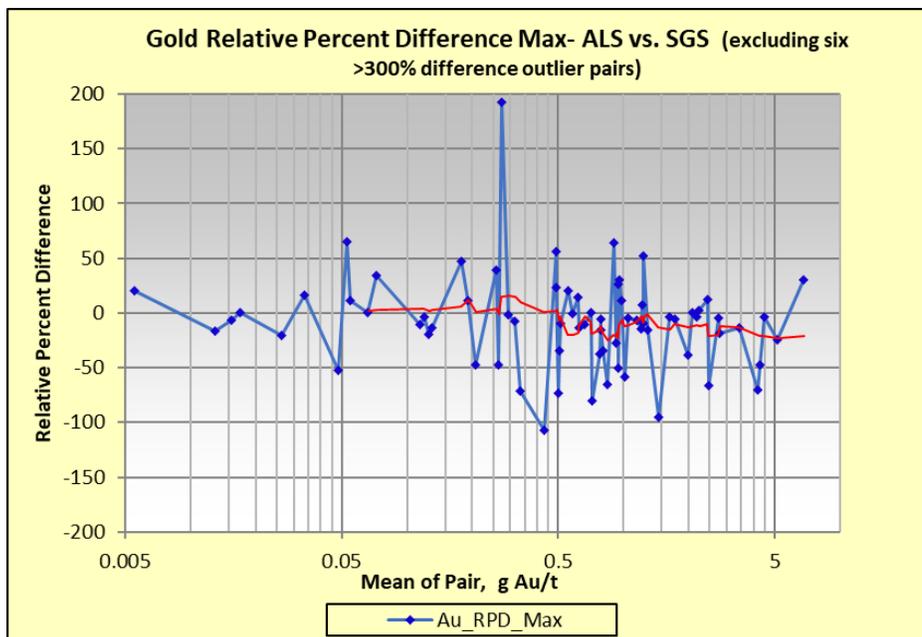
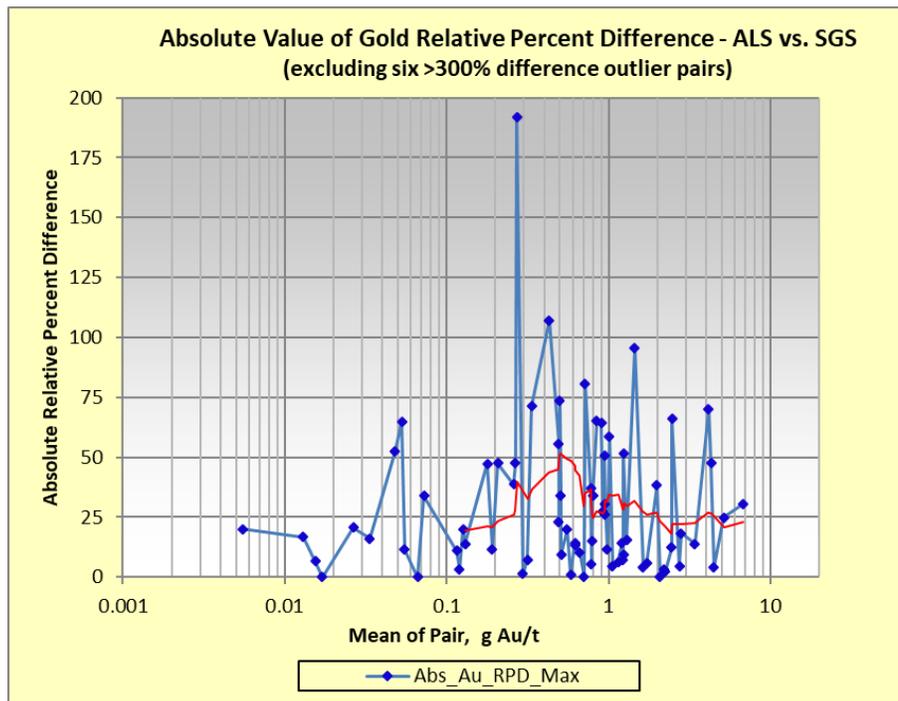


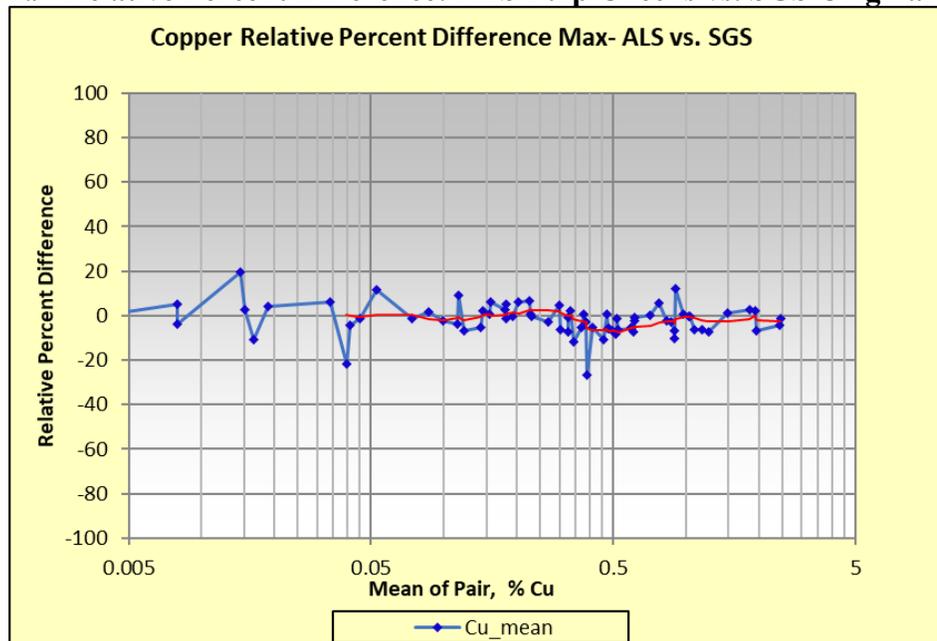


Figure 11.8 Absolute Relative Percent Difference: ALS Pulp Checks vs. SGS Original – Gold



In contrast to the gold second-lab results, the ALS copper pulp check results show a much lower negative bias (<3%) compared to the original SGS assays and average variability is around 5%. Figure 11.9 shows graphically the RD results for the second-lab copper analyses in which there are no extreme values and the majority of data points show a less than 10% difference between analyses.

Figure 11.9 Relative Percent Difference: ALS Pulp Checks vs. SGS Original – Copper





The silver second-lab analyses (Table 11.12) have a moderate low bias and just under 20% variability; results more similar to the gold than copper values. The 7% variability for the high-grade portion of the silver data set is possibly a function of the low sample count and should be considered preliminary.

#### **11.4.6 Discussion of QA/QC Results**

Issues noted in the Las Minas project QA/QC data are:

- Blank failures occurred predominantly at the start of the 2011 drilling program with only one material failure since 2011. Sample contamination is not a material concern;
- The results of the CRM analyses indicate a minor positive bias in the SGS gold analyses which introduces a small risk in the use of the drill sample data in resource estimation and classification;
- There is a consistent low negative bias in the field duplicate versus the original samples that likely results from some sample selection bias in the collecting of the original and then duplicate quarter-core sample. Assay variability is high for gold and silver, which is considered a low risk in the resource estimate; and
- Second-lab duplicate checks show a positive bias in the SGS gold values as compared to the ALS pulp check gold analyses. Follow-up work is recommended.

On balance, the QA/QC data available to the author do not reveal any issues that preclude the use of the sample analyses in the resource estimate. Additional field duplicate and second-lab pulp check analyses are warranted to provide increased statistical confidence.

#### **11.5 Summary Statement**

Mr. Tietz believes that the sampling, assaying, security, and QA/QC procedures provided samples that are representative and of sufficient quality for use in the mineral resource estimations discussed in Section 14.0. The author is unaware of any sampling or analytical factors that materially impact the mineral resources discussed in Section 14.0.



## **12.0 DATA VERIFICATION**

Data verification, as defined in NI 43-101, is the process of confirming that data has been generated with proper procedures, has been accurately transcribed from the original source and is suitable to be used. There were no limitations on, or failure to conduct, the data verification for this report.

Mr. Tietz visited the Las Minas project office and field site on April 2 through 4, 2019. During the site visit, the project geology was reviewed, which included: a) a field tour of the deposit area; b) visual inspection of core; and c) discussion with project personnel of the current geologic interpretations. Drill site verification procedures were conducted, core drilling and sampling procedures were appraised, and verification samples were collected. The drilling, sampling and data recordation procedures are generally of high quality, though there are a few items which could be upgraded. The majority of these issues were corrected before work started on the block models and grade estimates. The result of the site visits and communications is that Mr. Tietz has no significant concerns with the project procedures.

Mr. Tietz has also verified the project database and compiled and analyzed available QA/QC data collected by Mexican Gold. The QA/QC analyses is discussed in Section 11.4.

### **12.1 Database Audit**

#### **12.1.1 Drill-Collar Audit**

The author checked the majority of drill collar locations (135 collars) against the original collar survey data from Prissmax, an independent surveyor based in Jalapa, Veracruz. No material errors were noted, only the occasional less than tenth of meter rounding error. An additional 15 collar coordinates were checked against the collar data noted on the drill logs with no material errors found.

##### **Down-Hole Survey Audit**

The author checked approximately 60% of the down-hole survey readings that are in the database against original survey readings, excel copies of the surveys, or, if there are no downhole surveys for a particular hole, the collar set-up orientation noted on the drill logs. Minor transcription errors were noted and corrected while individual azimuth and/or dip readings that exhibited sharp deviations from adjoining survey readings were removed from the data set. These changes affected about 3% of the total down-hole survey readings.

It was also noticed during the audit that the surveys conducted using the Reflex EZ-Shot and Devi-Shot instruments were not adjusted for the local magnetic declination (+3.6 degrees). The author revised approximately 600 survey readings (~20% of the survey data) to account for the declination before the drill data was used for resource modeling and estimation.

#### **12.1.2 Geological Data Audit**

The author did not conduct a complete audit of the geologic data but while building the geologic model did check the database coding against the drill logs and core photos for a majority of the core holes within the resource areas. No material issues concerning geologic interpretations or database coding were noted.



### 12.1.3 Assay Database Audit

The full drill assay database, which included the drill data and all QA/QC analyses, was compared to the original SGS laboratory assay certificates. A total of thirty-four errors were noted in the gold, silver, and copper data for an error rate of about 0.16% of the total assay database. None of these errors are considered significant. Assays for two drill holes which were not in the database were added and there were also some rounding inconsistencies, which were corrected, but these would not have been considered material if left uncorrected. Less than detection values were changed in the database from a zero to one half of the detection limit. All corrections were made to the data before use in the resource estimate and the assay database is considered very clean for use in future resource studies.

### 12.2 Independent Verification of Mineralization

During the author's site visit, field verification of drill collars was conducted by taking hand-held GPS readings and also comparing against the detailed project drill map. No material issues were noted with the hole locations.

Six quarter-core "twin" samples were collected by the author from four core holes. The samples were selected from mineralized intervals representative of the deposit with gold grades (based on the original analyses from SGS) ranging from 0.4g Au/t to 6.0g Au/t and up to 8% Cu. Mexican Gold personnel cut the core from the remaining half core left over from the original sampling program. The author bagged the samples which were then sealed inside a sack and delivered to a shipping company in Veracruz for shipment back to MDA's office in Reno, Nevada. The samples were delivered by the author to ALS Minerals in Reno, Nevada and assayed for gold by standard fire assay (FA). Two pulps were then taken from an initial 1000g pulp; one was assayed for silver and copper using 2-acid digestion, the other using 4-acid digestion to assess if Cu values increase with the more complete 4-acid digestion.

The results of the verification sampling are shown in Table 12.1. There is good agreement between the SGS and ALS analyses which provides confidence in the project data. There is also just a small, and possibly statistically immaterial, increase in silver and copper values in the 4-acid versus the 2-acid digestion.

**Table 12.1 Las Minas Verification Samples**

Hole ID	from	to	SGS_original			ALS_FA	ALS_4-acid		ALS_2-acid	
			Au_ppm	Ag_ppm	Cu_ppm	Au_ppm	Ag_ppm	Cu_ppm	Ag_ppm	Cu_ppm
LM-15-SC-15	104	106	1.567	7.7	5520	1.73	7	5430	7	5050
LM-15-SC-15	60	62	0.423	0.8	964	0.58	1	700	1	708
LM-15-SC-16	101	103	2.994	29	31700	11.55	29	28900	29	28700
LM-18-ED-49	148.1	150.1	5.177	14.8	56700	8.22	20	74300	20	70300
LM-18-ED-49	172.1	174.1	6.381	22.1	19900	5.83	24	22900	23	22000
LM-17-ED-40	127.6	129.6	2.579	4.7	12900	3.11	6	17800	6	17400
<b>average</b>			<b>3.187</b>	<b>13.2</b>	<b>21281</b>	<b>5.170</b>	<b>14.5</b>	<b>25005</b>	<b>14.3</b>	<b>24026</b>



### **12.3 Summary Statement on Data Verification**

In summary, the data verification procedures and results indicate that:

- No material concerns were noted during the author's site visit or in the verification sampling results;
- The assay database is clean, with only minor errors that have been corrected before use in the resource estimate.

The author believes the project data is adequate for use in mineral resource estimation and can support the classification assigned to the resource estimate as reported in Section 14.0.



## 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

### 13.1 Summary

The following metallurgical information presented in Section 13.0 is taken from the 2017 technical report of Shoemaker and Read (2017) and the metallurgical report of ALS Metallurgy (2015). The author has reviewed the information and, although the author is not an expert with respect to metallurgy, the author believes the information to be sound and appropriate for the purposes for which it is used in this report. The data from these studies are used by the author in this technical report solely for the purposes of deriving appropriate metal equivalencies, and reasonable and appropriate cutoff grades for mineral resource reporting as stated in Section 14.0.

Preliminary metallurgical testing of the Las Minas skarn mineralization was conducted by ALS Metallurgy in 2015. The author is not aware of any other metallurgical work completed on the Las Minas property.

### 13.2 ALS Metallurgy 2015 Report

Mexican Gold shipped fifty-nine kilograms of half-core material to the ALS Metallurgical laboratory in Kamloops, British Columbia, Canada in April 2015. The material, designated as the El Dorado (“ED”) composite, consisted of six individual core samples from three drill holes all within the El Dorado zone. The principal scope of this metallurgical test program was to:

1. Assess the chemical and mineralogical characteristics;
2. Complete a Bond abrasion and a Bond ball mill work index test;
3. Complete Davis tube magnetic separation tests; and
4. Evaluate metallurgical performance of the composite by completing preliminary flowsheet development testing.

The program began in mid-April 2015 and was completed by mid-June 2015. Duplicate and representative head cuts were removed for assay from the composite. The remainder was homogenized and rotary split into 2 kg charges for subsequent tests. All test charges were sealed in plastic bags under nitrogen and stored at -10°C.

#### 13.2.1 Physical Characterization

The average head assay for the ED composite is shown in Table 13.1.

**Table 13.1 Chemical Composition of ED Composite**

	<b>Cu %</b>	<b>CuOx %</b>	<b>CuCN %</b>	<b>CuRes %</b>	<b>S %</b>	<b>Fe %</b>	<b>Au g/t</b>	<b>Ag g/t</b>
<b>ED Composite</b>	2.16	0.99	0.16	1.77	2.81	31.5	1.32	7

The ED composite measured a copper content of about 2.2%. The copper oxide assay indicated little oxide copper mineralization in the feed. However, the copper cyanide assay indicated the presence of secondary or native copper in this sample. Gold grade measured about 1.3 g/t, while silver content measured 7 g/t.



Sulfur content was relatively low in the feed indicating low pyrite levels. Given the high iron content measured at about 31.5%, and the low sulfur content, high iron oxide mineral content is likely.

### **13.2.1.1 Comminution Testing**

A Bond abrasion test was performed on the ED composite, and measured about 0.14. This indicates that the sample was mildly abrasive. A single Bond ball mill work index test was conducted on the ED composite using a standard closing screen size of 106  $\mu\text{m}$ . The resulting index measured 13.3 kWh/tonne which indicates that the composite would be considered moderately soft from a ball milling perspective.

### **13.2.1.2 Trace Mineral Searches**

QEMSCAN trace mineral searches (“TMS”) for gold were performed on three size fractions of the ED composite. The average grain size of the gold bearing particle occurrences in the rougher feed was very fine, measuring an average diameter of 8, 6, and 4  $\mu\text{m}$  in the +106, -106 to +38  $\mu\text{m}$ , and -38  $\mu\text{m}$  fractions, respectively. These fine particles may be difficult to recover through gravity concentration. Gold particles that were as large as 31  $\mu\text{m}$  were observed; these particles may be recoverable through gravity concentration.

Gold particles in the coarse +106  $\mu\text{m}$  fraction were located primarily in multiphase particles composed of non-sulfide gangue, iron oxides, pyrite, and chalcopyrite. Gold particles in the intermediate -106 to +38  $\mu\text{m}$  fraction occur mostly in binary with chalcopyrite or in multiphase forms. Gold occurrences in the -38  $\mu\text{m}$  fraction were identified as liberated gold or electrum particles, or in binary with chalcopyrite, pyrite, non-sulfide gangue and multiphase particles. The liberated gold and gold in binary form with chalcopyrite should be recoverable to a flotation concentrate, while the gold particles in binary with pyrite and non-sulfide gangue would not likely be recoverable in flotation.

## **13.2.2 Flotation Testing**

A series of laboratory flotation tests were performed to determine the amenability of the sample to standard flotation processes. Rougher tests were conducted to evaluate primary grind sizing, reagent requirements and pH. Batch cleaner tests were performed to assess regrind sizings and concentrate production potential. A single locked cycle test was performed to determine metallurgical performance under closed circuit conditions.

### **13.2.2.1 Rougher Flotation Tests**

A total of six rougher flotation tests were completed. Primary grind sizings of 146 and 189  $\mu\text{m}$  K80 were investigated. A pH of 9, adjusted by lime, was tested and compared to a single test conducted at natural pH. Potassium Amyl Xanthate (PAX) was used as the copper collector. Methyl Isobutyl Carbonyl (MIBC) was used as the frother.

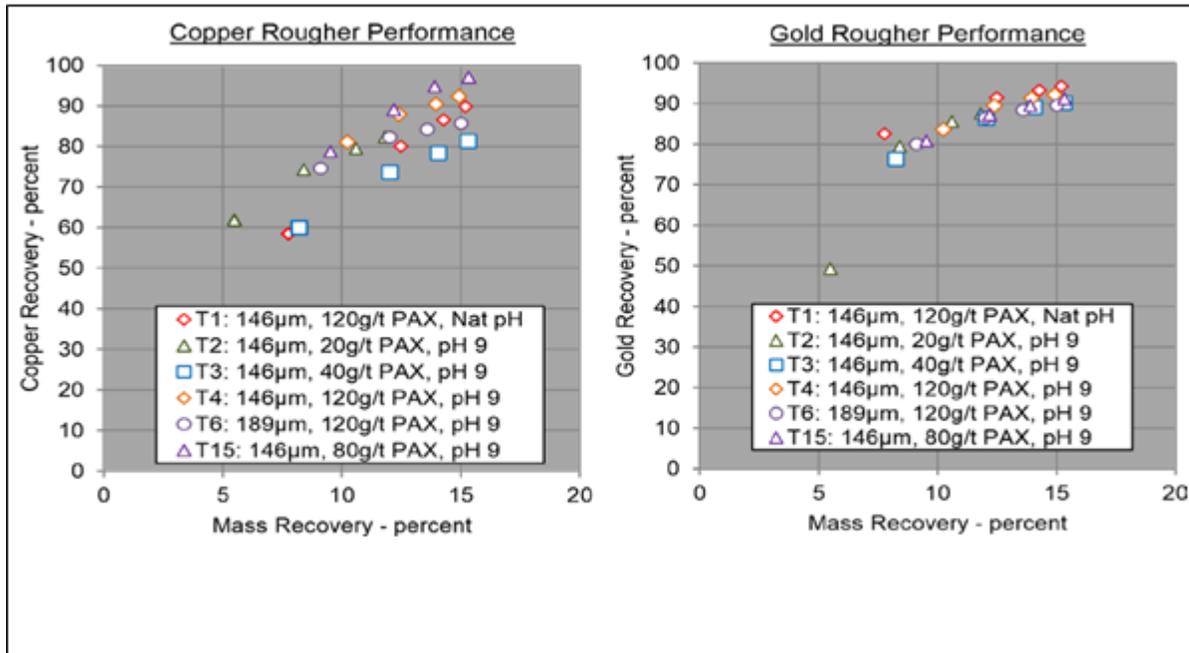
Addition of lime into the primary grinding mill appeared to improve copper flotation kinetics at equivalent PAX dosage. Lower copper recoveries were observed at PAX dosages of 40 g/t or lower. Mineralogical assessment by optical microscope of the rougher tail indicated liberated chalcopyrite was lost to rougher tails at lower PAX dosages. As a result, PAX dosages of 120 g/t were used throughout rougher testing.



Increasing primary grind sizing from 146 to 189 $\mu$ m K80 had a negative impact on copper recovery. Based on the initial flotation test results, a primary grind size coarser than 146 $\mu$ m K80 would not be recommended.

A rougher test using a primary grind size of 146 $\mu$ m K80, pH of 9, and 80 g/t PAX, produced recoveries of available copper, gold, and silver into the rougher concentrate of 97%, 91%, and 89%, respectively. A graphical representation of the rougher flotation test results is presented in Figure 13.1.

Figure 13.1 Rougher Flotation Results



### 13.2.2.1 Cleaner Flotation Tests

Six laboratory batch cleaner tests were performed with the ED composite. These tests allowed preliminary estimations of metallurgical performance using industry standard mineral processing conditions. The tests investigated regrind sizes in the cleaner stages and their effect on metallurgical performance. All cleaner tests were conducted at a primary grind size of 146 $\mu$ m K80 and regrind sizes of 9 to 70 $\mu$ m K80.

Cleaner tests were conducted on a range of regrind sizings. A trend was established between finer regrind sizing leading to higher copper concentrate grades but lower gold recoveries.

High PAX dosage in the rougher circuit affected frother conditions in the cleaner circuit. It was difficult to maintain a stable froth using MIBC; therefore, a stronger polyglycol frother, Polyfroth W34, was utilized in conjunction with MIBC to assist with froth stability.

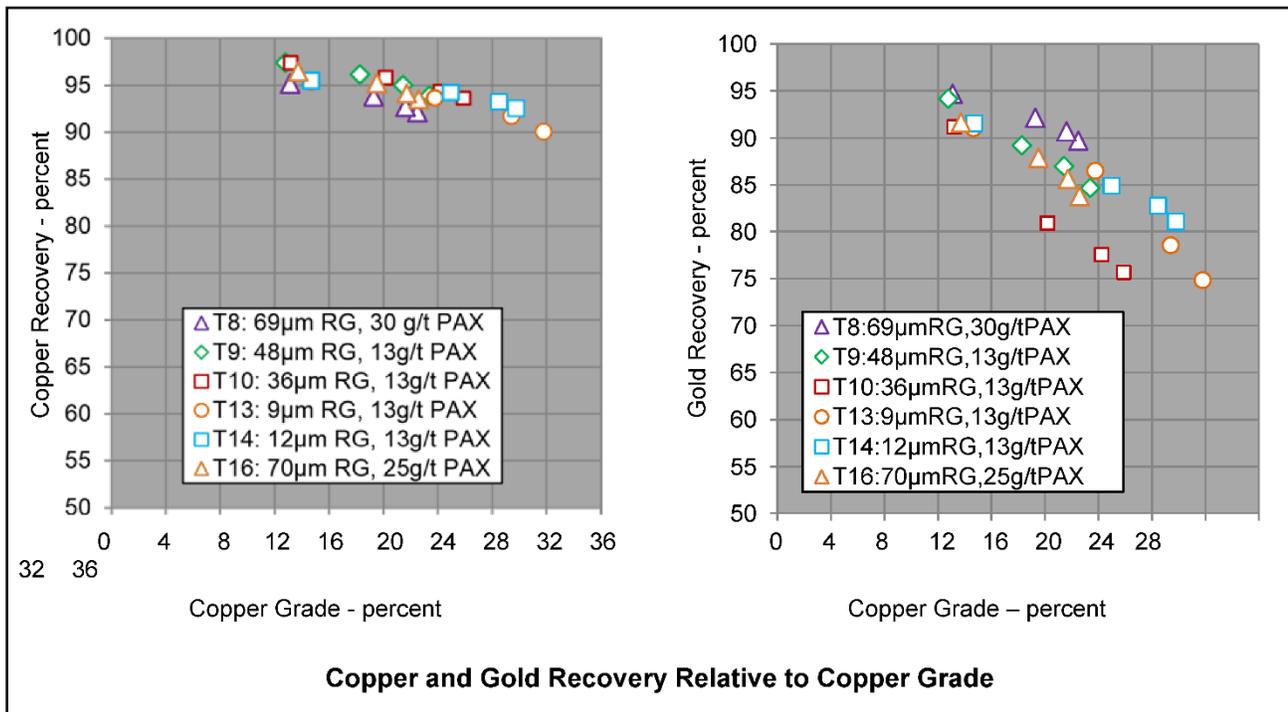
The lower PAX dosage of 80 g/t was chosen to be the reference test for locked cycle testing due to better froth stability and only having to use MIBC to keep a stable froth. The reference test, at a primary grind



sizing of about 146 $\mu$ m K80, and a regrind sizing of about 70 $\mu$ m K80, a bulk cleaner concentrate was produced with copper, gold, and silver recoveries measuring about 94%, 84%, and 78%, respectively. These metals graded 23%, 13 g/t, and 58 g/t for copper, gold, and silver, respectively.

A graphical representation of the cleaner flotation test results is presented in Figure 13.2.

Figure 13.2 Cleaner Flotation Results



### 13.2.2.1 Locked Cycle Flotation Test

A single locked cycle test was performed on the ED composite. This test provides an estimation of performance under closed circuit conditions. The test was conducted at a primary grind sizing of 146 $\mu$ m K80, a regrind sizing of about 60 $\mu$ m K80 and at pH 9, adjusted by lime. PAX was used as the copper collector at 80 g/t to mitigate froth stability issues in the cleaning stage with higher PAX dosages. MIBC and Polyfroth W34 were used as the frothers. These conditions were selected to promote higher gold recoveries and to lower the amount of PAX in the rougher circuit for froth stability.

Higher recoveries at slightly lower copper concentrate grade were recorded in closed circuit testing than measured in open circuit cleaner batch testing. Overall, about 95% of the available copper, 89% of the available gold and 84% of the available silver was recovered to a bulk concentrate grading about 22% copper, 13.4 g/t gold, and 57 g/t.

A summary of the locked cycle flotation test results are presented in Table 13.2.



**Table 13.2 Locked Cycle Flotation Test Results**

Product	Weight (%)	Assay – percent or g/tonne					Distribution - percent				
		Cu	Fe	S	Ag	Au	Cu	Fe	S	Ag	Au
<b>CYCLES IV and V</b>											
Flotation Feed	100	2.43	31.6	31.6	7	1.59	100	100	100	100	100
Bulk Con	10.4	22.3	30.4	28.7	57	13.4	95.4	10.0	94.9	84.2	88.8
Bulk 1 <sup>st</sup> Clnr Tail	6.7	0.86	25.4	1.23	10	1.16	2.4	5.4	2.6	9.9	4.9
Bulk Ro Tail	82.9	0.06	32.2	0.09	1	0.14	2.2	84.6	2.5	5.9	7.1

The overall flotation testing results indicate that the ED composite is amenable to industry standard flotation procedures. Copper and precious metal flotation recoveries achieved during locked cycle test were excellent.

### 13.2.3 Magnetic Separation

The ED composite head, rougher tail, and cleaner concentrate samples produced during flotation testing were submitted for magnetic separations via Davis tube to test the viability of producing a magnetite concentrate and/or to remove magnetic diluents from the concentrate.

A Davis tube test at a magnetic field strength of 4,000 gauss was conducted on a pulverized head sample of the ED composite. The test produced a magnetic concentrate grading about 68% iron with an iron recovery of about 60%. About 3% of the copper and 16% of the gold from the feed was measured in the magnetic concentrate, which would be considered as copper and gold losses.

The Davis tube test at a magnetic field strength of 4,000 gauss conducted on a bulk rougher tail from a standard pH 9, 120 g/t PAX, 146µm K80 primary grind rougher test produced a magnetic concentrate grading 67% iron, with 65% of the iron in the tail recovered. This would be considered a high-grade magnetic concentrate, which may require little further treatment to meet saleable grade requirements.

Cleaner concentrates at regrind sizes of 48 and 36µm K80 had measured high iron values. Davis tube magnetic separation at a magnetic field strength of 1,000 gauss was employed in an attempt to reduce the iron content and to increase copper concentrate grade. Copper concentrate grade increased by 1 or 2 percentage points, with a commensurate loss of between 2% and 3% copper recovery in these tests. Gold losses to the magnetite concentrate were not measured due to insufficient sample mass in the magnetic concentrate to assay for gold.

### 13.2.4 Conclusions and Recommendations

A limited program of metallurgical testing was completed on a single copper-gold-silver sample from the Las Minas project. The metallurgical response of the ED composite to basic flotation processing was tested and promising results were obtained.

Primary conclusions based on a review of the metallurgical testing of the ED composite are:

- Bond work index is in the medium hardness range at 13.3 kWh/tonne and the abrasion index is low at 0.14;



- Gold occurrences associated with chalcopyrite and liberated gold would most likely be recovered via flotation whereas gold associated with non-sulfide gangue, iron oxide minerals, and to a lesser degree gold associated with pyrite would most likely be lost to the tails.
- Metal recoveries of 95% for copper, 88% for gold, and 84% for silver were attained using basic flotation processing.
- Davis tube magnetic separation testing indicates the potential to produce a saleable, high-grade magnetic concentrate.

Additional metallurgical testing recommended in ALS Metallurgy (2015) report includes:

- Further optimization of the flotation circuit;
- Detailed magnetic separation testing on the rougher tails to determine viability of producing saleable iron concentrate; and
- Samples of varying geological origin and feed grades from across the deposit should be tested to determine possible variations in metallurgical performance.



## 14.0 MINERAL RESOURCE ESTIMATES

### 14.1 Introduction

Mineral resource estimation described in this section follows CIM standards to be in accordance with the guidelines of Canadian National Instrument 43-101 (“NI 43-101”). The modeling and estimation of the mineral resources were done under the supervision of Paul G. Tietz, a qualified person with respect to mineral resource estimations under NI 43-101. Mr. Tietz is independent of Mexican Gold by the definitions and criteria set forth in NI 43-101; there is no affiliation between Mr. Tietz and Mexican Gold, or any of the prior operators of the project, except that of an independent consultant/client relationship.

Mr. Tietz is not aware of any unusual environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that may materially affect the Las Minas mineral resources as of the date of this report.

The effective date of the mineral resource estimate is September 12, 2019. The database used in the resource estimate was finalized June 19, 2019.

The Las Minas mineral resources are classified in order of increasing geological and quantitative confidence into Inferred, Indicated, and Measured categories to be in accordance with the “CIM Definition Standards - For Mineral Resources and Mineral Reserves” (2014) and therefore Canadian National Instrument 43-101. CIM mineral resource definitions are given below, with CIM’s explanatory material shown in italics:

#### **Mineral Resource**

*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.

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.

*Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals.*

*The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the*



*consideration and application of Modifying Factors. The phrase ‘reasonable prospects for eventual economic extraction’ implies a judgment by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. The Qualified Person should consider and clearly state the basis for determining that the material has reasonable prospects for eventual economic extraction. Assumptions should include estimates of cutoff grade and geological continuity at the selected cut-off, metallurgical recovery, smelter payments, commodity price or product value, mining and processing method and mining, processing and general and administrative costs. The Qualified Person should state if the assessment is based on any direct evidence and testing.*

*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.*

### **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.*



## **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 are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail 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 Pre-Feasibility Study which can serve as the basis for major development decisions.*

## **Measured Mineral Resource**

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

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

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

*Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.*



## **Modifying Factors**

Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

Mr. Tietz reports resources at cutoffs that are reasonable for deposits of this nature given anticipated mining methods and plant processing costs, while also considering economic conditions, because of the regulatory requirements that a resource exists “in such form and quantity and of such a grade or quality that it has reasonable prospects for eventual economic extraction.”

### **14.2 Database**

The Las Minas database contains records for a total of 25,977 m of diamond core drilling in 181 holes in the Las Minas property. Of this total, 149 drill holes are within the resource areas and contribute to the geologic models and grade estimates. Mexican Gold, and its predecessor company Source Exploration, have completed all of the known drilling on the Las Minas property.

The drill holes are relatively shallow (150 m average drill depth), though drill depth increases on the periphery of the resource areas where the sub-horizontal mineralization extends to greater drill depths laterally beneath the steep canyon walls.

The project database contains 6,677 sample intervals containing Au, Ag, and Cu data. Of this total, 2,882 are within the modeled metal domains and contribute data to the resource estimate. The database also includes drill hole lithology and geotechnical data along with 1,637 specific gravity values from drill core measurements.

The Las Minas project data is in UTM WGS84 metric coordinates.

#### **14.2.1 Topography**

The project topography is based on a survey completed in 2011 by PhotoSat of Vancouver, Canada. It was recognized early in the project that there was an elevation discrepancy between the topography base map and the surveyed drill hole collars. The drill collars were all above the topographic surface by about 10 to 12 m. To resolve this issue, Mexican Gold completed survey collar checks in 2017 which confirmed that the collar coordinates and elevations were accurate and that a problem existed with the elevations of the topographic base map. The author’s review of email between Source Exploration and PhotoSat indicates that the topography was based on orthometric elevations while the collar surveys were based (correctly) on ellipsoid elevations. To correct this problem for purposes of the 2017 mineral resource estimate, new topographic surfaces was generated over the majority of the Santa Cruz zone and portions of the El Dorado zone. These areas of revised topography were then stitched into the larger topographic base which had been raised 12 m to better match the drill surveys away from the immediate resource zones. This corrected the most significant elevation issues and this revised topography is in use for the current resource model and estimate. It is highly recommended that an accurate LiDAR survey be completed over the project area before any significant future development is begun.



### 14.3 Geology Pertinent to Resource Modeling

Gold, copper, and silver mineralization at Las Minas is associated with sulfide-rich proximal skarn at diorite-marble contacts. Skarn alteration is dominantly garnet-rich with lesser pyroxene. Gold and copper mineralization are usually associated with early-phase magnetite which can be massive and make up to 75-80% of the rock composition. Chalcopyrite is the dominant sulfide mineral and bornite is also common.

There is evidence of past mining activity at Santa Cruz, El Dorado on the east side of the Las Minas townsite, and Juan Bran to the west and southwest of the townsite. Adits with limited underground development occur scattered along the El Dorado exposure though the majority of past production at Santa Cruz and El Dorado appears to be surface excavation of the exposed mineralized skarn.

Drilling following the Juan Bran and El Dorado mineralization to the south of the townsite indicates that the mineralization occurs as sub-horizontal skarn between the overlying carbonate package and the underlying basement dioritic intrusion. Highest metal grades are often within the skarn just below the marble-skarn contact. This contact can be very sharp with often a <0.1-meter transition from weakly mineralized marble to high-grade skarn. The lower mineral contact is more gradational. The intrusive contact is sub-parallel to the observed remnant bedding in the overlying marble which indicates that the intrusive contact might represent the upper contact of a thick sill.

The recent drilling has shown that the El Dorado zone is separated into two horizons by an approximately 100 m-wide dike-like apothecosis of the underlying diorite. The best drill intercepts within the resource area occur where the western El Dorado skarn horizon forms an east-dipping “keel” that extends into the diorite along the west side of the diorite dike. The current modeling indicates that the western portion of the El Dorado zone has an 800 m northwest strike length, extends up to 450 m to the southwest away from the diorite dike, and is on average 15 to 20 m thick, though it can reach over 50 m in thickness along the northeast contact with the diorite dike. In contrast, the eastern portion of the El Dorado zone has a 250 m northwest strike length, extends up to 200 m to the northeast, away from the diorite dike, and is 5 to 10 m thick.

The Santa Cruz skarn, which lies to the south of the El Dorado zone, along the west side of the dike, is much more erratic and discontinuous. The primarily east-dipping mineralization appears related to skarn alteration along sills that extend up into the marble/skarn package. Due to the steep west-dipping topography, drilling has been primarily east-directed, which is sub-parallel to the bedding/sill/mineralization orientation, making geologic interpretations less certain. The Santa Cruz zone has a 200 m northwest strike length, extends up to 200 m down dip to the northeast from the topographic surface, and can be up to 50 m thick, though thickness is highly variable and often consists of thin stacked sequences.

Geologic logging during the various drill campaigns have identified numerous intrusion types (granite, granodiorite, diorite, monzonite, feldspar porphyry to name the most prominent) but there is no consensus or more detailed study on the various intrusive phases to determine relationships to skarn alteration/mineralization. It is likely that many of the logged intrusion types represent the same intrusive event with the observed textural differences resulting from emplacement variances and cooling rate differences. The basement granodiorite is likely pre-mineral, or possibly contemporaneous with the early massive magnetite and skarn.



The logging has identified narrow post-mineral feldspar porphyry dikes(?) which have been encountered in a number of drill holes throughout the deposit. These are not mineralized and have been seen cutting through mineralization in a handful of drill holes. Often encountered in just one drill hole, the actual morphology, size, and orientation of these thin post-mineral intrusions is not clear. The presence of these dikes represents some risk to the block model and estimate.

#### **14.4 Geology Modeling**

A total of 43 vertical, N30W-looking cross sections spaced at 25 m intervals across the El Dorado zone, and at 12.5 m intervals across the Santa Cruz zone, were used for the initial modeling of the Las Minas geology. Using information from surface mapping, geologic logs, core photos, and geochemical data, sectional interpretations (2D polygons) were created of the overburden, limestone (primarily marble), pre- and syn-mineral intrusions, post-mineral intrusions, and magnetite-rich skarn rock types. Both Fe assays and specific gravity data were used in creating the magnetite-rich polygon which was specifically modeled due to its importance in the density model and also its apparent relationship with increased metal grades. These rock type polygons are the primary controlling features for the mineral domain model.

The default rock type in the cross-sectional geology model is the magnetite-poor garnet-pyroxene skarn, which was not modeled explicitly. This rock type includes both exoskarn and endoskarn, since in most cases distinguishing the parent lithology is not possible due to the strong skarn overprint. Mineralization occurs in both skarn types and even when exoskarn and endoskarn textures are apparent, the contact(s) between the two is not clear. Within the Santa Cruz zone, this rock type also includes irregular areas of weakly skarn-altered diorite that grade into endoskarn. At this stage of project development, it is not considered critical to be able to separate the various magnetite-poor skarn types. Further work might show that this separation could provide greater control on the mineral domain model.

The sectional rock-type polygons were three-dimensionally rectified to drill data and long section slices of the polygons were then created at 3 m intervals. Long section rock-type polygons were interpreted which were then used to code the block model on a volume percentage basis.

#### **14.5 Mineral Domain Modeling**

The mineral resources at Las Minas were modeled and estimated by evaluating the drill data statistically, utilizing the geologic interpretations to interpret mineral domains on N30W-looking vertical cross-sections, rectifying the mineral domains on 3.0 m spaced long sections which were then used to code the block model, and analyzing the modeled mineralization geostatistically to establish estimation parameters. This was followed by estimating gold, copper, and silver grades into a three-dimensional block model. All modeling of the Las Minas resources was performed using Geovia® mining software.

The mineral domain model is based on calculated gold equivalent (“AuEq”) sample values. The initial statistical analysis of the drill data indicated a close relationship between the three metals, especially the two dominant metals, gold and copper, such that there would be insignificant differences between the separate mineral models and the gold equivalent model. Silver mineralization is more variable but silver’s contribution to the economic value of the deposit is low (<5%).



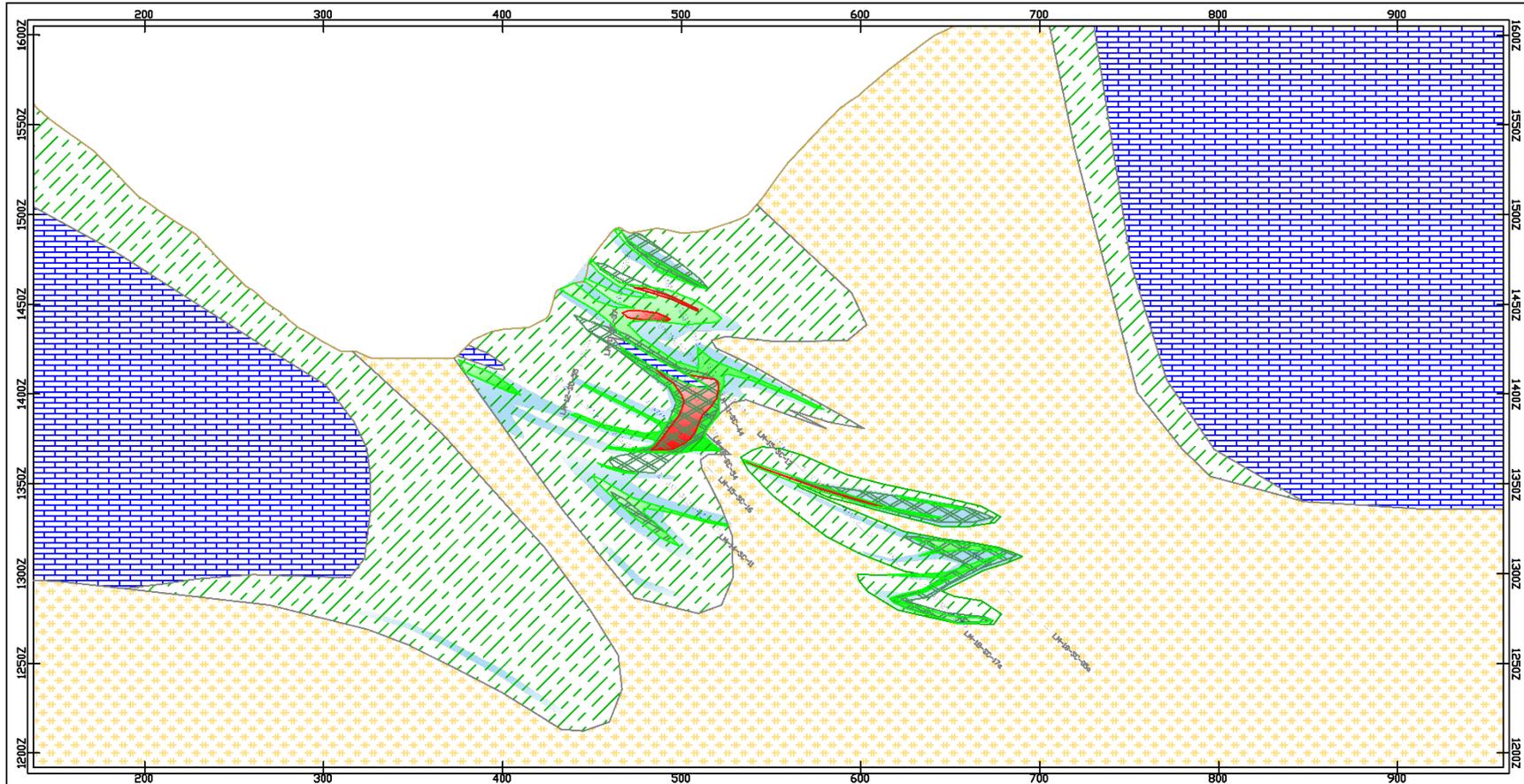
The same 43 vertical, N30W-looking cross sections used for the geology model were used for the mineral domain model. A mineral domain is a natural population of metal grades that occurs within a specific geologic setting. In order to define the AuEq mineral domains, the natural populations were first identified on quantile graphs that plot the AuEq-grade distributions of the drill-hole assays. Similar plots of gold, copper, and silver grade distributions were created to compare against the AuEq plots. This analysis led to the identification of low- (~0.15 to ~0.8 AuEq/t), moderate- (~0.8 to ~3.3g AuEq/t), and high-grade (>~3.3g AuEq/t) populations, assigned to domains 100, 200, and 300, respectively. Ideally, each of these populations can be correlated with specific geologic characteristics that are captured in the project database and/or geologic model to aid in the definition of the mineral domains. At Las Minas, the moderate and high-grade mineralization is closely associated with the magnetite-rich skarn, with higher grade areas accompanied by increased magnetite and chalcopyrite. The low-grade mineralization occurs within the magnetite-poor, low-sulfide exoskarn and endoskarn peripheral to the magnetite-rich areas.

The drill-hole traces, topographic profile, and geologic interpretations were plotted with AuEq, gold, and copper assays, colored by the grade-domain population ranges along the drill-hole traces, and these data were used to guide the interpretations of the mineral domains. Mineral-domain envelopes were interpreted on the geology cross sections to best capture assays corresponding approximately to each of the defined grade populations. The domains were modeled using all available drill data. Representative cross sections showing the geology and AuEq mineral-domains in the Santa Cruz and El Dorado zones are presented in Figure 14.1 and Figure 14.2, respectively. The cross-section locations are shown Figure 10.1.

The sectional mineral-domain polygons were digitized and then three-dimensionally rectified to the drill data. Long section slices of the polygons were then created at 3 m intervals and long section mineral domain polygons were interpreted. These long section polygons were then used to code the block model on a volume percentage basis.



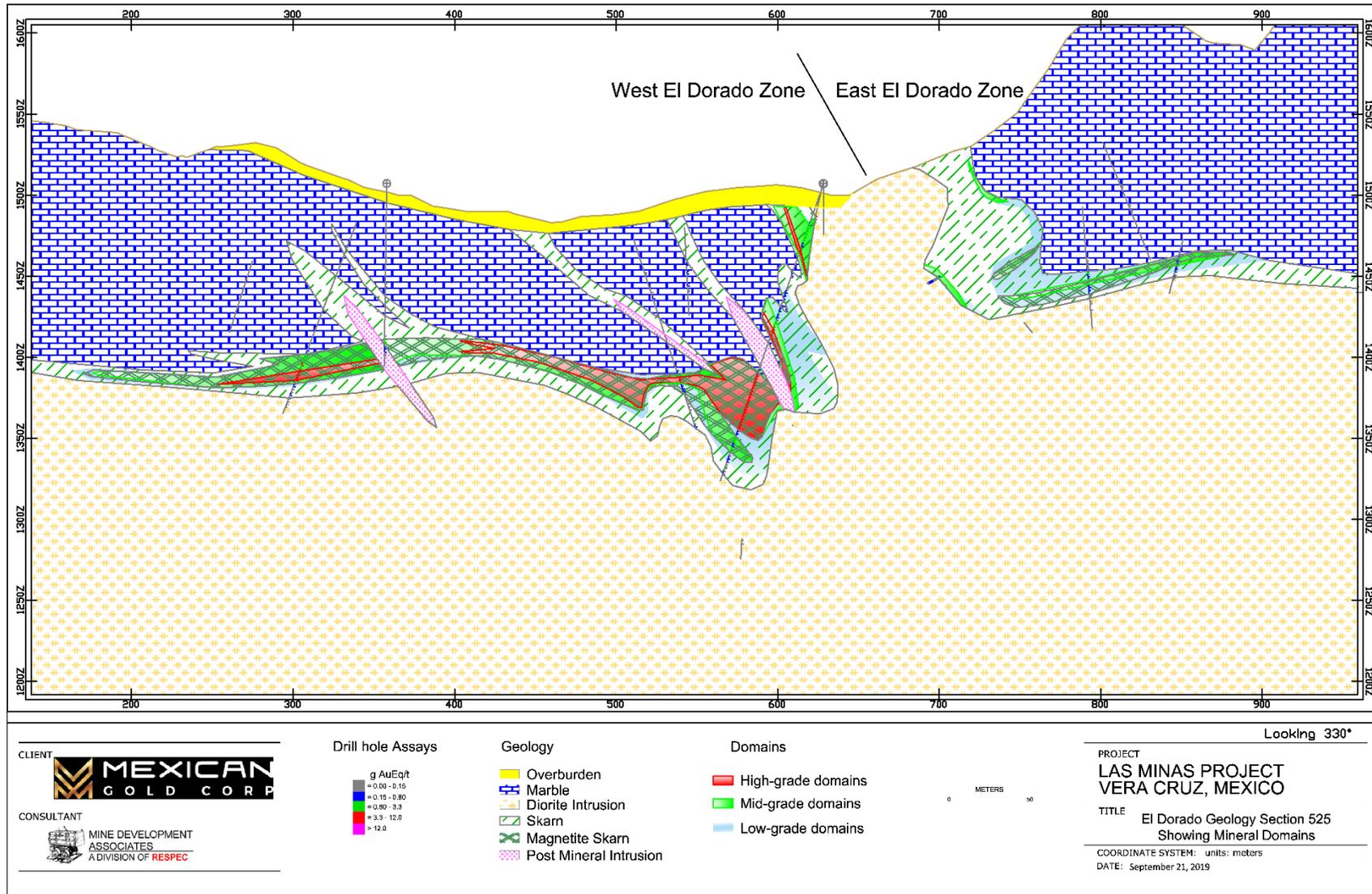
Figure 14.1 Section 187.5 – Santa Cruz Geology and Mineral Domains



<p>CLIENT</p> <p>CONSULTANT</p> <p>MINE DEVELOPMENT ASSOCIATES A DIVISION OF RESPEC</p>	<p>Drill hole Assays</p> <p>g AuEq/t</p> <ul style="list-style-type: none"> <li>0.00-0.15</li> <li>0.15-0.30</li> <li>0.30-3.3</li> <li>3.3-12.0</li> <li>&gt; 12.0</li> </ul>	<p>Geology</p> <ul style="list-style-type: none"> <li>Marble</li> <li>Diorite Intrusion</li> <li>Skarn</li> <li>Magnetite Skarn</li> </ul>	<p>Domains</p> <ul style="list-style-type: none"> <li>High-grade domains</li> <li>Mid-grade domains</li> <li>Low-grade domains</li> </ul>	<p>Looking 330°</p>	<p>PROJECT</p> <p><b>LAS MINAS PROJECT VERACRUZ, MEXICO</b></p> <p>TITLE Santa Cruz Geology Section 187.5 Showing Mineral Domains</p> <p>COORDINATE SYSTEM: units: meters DATE: September 21, 2019</p>
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Figure 14.2 Section 525 – El Dorado Geology and Mineral Domains





## 14.6 Assay and Composite Statistics

The mineral domain polygons were used to code drill samples. Quantile plots, along with domain statistics and spatial location of higher-grade samples, were made to assess validity of these domains and to determine capping levels for the individual metal populations. After these analyses, Mr. Tietz chose to cap 18 of the gold assays, 12 of the copper assays, and 21 of the silver assays. The author believes these assays are not representative of their domain populations and, if left uncapped, would have a high probability of over-estimating local grades. The capped assays represent about 0.5% of the assays used in the resource estimation and are primarily isolated, high-grade intervals within the low- and mid-grade mineral domains. Assay descriptive statistics for each deposit, including the capping levels and effects of capping on the assay statistics, are presented in Table 14.1.

**Table 14.1 Las Minas Assay Statistics**

Domain	Assays	Count	Mean (g Au/t)	Median (g Au/t)	Std. Dev.	CV	Min. (g Au/t)	Max. (g Au/t)	# Capped
100	Au	1525	0.192	0.125	0.308	1.610	0.002	5.711	7
	Au Cap	1525	0.183	0.125	0.203	1.110	0.002	1.500	
200	Au	1017	0.847	0.629	1.124	1.330	0.002	27.050	6
	Au Cap	1017	0.814	0.629	0.665	0.820	0.002	5.000	
300	Au	340	3.440	2.667	3.960	1.150	0.021	39.300	5
	Au Cap	340	3.289	2.667	2.950	0.900	0.021	18.000	
All	Au	2882	0.806	0.295	1.839	2.280	0.002	39.300	18
	Au Cap	2882	0.772	0.295	1.466	1.900	0.002	18.000	

Domain	Assays	Count	Mean (% Cu)	Median (% Cu)	Std. Dev.	CV	Min. (% Cu)	Max. (% Cu)	# Capped
100	Cu	1525	0.12	0.07	0.20	1.69	0.00	5.37	10
	Cu Cap	1525	0.12	0.07	0.13	1.15	0.00	0.80	
200	Cu	1017	0.56	0.43	0.53	0.93	0.00	5.35	1
	Cu Cap	1017	0.56	0.43	0.51	0.92	0.00	4.00	
300	Cu	340	1.99	1.70	1.71	0.86	0.00	14.70	1
	Cu Cap	340	1.99	1.70	1.68	0.84	0.00	12.00	
All	Cu	2882	0.50	0.18	0.90	1.81	0.00	14.70	12
	Cu Cap	2882	0.49	0.18	0.88	1.79	0.00	12.00	

Domain	Assays	Count	Mean (g Ag/t)	Median (g Ag/t)	Std. Dev.	CV	Min. (g Ag/t)	Max. (g Ag/t)	# Capped
100	Ag	1525	0.9	0.5	2.80	2.97	0.2	127.0	10
	Ag Cap	1525	0.9	0.5	1.20	1.37	0.2	10.0	
200	Ag	1017	3.4	2.4	3.80	1.11	0.2	63.1	4
	Ag Cap	1017	3.3	2.4	3.20	0.96	0.2	20.0	
300	Ag	340	13.1	9.0	13.50	1.03	0.2	126.0	7
	Ag Cap	340	12.6	9.0	10.90	0.87	0.2	50.0	
All	Ag	2882	3.2	1.1	6.70	2.07	0.2	127.0	21
	Ag Cap	2882	3.1	1.1	5.60	1.80	0.2	50.0	



Compositing was done to 1.5 m down-hole lengths (half the block model’s vertical block size), using the capped assays and honoring all mineral-domain boundaries. The grades of the volume inside each mineral domain were estimated using only composites from inside that domain. The final block-diluted metal grade assigned to each model block is a volume-weighted average based on the proportion of each domain within the block. Composite descriptive statistics for each deposit are presented in Table 14.2.

**Table 14.2 Las Minas Composite Statistics**

<b>Au Composites - Las Minas</b>							
<b>Gold</b>	<b>Count</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Dev.</b>	<b>CV</b>	<b>Min.</b>	<b>Max.</b>
100	1554	0.183	0.128	0.198	1.090	0.002	1.500
200	1019	0.814	0.634	0.645	0.790	0.005	5.000
300	347	3.289	2.705	2.899	0.880	0.021	18.000
All	2920	0.772	0.296	1.450	1.880	0.002	18.000

<b>Cu Composites - Las Minas</b>							
<b>Copper</b>	<b>Count</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Dev.</b>	<b>CV</b>	<b>Min.</b>	<b>Max.</b>
100	1554	0.12	0.08	0.13	1.12	0.00	0.80
200	1019	0.56	0.44	0.49	0.88	0.00	3.64
300	347	1.99	1.70	1.63	0.82	0.00	11.70
All	2920	0.49	0.18	0.87	1.76	0.00	11.70

<b>Ag Composites - Las Minas</b>							
<b>Silver</b>	<b>Count</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Dev.</b>	<b>CV</b>	<b>Min.</b>	<b>Max.</b>
100	1554	0.9	0.5	1.20	1.34	0.2	10.0
200	1019	3.3	2.5	3.10	0.94	0.2	20.0
300	347	12.6	9.1	10.80	0.86	0.2	50.0
All	2920	3.1	1.1	5.60	1.79	0.2	50.0

## 14.7 Density

The density values used in the current resource model and estimate are based on 1,637 density measurements collected by Mexican Gold from drill core in the Las Minas project area. Of the total, 1,353 are measurements from the El Dorado zone, with 284 from the Santa Cruz zone. Four samples with spurious values were removed from the data set for use in further statistical analyses.

MDA grouped the density samples by modeled lithology and mineral domains, and analyzed the data for each zone, and then in total for both zones. There was just a minimal difference (<5%) in density within each lithology when sub-grouped into mineral domains or skarn zone so it was decided to assign density values into the Las Minas block model based on lithology alone. Due to potential sample collection bias (the use of whole solid core versus fractured, possibly less-dense core), MDA reduced the mean values of each lithology group by about 1.0% for use in the current model. Table 14.3 shows the statistics for the density data grouped by lithology with the specific values used in the resource block model shown in the “Model\_SG” column.



**Table 14.3 Las Minas Specific Gravity Data**

Lithology	Sample_#	Mean	Median	Min.	Max.	Model_SG
Marble	135	2.8	2.77	2.32	3.56	2.75
Intrusion	149	2.79	2.75	2.24	3.46	2.75
Skarn	919	3.22	3.25	2.39	4.3	3.2
Magnetite	426	3.83	3.81	2.61	6.14	3.8

### 14.8 Block Model Coding

The mineral domain and lithology long-section polygons were used to code a N30W-oriented block model. The block size is 3 m by 3 m by 3 m, which is appropriate for the application of bulk underground mining methods. In order for the block model to better reflect the irregularly shaped limits of the various mineral domains and lithologies, as well as to explicitly model dilution, the percentage volume of each mineral domain and lithology within each block was stored (the “partial percentages”).

The density assigned to each model block uses the density values shown in Table 14.3 and is a volume-weighted average based on the proportion of each lithology within the block. The percentage of each block that lies below the topographic surface was also stored.

### 14.9 Estimation

Mineral domains aid in controlling the grade distribution, and the estimation used inverse distance to the third power (“ID<sup>3</sup>”) to interpolate grades within the domains, as this technique was judged to provide results superior to those obtained by ordinary kriging. Ordinary kriging and nearest neighbor estimates were also made as checks on the ID<sup>3</sup> estimate. To aid in determining search distances, variograms for gold and copper were made in numerous orientations and at various lag lengths.

The mineralization within each zone has a unique orientation and the search ellipsoids reflect these different orientations. The main El Dorado zone was modeled having a sub-horizontal orientation reflective of the generally flat-lying, basal marble-intrusive contact. The northwest El Dorado (near the historical Juan Bran mine) and the Santa Cruz areas are located along the west side of the intrusive apothecosis (dike?) that separates the west and east portions of the El Dorado zone and mineralization in these areas occurs along northeast-dipping sill-marble contacts. The three search-ellipse orientations used to control the resource estimate are shown in Table 14.4.

**Table 14.4 Las Minas Search Ellipse Orientations**

Estimation Area	Major Bearing	Plunge	Tilt
El Dorado	330°	5°	0°
Northwest El Dorado	330°	0°	-70°
Santa Cruz	330°	0°	-30

Separate variographic studies was performed for the deposit zones (El Dorado and Santa Cruz) using the drill hole composites from each mineral domain, collectively and separately, at various azimuths, dips, and



lags. Acceptable variogram models were obtained from composites from the combined 100, 200, and 300 gold and copper domains. A maximum range of about 100 m for gold and copper was obtained along the strike and dip of the sub-horizontal El Dorado skarn zone, while the Santa Cruz zone has just a 25 m maximum range for gold and copper. Parameters obtained from the variography study were used in an ordinary-krige interpolation and also provided information relevant to both the estimation parameters used in an inverse-distance interpolation and in resource classification.

The estimation parameters applied at Las Minas are summarized in Table 14.5. The estimation used three search passes within each estimation area, with successive passes not overwriting previous estimation passes. The first-pass search distances take into consideration the results of both the variography and drill-hole spacing. The second and third passes were designed to estimate grade into all blocks coded to the mineral domains that were not estimated in the first pass.

**Table 14.5 Summary of Las Minas Estimation Parameters**

Estimation Area	Estimation Pass	Search Ranges (m)			Comp Constraints		
		Major	S-Major	Minor	Min	Max	Max/hole
El Dorado	1	100	100	50	2	15	4
	2	300	300	150	1	15	4
	3	1000	1000	1000	1	15	4
Northwest El Dorado and Santa Cruz	1	50	50	25	2	15	4
	2	150	150	75	1	15	4
	3	300	300	300	1	15	4

The estimation passes were performed independently for each of the mineral domains, so that only composites coded to a particular domain were used to estimate grade into blocks coded by that domain. The estimated grades were coupled with the partial percentages of the mineral domains to enable the calculation of a single, weight-averaged, block-diluted grade for each block.

#### 14.10 Mineral Resources

The Las Minas resources are restricted to the Indicated and Inferred classification due to the lack of underground development and detailed sampling that is believed to be necessary to assign a Measured classification to a resource based on an underground mine scenario. The Indicated classification is assigned to areas of relatively close-spaced drilling which provides local confidence in the geologic model. The criteria for assigning the Indicated classification to an El Dorado mineralized block are that the average distance to the nearest two drill holes, with at least one composite sample per drill hole, is 35 m or less. Assigning the Indicated classification to a Santa Cruz mineralized block requires that the average distance to the nearest two drill holes, with at least one composite sample per drill hole, is 15 m or less. All other modeled mineralization is considered Inferred. The samples used for the classification criteria stated above are independent of the modeled domains.

Because of the requirement that the resource exists “*in such form and quantity and of such a grade or quality that it has reasonable prospects for eventual economic extraction*” Mr. Tietz is reporting the resources at approximate economic cutoff grades that are reasonable for deposits of this nature that will likely be mined primarily by underground methods. As such, some economic considerations were used to



determine cutoff grades at which the resource is presented. MDA considered reasonable metal prices and extraction costs, and then factored those down to account for that material that would become economic using internal cutoffs. Blocks making the cutoff grade which are spatially isolated and would not reasonably be considered for development were removed from the resource.

Table 14.6 shows the Las Minas project total reported mineral resources. The stated resources are fully diluted to 3 m cubed blocks and are tabulated on a gold-equivalent (“AuEq”) cutoff grade of 1.5g AuEq/t. All material, regardless of which metal is present and which is absent, is tabulated. Because multiple metals exist, but do not on a local scale necessarily co-exist, the AuEq grade is used for tabulation.

**Table 14.6 Las Minas Total Reported Mineral Resources**  
(cutoff grade of 1.5g AuEq/t)

Class	Tonnes	g Au/t	oz Au	g Ag/t	oz Ag	% Cu	lbs Cu	g AuEq/t	oz AuEq
Indicated	5,457,000	1.782	313,000	6.5	1,148,000	1.250	150,319,000	3.674	645,000
Inferred	2,514,000	1.252	101,000	5.5	446,000	0.938	51,965,000	2.679	217,000

Note: rounding may cause apparent inconsistencies

Using the individual metal grades of each block, the AuEq grade is calculated using the following formula:

$$\text{g AuEq/t} = \text{g Au/t} + (0.0123077 * \text{g Ag/t}) + (1.4492753 * \% \text{Cu})$$

This formula is based on prices of US\$1,300.00 per ounce gold, US\$16.00 per ounce silver, and US\$2.75 per pound copper. Metal recoveries were not included in the equivalency calculation since the metallurgical studies completed to-date indicate just a minor recovery difference. It is reasonably expected that the majority of Inferred mineral resources could be upgraded to the Indicated classification with continued exploration.

The Las Minas total resources, are tabulated at various cutoff grades in Table 14.7 while the El Dorado and Santa Cruz resources are tabulated separately in Table 14.8 and Table 14.9, respectively. These block-diluted resources are tabulated at additional cutoffs in order to provide grade-distribution information, as well as to provide for economic conditions other than those envisioned by the reported resource cutoff grade.

Figure 14.3 and Figure 14.4 show cross sections of the block models that correspond to the mineral-domain cross-sections in Figure 14.1 and Figure 14.2, respectively.



Table 14.7 Las Minas Project Reported Mineral Resources

Cutoff (g AuEq/t)	Indicated Resource								
	tonnes	g Au/t	oz Au	g Ag/t	oz Ag	% Cu	lbs Cu	g AuEq/t	oz AuEq
0.50	10,036,000	1.178	380,000	4.4	1,418,000	0.822	181,855,000	2.423	782,000
1.00	7,378,000	1.481	351,000	5.4	1,288,000	1.031	167,630,000	3.042	722,000
1.25	6,385,000	1.622	333,000	6.0	1,222,000	1.134	159,632,000	3.339	686,000
<b>1.50</b>	<b>5,457,000</b>	<b>1.782</b>	<b>313,000</b>	<b>6.5</b>	<b>1,148,000</b>	<b>1.250</b>	<b>150,319,000</b>	<b>3.674</b>	<b>645,000</b>
1.75	4,681,000	1.948	293,000	7.1	1,076,000	1.365	140,852,000	4.014	604,000
2.00	4,031,000	2.128	276,000	7.7	1,004,000	1.474	131,029,000	4.359	565,000
2.25	3,533,000	2.299	261,000	8.3	941,000	1.570	122,304,000	4.677	531,000
3.00	2,587,000	2.707	225,000	9.5	794,000	1.806	103,015,000	5.441	453,000
4.00	1,883,000	3.091	187,000	10.8	655,000	2.033	84,367,000	6.170	374,000
4.50	1,542,000	3.302	164,000	11.6	573,000	2.173	73,849,000	6.594	327,000
5.00	1,194,000	3.588	138,000	12.5	479,000	2.339	61,542,000	7.132	274,000
6.00	711,000	4.228	97,000	13.3	304,000	2.689	42,149,000	8.289	189,000

Cutoff (g AuEq/t)	Inferred Resource								
	tonnes	g Au/t	oz Au	g Ag/t	oz Ag	% Cu	lbs Cu	g AuEq/t	oz AuEq
0.50	6,583,000	0.745	158,000	3.2	670,000	0.528	76,631,000	1.550	328,000
1.00	3,740,000	1.044	126,000	4.5	542,000	0.765	63,081,000	2.208	266,000
1.25	3,101,000	1.143	114,000	5.0	496,000	0.847	57,867,000	2.432	242,000
<b>1.50</b>	<b>2,514,000</b>	<b>1.252</b>	<b>101,000</b>	<b>5.5</b>	<b>446,000</b>	<b>0.938</b>	<b>51,965,000</b>	<b>2.679</b>	<b>217,000</b>
1.75	2,059,000	1.358	90,000	6.0	399,000	1.022	46,400,000	2.913	193,000
2.00	1,671,000	1.472	79,000	6.5	350,000	1.107	40,761,000	3.156	170,000
2.25	1,350,000	1.595	69,000	7.0	304,000	1.188	35,351,000	3.403	148,000
3.00	632,000	2.056	42,000	8.9	182,000	1.508	21,023,000	4.351	88,000
4.00	314,000	2.521	25,000	11.1	111,000	1.850	12,789,000	5.339	54,000
4.50	243,000	2.692	21,000	11.7	91,000	1.942	10,406,000	5.650	44,000
5.00	150,000	3.052	15,000	12.9	62,000	2.071	6,853,000	6.212	30,000
6.00	46,000	3.862	6,000	18.4	27,000	2.780	2,809,000	8.117	12,000

Note: rounding may cause apparent inconsistencies



Table 14.8 El Dorado Reported Mineral Resources

Cutoff (g AuEq/t)	Indicated Resource								
	tonnes	g Au/t	oz Au	g Ag/t	oz Ag	% Cu	lbs Cu	g AuEq/t	oz AuEq
0.50	8,833,000	1.208	343,000	4.3	1,227,000	0.856	166,671,000	2.502	710,000
1.00	6,634,000	1.500	320,000	5.3	1,124,000	1.057	154,582,000	3.097	661,000
1.25	5,798,000	1.634	305,000	5.8	1,072,000	1.156	147,758,000	3.381	630,000
<b>1.50</b>	<b>5,001,000</b>	<b>1.787</b>	<b>287,000</b>	<b>6.3</b>	<b>1,013,000</b>	<b>1.267</b>	<b>139,640,000</b>	<b>3.701</b>	<b>595,000</b>
1.75	4,321,000	1.947	271,000	6.9	953,000	1.377	131,184,000	4.028	560,000
2.00	3,734,000	2.125	255,000	7.4	892,000	1.484	122,144,000	4.367	524,000
2.25	3,274,000	2.298	242,000	7.9	836,000	1.579	113,958,000	4.684	493,000
3.00	2,413,000	2.702	210,000	9.1	708,000	1.807	96,137,000	5.433	421,000
4.00	1,767,000	3.079	175,000	10.3	585,000	2.025	78,860,000	6.141	349,000
4.50	1,447,000	3.288	153,000	11.0	511,000	2.162	68,955,000	6.557	305,000
5.00	1,117,000	3.575	128,000	11.9	426,000	2.325	57,248,000	7.091	255,000
6.00	668,000	4.201	90,000	12.6	271,000	2.661	39,177,000	8.213	176,000

Cutoff (g AuEq/t)	Inferred Resource								
	tonnes	g Au/t	oz Au	g Ag/t	oz Ag	% Cu	lbs Cu	g AuEq/t	oz AuEq
0.50	4,367,000	0.822	115,000	3.5	489,000	0.630	60,648,000	1.778	250,000
1.00	2,934,000	1.061	100,000	4.5	428,000	0.824	53,322,000	2.311	218,000
1.25	2,540,000	1.143	93,000	4.9	402,000	0.890	49,854,000	2.493	204,000
<b>1.50</b>	<b>2,133,000</b>	<b>1.239</b>	<b>85,000</b>	<b>5.4</b>	<b>369,000</b>	<b>0.968</b>	<b>45,530,000</b>	<b>2.708</b>	<b>186,000</b>
1.75	1,780,000	1.335	76,000	5.9	335,000	1.047	41,107,000	2.925	167,000
2.00	1,473,000	1.438	68,000	6.3	298,000	1.124	36,509,000	3.145	149,000
2.25	1,204,000	1.553	60,000	6.7	260,000	1.199	31,830,000	3.373	131,000
3.00	571,000	1.990	36,000	8.4	154,000	1.499	18,852,000	4.266	78,000
4.00	279,000	2.438	22,000	10.1	90,000	1.809	11,138,000	5.184	47,000
4.50	215,000	2.595	18,000	10.5	72,000	1.887	8,936,000	5.459	38,000
5.00	127,000	2.941	12,000	11.2	46,000	1.985	5,544,000	5.956	24,000
6.00	29,000	3.783	4,000	15.0	14,000	2.737	1,746,000	7.934	7,000

Note: rounding may cause apparent inconsistencies



Table 14.9 Santa Cruz Reported Mineral Resources

Cutoff (g AuEq/t)	Indicated Resource								
	tonnes	g Au/t	oz Au	g Ag/t	oz Ag	% Cu	lbs Cu	g AuEq/t	oz AuEq
0.50	1,204,000	0.963	37,000	4.9	191,000	0.572	15,184,000	1.852	72,000
1.00	744,000	1.312	31,000	6.8	164,000	0.795	13,047,000	2.548	61,000
1.25	587,000	1.505	28,000	7.9	149,000	0.918	11,874,000	2.933	55,000
<b>1.50</b>	<b>456,000</b>	<b>1.727</b>	<b>25,000</b>	<b>9.2</b>	<b>135,000</b>	<b>1.063</b>	<b>10,680,000</b>	<b>3.381</b>	<b>50,000</b>
1.75	361,000	1.952	23,000	10.6	123,000	1.216	9,668,000	3.845	45,000
2.00	297,000	2.158	21,000	11.7	112,000	1.356	8,885,000	4.267	41,000
2.25	259,000	2.312	19,000	12.6	105,000	1.461	8,346,000	4.584	38,000
3.00	174,000	2.781	16,000	15.5	87,000	1.796	6,878,000	5.575	31,000
4.00	116,000	3.270	12,000	18.7	70,000	2.152	5,507,000	6.619	25,000
4.50	95,000	3.515	11,000	20.0	61,000	2.330	4,894,000	7.138	22,000
5.00	77,000	3.775	9,000	21.3	53,000	2.538	4,294,000	7.715	19,000
6.00	43,000	4.645	6,000	23.6	33,000	3.114	2,973,000	9.449	13,000

Cutoff (g AuEq/t)	Inferred Resource								
	tonnes	g Au/t	oz Au	g Ag/t	oz Ag	% Cu	lbs Cu	g AuEq/t	oz AuEq
0.50	2,217,000	0.593	42,000	2.5	181,000	0.327	15,984,000	1.098	78,000
1.00	806,000	0.982	25,000	4.4	114,000	0.549	9,759,000	1.832	47,000
1.25	561,000	1.141	21,000	5.2	94,000	0.648	8,013,000	2.144	39,000
<b>1.50</b>	<b>381,000</b>	<b>1.324</b>	<b>16,000</b>	<b>6.3</b>	<b>77,000</b>	<b>0.766</b>	<b>6,434,000</b>	<b>2.512</b>	<b>31,000</b>
1.75	279,000	1.505	13,000	7.1	64,000	0.861	5,293,000	2.840	25,000
2.00	197,000	1.728	11,000	8.2	52,000	0.977	4,252,000	3.245	21,000
2.25	146,000	1.939	9,000	9.4	44,000	1.096	3,521,000	3.643	17,000
3.00	62,000	2.670	5,000	13.9	28,000	1.589	2,170,000	5.144	10,000
4.00	34,000	3.196	4,000	19.1	21,000	2.185	1,651,000	6.598	7,000
4.50	28,000	3.432	3,000	20.5	19,000	2.364	1,470,000	7.110	6,000
5.00	23,000	3.653	3,000	21.7	16,000	2.541	1,309,000	7.603	6,000
6.00	17,000	3.999	2,000	24.2	13,000	2.855	1,063,000	8.435	5,000

Note: rounding may cause apparent inconsistencies



Figure 14.3 Section 187.5 - Santa Cruz Block Model

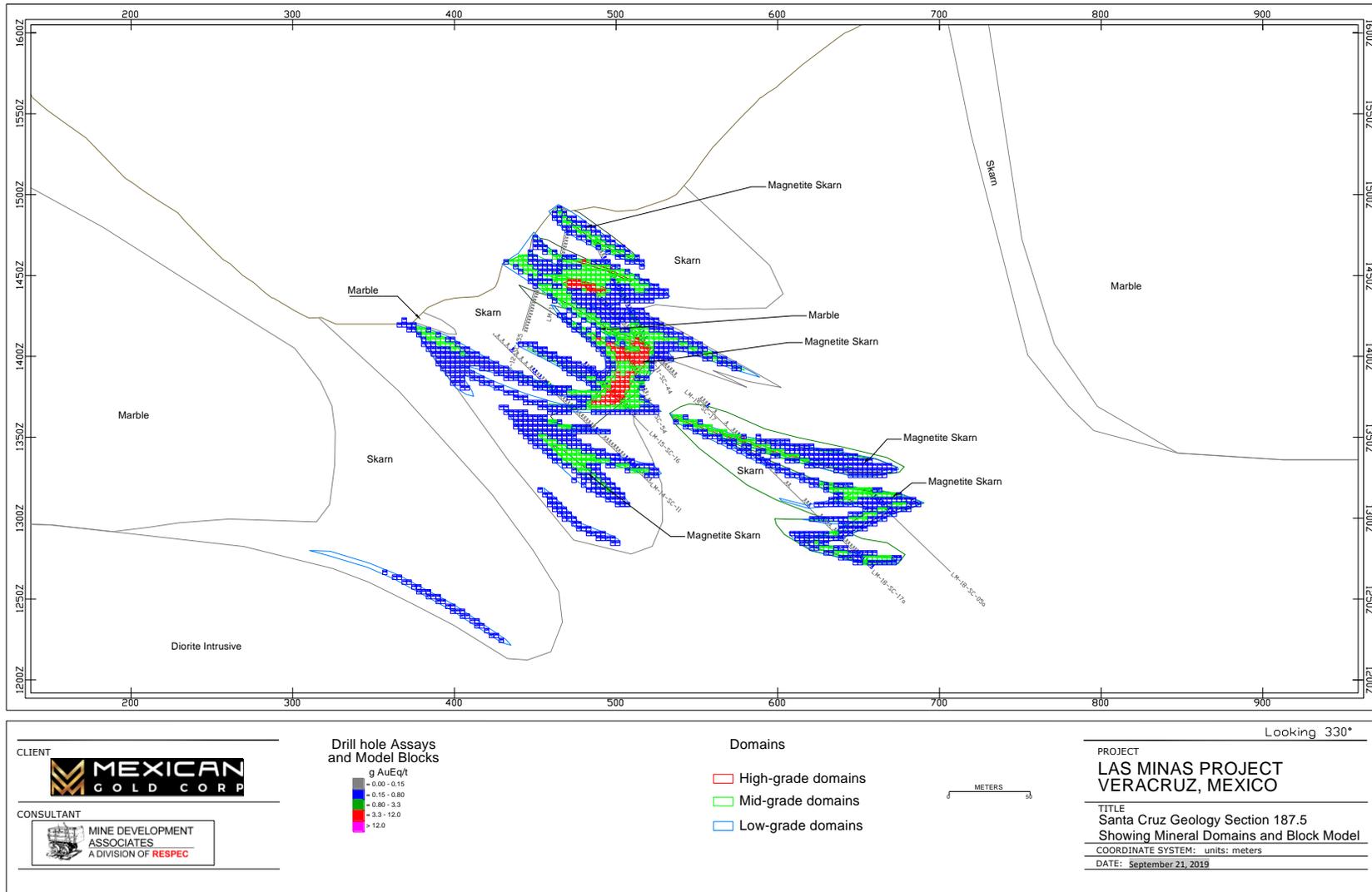
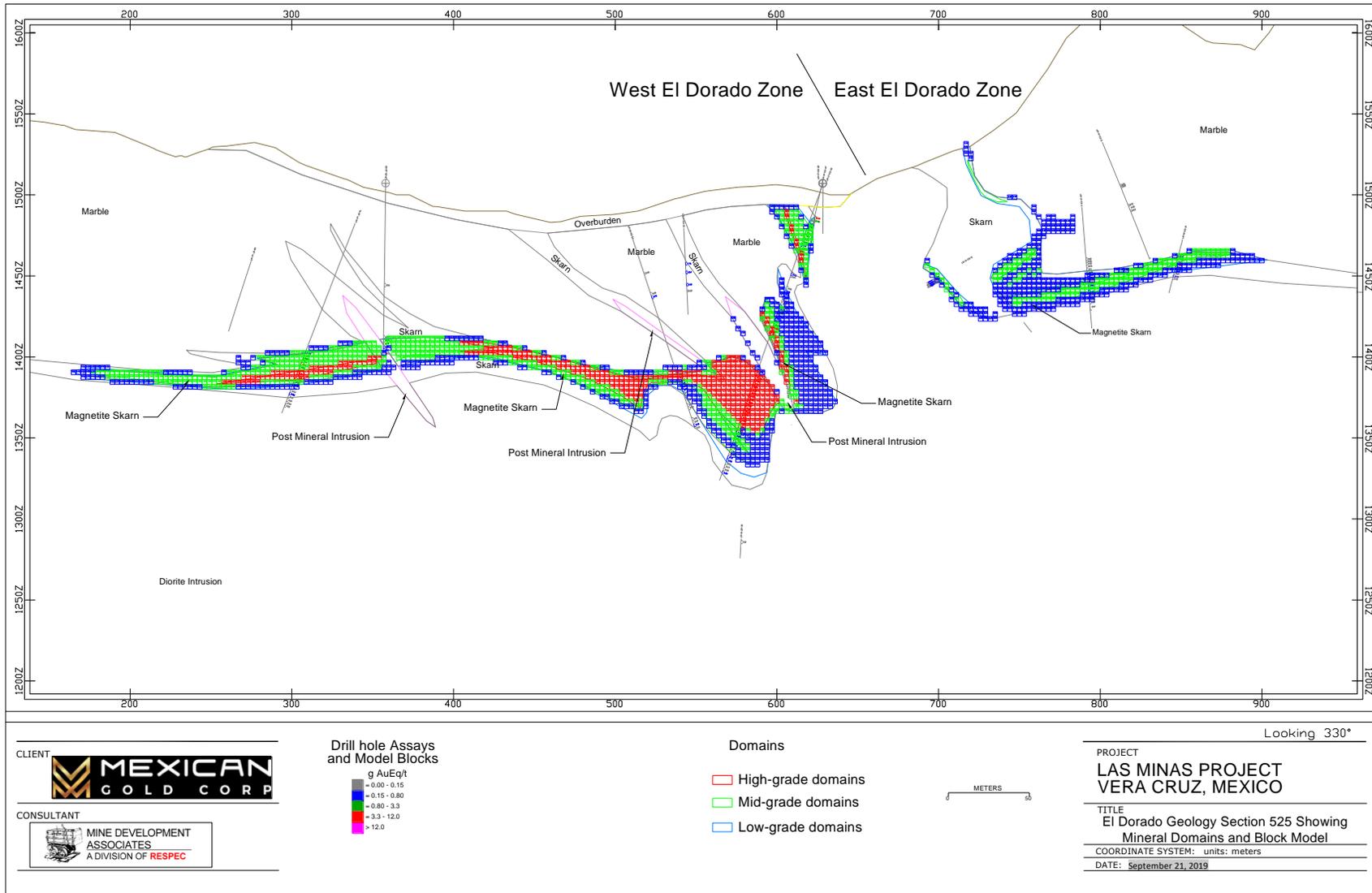




Figure 14.4 Section 525 – El Dorado Block Model





## 14.11 Model Checks

Volumes indicated by long section interpretations were compared to the cross section volumes and those coded to the block model to assure close agreement, and all block model coding was checked visually on the computer. Nearest-neighbor and ordinary-kriging estimates of the project resources were undertaken as a check on the ID<sup>3</sup> resource model. Grade-distribution plots of assays and composites versus the nearest-neighbor, krige, and ID<sup>3</sup> block grades were also evaluated as a check on the estimation. Finally, the ID<sup>3</sup> grades were visually compared to the drill-hole assay data to assure that reasonable results were obtained.

The author believes that the current mineral resource block model and estimate is a reasonable portrayal of the Las Minas skarn mineralization and can be used in future economic analyses.

## 14.12 Discussion of Resources

The Las Minas resource block model reflects the proximal skarn mineralization as interpreted for the El Dorado and Santa Cruz zones. Mineralization in all zones occurs within pervasive garnet-pyroxene exoskarn and endoskarn alteration along marble-diorite contacts. The potentially economic (>1.5g AuEq/t) mineralization is associated with magnetite-rich horizons containing disseminated chalcopyrite and minor bornite. Sulfide content is usually less than 5%, but can be as much as 10% in very local volumes.

The El Dorado zone is modeled as skarn mineralization occurring along the sub-horizontal marble-diorite contact. The El Dorado is locally continuous but is separated into two horizons by a barren north-northwest trending 100 m to 150 m wide diorite dike(?) that extends up from the basement diorite intrusion. The thickest and generally highest-grade portions of these zones encountered to date are along the west and east contacts of the skarn with the north-northwest-trending vertical dike. This vertical feature has possibly been localized along a structural corridor that served as the plumbing system for the skarn mineralization.

The Santa Cruz zone occurs higher in the sedimentary sequence along the west wall of the intrusive dike. The deposit is characterized by thin sills extending up into the east-dipping marble with skarn mineralization localized along these sills and also within remnant skarn areas surrounded by just weakly altered intrusion. There appears to be multiple intrusive phases, some of which are likely post-mineral. The Santa Cruz mineralization is significantly more erratic and discontinuous than at El Dorado.

The Las Minas resources are based on potential exploitation by underground mining methods. Though there is potential for open-pit mining of the near-surface portions of the deposit, the steep topography and cultural issues (townsite and hydroelectric facilities) appear to be significant obstacles for any significant surface disturbance.

The primary risk with the resource model is continuity of mineralization within the skarn zones. The drilling to-date suggests good continuity and just minor complexity within the El Dorado zone. The drilling can be fairly widely spaced (>30 m) within these zones, and it is possible that with more closely-spaced drilling, increased local complexity, such as seen at Santa Cruz, might be apparent. There is also some uncertainty with the topography though this is considered minor due to the focus on an underground mining scenario. None of these risks are high enough to preclude classifying portions of the Las Minas deposit as Indicated mineral resources.



The resources are open to the south, northwest, and east at El Dorado. The Santa Cruz zone is limited in growth due to geologic constraints, in particular, the increased presence of generally unaltered intrusion to the south and at depth.

Further drilling at Las Minas would result in the conversion of Inferred resources to Indicated resources, while also assist in expanding the current resources. There is the potential for Measured resources if further infill drilling provides confidence in local skarn continuity within the El Dorado zone. Underground development with detailed sampling could also lead to Measured resources.



## **15.0 MINERAL RESERVE ESTIMATES**

Items 15 through 22 are not applicable because the Las Minas project is not an advanced property.



## **23.0 ADJACENT PROPERTIES**

The author has no information regarding adjacent properties that is relevant to the resource estimate described in this report.



## **24.0 OTHER RELEVANT DATA AND INFORMATION**

The author is unaware of any other data or information relevant to the resource estimate described in this report.



## 25.0 INTERPRETATION AND CONCLUSIONS

Mr. Tietz has reviewed the project data, including the Las Minas drill-hole database, and visited the project site. The author believes that the data provided by Mexican Gold, as well as the geological interpretations Mexican Gold and the author have derived from the data, are generally an accurate and reasonable representation of the Las Minas project.

The Las Minas database contains records for a total of 25,977 m of diamond core drilling in 181 holes in the Las Minas property. Of this total, 149 drill holes are within the resource areas and contribute to the geologic models and grade estimates. Mexican Gold, and its predecessor company Source Exploration, have completed all of the known drilling on the Las Minas property.

The Las Minas resource block model reflects the proximal skarn mineralization as interpreted for the El Dorado and Santa Cruz zones. Mineralization in all zones occurs within pervasive garnet-pyroxene exoskarn and endoskarn alteration along marble-diorite contacts. The potentially economic mineralization is associated with magnetite-rich horizons containing disseminated chalcopyrite and minor bornite. Sulfide content is usually less than 5%, but can be as much as 10% in very local volumes.

The El Dorado zone is modeled as skarn mineralization occurring along the sub-horizontal marble-diorite contact. The El Dorado is locally continuous but is separated into two horizons by a barren north-northwest trending 100 m to 150 m wide diorite dike(?) that extends up from the basement diorite intrusion. The thickest and generally highest-grade portions of these zones encountered to date are along the contacts of the skarn with the north-northwest-trending vertical dike. This vertical feature has possibly been localized along a structural corridor that served as the plumbing system for the skarn mineralization.

The Santa Cruz zone occurs higher in the sedimentary sequence along the west wall of the intrusive dike. The deposit is characterized by thin sills extending up into the east-dipping marble with skarn mineralization localized along these sills and also within remnant skarn areas surrounded by just weakly altered intrusion. There appears to be multiple intrusive phases, some of which are likely post-mineral. The Santa Cruz mineralization is significantly more erratic and discontinuous than within the El Dorado zone.

Las Minas resources are reported at a 1.5g AuEq/t cut-off grade which is reasonable for deposits of this nature that will likely be mined primarily by underground methods. The reported Indicated Resources at Las Minas are 5,457,000 tonnes averaging 1.782g Au/t, 6.5g Ag/t, and 1.25% Cu for a total of 640,000 ounces gold equivalent. The reported Inferred Resources are 2,514,000 tonnes averaging 1.252g Au/t, 5.5g Ag/t, and 0.94% Cu for a total of 220,000 ounces gold equivalent. It is reasonably expected that the majority of Inferred mineral resources could be upgraded to the Indicated classification with continued exploration.

The Las Minas resources are based on potential exploitation by underground mining methods. Though there is potential for open-pit mining of the near-surface portions of the deposit, the steep topography and cultural issues (townsite and hydroelectric facilities) appear to be significant obstacles for any significant surface disturbance.

The primary risk with the resource model is continuity of mineralization within the skarn zones. The drilling to-date suggests good continuity and just minor complexity within the El Dorado zone. The drilling



can be fairly widely spaced (>30 m ) within these zones, and it is possible that with more closely-spaced drilling, increased local complexity, such as seen at Santa Cruz, might be apparent.

The resources are open to the south, northwest, and east within the El Dorado zone. The Santa Cruz zone is limited in growth due to geologic constraints, in particular, the increased presence of generally unaltered intrusion to the south and at depth. Further drilling would result in the conversion of Inferred resources to Indicated resources, while also assist in expanding the current resources. There is the potential for Measured resources if further infill drilling provides confidence in local skarn continuity within the El Dorado zone. Underground development with detailed sampling could also lead to Measured resources. The project resource base could also be increased with successful exploration drilling at the other targets within the Las Minas project area.



## **26.0 RECOMMENDATIONS**

The Las Minas project is a project of merit and warrants additional exploration and development work. The recommended work would include core drilling, along with further geochemical and geophysical analyses to assist in target generation, plus additional metallurgical testing and an environmental baseline study. More accurate topography is also needed and a LiDAR survey should be completed over the project area before any significant future development is begun. The recommended work totals approximately \$1.1 million.

Continued core drilling is recommended in order to:

- upgrade and expand the current resources;
- provide material for additional metallurgical and geotechnical testing; and
- increase the project-wide resources by targeting additional skarn systems, such as at the Cinco Senores, Las Minillas, Los Boquillas, and Changarro targets, the high-grade vein systems at Pueblo Nuevo, and the potential for sub-sill mineralization on the concessions as a whole.

A flexible drill program of approximately 6,000 m of drilling is recommended to complete the above tasks. Total costs for the drill program would be approximately \$720,000.

The completion of a LiDAR survey would cost approximately \$65,000.

Additional metallurgical testing is recommended at Las Minas. The drill plan would allow for the infill and expansion drilling to also provide samples for the proposed metallurgical testing. Costs for the metallurgical testing would be approximately \$80,000.

An environmental baseline study is recommended for Las Minas. Total costs for the study would be approximately \$85,000.

Upon drilling completion and positive drill, metallurgical, and environmental baseline study results, an updated mineral resource estimate and a preliminary economic assessment (“PEA”) is recommended. The estimated cost, including the accompanying technical reports, is approximately \$150,000.



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## **28.0 DATE AND SIGNATURE PAGE**

Effective Date of report:

September 12, 2019

The data on which the contained resource estimates are based was current as of the Effective Date.

Completion Date of report:

October 9, 2019

**"Paul Tietz"**

Paul Tietz C.P.G.

Date Signed:

October 9, 2019



## 29.0 CERTIFICATE OF QUALIFIED PERSONS

### Paul Tietz, C.P.G.

I, Paul Tietz, C.P.G., do hereby certify here that I am currently employed as Senior Geologist by Mine Development Associates, Inc., 210 South Rock Blvd., Reno, Nevada 89502.

1. I graduated with a Bachelor of Science degree in Biology/Geology from the University of Rochester in 1977 and a Master of Science degree in Geology from the University of North Carolina, Chapel Hill in 1981. I also received a Master of Science degree in Geological Engineering from the University of Nevada, Reno in 2004. I have worked as a geologist for a total of 38 years since receiving my Master of Science degree in Geology.
2. I am a Certified Professional Geologist (#11004) with the American Institute of Professional Geologists. I have drilling, exploration, and resource modeling experience in similar precious- and base-metal skarn deposits throughout the western U.S. and Mexico.
3. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101. I am independent of Mexican Gold and its subsidiaries, as well as all previous operators, applying all of the tests in section 1.5 of National Instrument 43-101.
4. I am responsible for all Sections of this technical report titled *Technical Report and Estimated Resources for the Las Minas Project, Veracruz, Mexico* for Mexican Gold Corporation (“Technical Report”), and with an effective date of September 12, 2019.
5. I have had no previous involvement with this project. I visited the Las Minas project on April 2-4, 2019.
6. As of the effective date of this Technical Report, to the best of my knowledge, information, and belief, those parts of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated October 9, 2019

“Paul Tietz”

Paul Tietz

# APPENDIX A

## Tabulation of Las Minas Project Drill Holes

Hole ID	WGS84 UTM (m)		Collar Elev (m)	Total Depth (m)	Azimuth	Dip	Year	Area
	Easting	Northing						
LM-11-CH-33	695037.65	2178300.38	1851.68	86.45	60	-60	2011	El Changarro
LM-11-CH-35	695037.65	2178300.38	1851.68	371.85	112.7	-65	2011	El Changarro
LM-11-CH-38	695037.65	2178300.38	1851.68	122.75	120	-65	2011	El Changarro
LM-11-CH-39	695037.65	2178300.38	1851.68	65.4	120	-75	2011	El Changarro
LM-11-CS-19	693816	2178557	1390	55.3	305	-10	2011	Cinco Senores
LM-11-CS-20	693816	2178557	1390	53.5	305	-20	2011	Cinco Senores
LM-11-CS-21	693816	2178557	1390	122.5	305	-30	2011	Cinco Senores
LM-11-CS-22	693816	2178557	1390	68.5	305	-89	2011	Cinco Senores
LM-11-CS-25	693748	2178717	1490	32	160	-65	2011	Cinco Senores
LM-11-ED-6	694429.59	2178146.78	1364.44	101.6	78	-25	2011	El Dorado
LM-11-ED-7	694429.35	2178146.82	1365.99	50.6	78	10	2011	El Dorado
LM-11-ED-8	694429.49	2178146.81	1365.23	131.5	78	-5	2011	El Dorado
LM-11-ED-9	694418.57	2178135.46	1365.94	152.5	160	-5	2011	El Dorado
LM-11-ED-10	694418.71	2178135.21	1365.05	107.5	160	-25	2011	El Dorado
LM-11-ED-11	694418.37	2178136.08	1366.5	14.8	160	10	2011	El Dorado
LM-11-ED-12	694418.22	2178135.03	1366.16	11.7	112	-3	2011	El Dorado
LM-11-ED-13	694418.45	2178134.96	1365.34	62.7	112	-25	2011	El Dorado
LM-11-ED-14	694417.68	2178135.13	1367.01	29.8	112	15	2011	El Dorado
LM-11-ED-15	694418.34	2178127.54	1366.54	254.7	112	-3	2011	El Dorado
LM-11-ED-16	694471.36	2178207.84	1371.78	16.9	50	20	2011	El Dorado
LM-11-ED-17	694471.64	2178207.98	1371.46	50.1	50	-15	2011	El Dorado
LM-11-ED-18	694471.72	2178208.19	1370.48	125	50	0	2011	El Dorado
LM-11-ED-26	694471.66	2178208.09	1371	83.8	50	12	2011	El Dorado
LM-11-LB-1	694493.94	2178423.23	1375.88	192.5	90	10	2011	Las Boquillas
LM-11-LB-2	694494.48	2178423.27	1375.26	150.1	90	0	2011	Las Boquillas
LM-11-LB-3	694494.25	2178423.2	1374.88	302.5	90	-10	2011	Las Boquillas
LM-11-LB-4	694493.91	2178423.22	1376.66	241.1	90	-25	2011	Las Boquillas
LM-11-LB-5	694493.81	2178423.18	1376.29	209.5	90	25	2011	Las Boquillas
LM-11-LL-40	694744	2178155	1657	372.4	240	-65	2011	Llanillo
LM-11-LL-43	694744	2178155	1657	339.7	0	-90	2011	Llanillo
LM-11-LL-46	694744	2178155	1657	412.25	60	-75	2011	Llanillo
LM-11-LL-48	694744	2178155	1657	13.15	150	-60	2011	Llanillo
LM-11-LM-23	693985	2179235	1525	103.6	0	-90	2011	Las Minillas
LM-11-LM-24	693985	2179235	1525	151.6	160	-60	2011	Las Minillas

Hole ID	WGS84 UTM (m)		Collar Elev (m)	Total Depth (m)	Azimuth	Dip	Year	Area
	Easting	Northing						
LM-11-SC-34	694398.76	2177725.29	1539.85	368.5	90	-60	2011	Santa Cruz
LM-11-SC-36	694398.76	2177725.29	1539.85	356.85	270	-75	2011	Santa Cruz
LM-11-SC-37	694425.21	2177601.46	1498.09	275.9	300	-65	2011	Santa Cruz
LM-11-SC-41	694425.21	2177601.46	1498.09	273.15	0	-90	2011	Santa Cruz
LM-11-SC-42	694425.21	2177601.46	1498.09	191.7	120	-60	2011	Santa Cruz
LM-11-SC-44	694425.21	2177601.46	1498.09	230.25	30	-60	2011	Santa Cruz
LM-11-SC-45	694425.21	2177601.46	1498.09	206.6	210	-60	2011	Santa Cruz
LM-11-SC-47	694398.76	2177725.29	1539.85	261.35	0	-60	2011	Santa Cruz
LM-11-SC-49	694398.76	2177725.29	1539.85	309	225	-65	2011	Santa Cruz
LM-11-SC-50	694398.76	2177725.29	1539.85	190.5	0	-90	2011	Santa Cruz
LM-11-ZZ-27	694443.12	2177847.98	1533.6	170.4	140	-60	2011	Santa Cruz
LM-11-ZZ-28	694442.15	2177847.71	1533.69	189.15	180	-60	2011	Santa Cruz
LM-11-ZZ-29	694441.23	2177851.12	1533.1	341.15	236	-60	2011	Santa Cruz
LM-11-ZZ-30	694441.23	2177851.12	1533.1	383.7	320	-70	2011	Santa Cruz
LM-11-ZZ-31	694441.23	2177851.12	1533.1	276.75	56	-60	2011	Santa Cruz
LM-11-ZZ-32	694442.19	2177849.55	1533.18	302.6	0	-90	2011	Santa Cruz
LM-12-SC-51	694369.97	2177681.94	1487.51	108.55	225	-70	2012	Santa Cruz
LM-12-SC-52	694423.08	2177584.68	1485.88	87	210	-60	2012	Santa Cruz
LM-12-SC-53	694423.08	2177584.68	1485.88	105	0	-90	2012	Santa Cruz
LM-12-SC-54	694423.08	2177584.68	1485.88	150.7	30	-60	2012	Santa Cruz
LM-12-SC-55	694423.08	2177584.68	1485.88	125.4	300	-60	2012	Santa Cruz
LM-12-SC-56	694423.08	2177584.68	1485.88	70.5	210	-45	2012	Santa Cruz
LM-12-SC-57	694424.05	2177601.92	1498.21	121.1	180	-60	2012	Santa Cruz
LM-12-SC-58	694425.21	2177601.46	1498.09	104.2	170	-45	2012	Santa Cruz
LM-12-SC-59	694427.08	2177560.5	1507.12	93.05	215	-60	2012	Santa Cruz
LM-12-SC-60	694426.46	2177558.31	1507.1	115.9	310	-70	2012	Santa Cruz
LM-14-CS-01	693950.86	2178567.7	1438	111.35	0	-90	2014	Cinco Senores
LM-14-CS-02	693964.82	2178707.88	1406.68	94.05	0	-50	2014	Cinco Senores
LM-14-CS-03	693814.72	2178674.64	1422.03	94.55	0	-90	2014	Cinco Senores
LM-14-ED-1	694476.94	2178106.96	1464.27	131.15	320	-65	2014	El Dorado
LM-14-ED-2	694479.01	2178107.94	1464.4	125.05	20	-75	2014	El Dorado
LM-14-ED-3	694478.03	2178105.33	1464.33	140.3	200	-80	2014	El Dorado
LM-14-ED-4	694504.13	2178082.64	1476.67	161.65	120	-80	2014	El Dorado
LM-14-ED-5	694504.74	2178083.8	1476.71	155.55	100	-63	2014	El Dorado
LM-14-ED-6	694467.44	2178046.16	1456.67	76.25	285	-60	2014	El Dorado
LM-14-ED-7	694467.73	2178046.28	1456.83	149.45	0	-90	2014	El Dorado
LM-14-ED-08	694437.91	2178096.46	1417.83	82.9	0	-90	2014	El Dorado
LM-14-ED-09	694482.33	2178164.68	1390.65	48.8	280	-75	2014	El Dorado
LM-14-ED-10	694514.13	2178170.71	1398.08	48.8	0	-90	2014	El Dorado
LM-14-ED-11	694551.3	2178155.03	1418.78	109.8	0	-90	2014	El Dorado
LM-14-ED-12	694551.14	2178154.82	1418.7	115.9	200	-65	2014	El Dorado

Hole ID	WGS84 UTM (m)		Collar Elev (m)	Total Depth (m)	Azimuth	Dip	Year	Area
	Easting	Northing						
LM-14-ED-13	694552.31	2178157.63	1418.64	85.4	20	-65	2014	El Dorado
LM-14-ED-14	694576.91	2178127.08	1433.8	100.65	200	-70	2014	El Dorado
LM-14-ED-15	694577.6	2178129.89	1433.87	94.55	7	-80	2014	El Dorado
LM-14-ED-16	694518.48	2178225.42	1455.44	93.02	240	-62	2014	El Dorado
LM-14-ED-17	694519.88	2178224.49	1455.35	112.85	170	-75	2014	El Dorado
LM-14-ED-18	694495.6	2178181.63	1392.51	48.8	355	-55	2014	El Dorado
LM-14-ED-19	694438.86	2178049.63	1422.54	39.65	340	-80	2014	El Dorado
LM-14-JB-01	694218.42	2178081.14	1448.16	199.77	90	-50	2014	Juan Bran
LM-14-JB-02	694217.75	2178081.18	1448.58	131.75	0	-90	2014	Juan Bran
LM-14-JB-03	694214.28	2178082.03	1448.59	132.15	270	-70	2014	Juan Bran
LM-14-JB-04	694133.73	2178266.81	1450.4	97.6	90	-45	2014	Juan Bran
LM-14-JB-05	694135.27	2178266.65	1450.39	112.85	0	-90	2014	Juan Bran
LM-14-JB-06	694134.86	2178386.25	1458.6	137.25	90	-50	2014	Juan Bran
LM-14-JB-07	694134.28	2178386.27	1458.79	102.47	0	-90	2014	Juan Bran
LM-14-JB-08	694188.12	2178507.55	1409.76	82.35	0	-90	2014	Juan Bran
LM-14-SC-01	694394.57	2177586.59	1461.5	131.15	70	-45	2014	Santa Cruz
LM-14-SC-02	694377.65	2177642.32	1451.49	134.6	50	-45	2014	Santa Cruz
LM-14-SC-03	694386.33	2177621.87	1454.54	115.9	60	-45	2014	Santa Cruz
LM-14-SC-04	694369.97	2177681.94	1487.51	213.5	60	-45	2014	Santa Cruz
LM-14-SC-05	694424.01	2177639.4	1476.46	115.9	60	-45	2014	Santa Cruz
LM-14-SC-06	694423.08	2177584.68	1485.88	100.65	60	-45	2014	Santa Cruz
LM-14-SC-07	694349.47	2177706.6	1492.04	128.1	60	-46	2014	Santa Cruz
LM-14-SC-08	694349.25	2177706.51	1492	112.85	60	-65	2014	Santa Cruz
LM-14-SC-09	694370	2177682	1487	109.8	60	-65	2014	Santa Cruz
LM-14-SC-10	694388.97	2177646.96	1467.13	115.9	60	-45	2014	Santa Cruz
LM-14-SC-11	694357.12	2177584.51	1431.77	159.9	60	-45	2014	Santa Cruz
LM-14-SC-12	694363.54	2177628.97	1417.05	98.5	60	-45	2014	Santa Cruz
LM-15-ED-20	694300.84	2177956.59	1391.32	153.75	270	-45	2015	El Dorado
LM-15-ED-21	694301.05	2177956.57	1391.48	128.1	0	-90	2015	El Dorado
LM-15-ED-22	694321.5	2178019.68	1382.82	102.6	270	-55	2015	El Dorado
LM-15-ED-23	694244.33	2177804.61	1400.31	116.85	0	-90	2015	El Dorado
LM-15-ED-24	694289.04	2177881.5	1399.85	147.9	0	-90	2015	El Dorado
LM-15-JB-09	694147.33	2177853.28	1407.22	112.75	0	-90	2015	Juan Bran
LM-15-NP-01	694129.76	2177484.54	1583.57	205	35	-45	2015	Santa Cruz
LM-15-NP-02	694126.37	2177462.39	1579.17	61.5	64	-60	2015	Santa Cruz
LM-15-NP-03	694125.71	2177462.85	1579.22	114.8	320	-45	2015	Santa Cruz
LM-15-SC-13	694353.05	2177729.64	1495.19	157.85	50	-52	2015	Santa Cruz
LM-15-SC-14	694352.88	2177729.53	1495.28	121.95	50	-77	2015	Santa Cruz
LM-15-SC-15	694399.89	2177564.05	1464.44	131.2	55	-45	2015	Santa Cruz
LM-15-SC-16	694384.92	2177578.93	1448.39	133.25	52	-45	2015	Santa Cruz
LM-15-SC-17	694400.8	2177613.82	1466.67	112.75	65	-45	2015	Santa Cruz

Hole ID	WGS84 UTM (m)		Collar Elev (m)	Total Depth (m)	Azimuth	Dip	Year	Area
	Easting	Northing						
LM-15-SC-18	694349.5	2177705.56	1492.17	102.5	85	-48	2015	Santa Cruz
LM-17-CS-04	693737	2178584	1415	49.2	330	-55	2017	Cinco Senores
LM-17-CS-05	693881.48	2178447.87	1458.93	128.1	305	-45	2017	Cinco Senores
LM-17-CS-06	693804.61	2178584.73	1438	73.2	225	-80	2017	Cinco Senores
LM-17-CS-07	693606.93	2178583.94	1430.23	73.2	0	-75	2017	Cinco Senores
LM-17-CS-08	693606.39	2178585.03	1430.32	123.52	0	-45	2017	Cinco Senores
LM-17-CS-09	693593.14	2178527.28	1428.06	179.95	160	-60	2017	Cinco Senores
LM-17-CS-10	693546.09	2178722.86	1457.62	140.3	0	-90	2017	Cinco Senores
LM-17-CS-11	693488.25	2178786.71	1473.02	149.45	0	-90	2017	Cinco Senores
LM-17-ED-25	694323.49	2178018.45	1382.95	135.3	130	-67	2017	El Dorado
LM-17-ED-26	694245.16	2177805.57	1400.2	180.4	62	-60	2017	El Dorado
LM-17-ED-27	694260.05	2177772.24	1395.03	139.4	275	-60	2017	El Dorado
LM-17-ED-28	694262.97	2177771.62	1395.16	133.25	75	-75	2017	El Dorado
LM-17-ED-29	694263.42	2177771.69	1395.26	202.95	70	-45	2017	El Dorado
LM-17-ED-30	694263.42	2177771.69	1395.26	135.3	228	-60	2017	El Dorado
LM-17-ED-31	694300.8	2177955.05	1391.31	162.95	140	-65	2017	El Dorado
LM-17-ED-32	694387.03	2177979.11	1407.08	148.6	150	-75	2017	El Dorado
LM-17-ED-33	694375.69	2178053.07	1379.96	92.25	0	-90	2017	El Dorado
LM-17-ED-34	694265.28	2177929.64	1384.48	139.4	270	-75	2017	El Dorado
LM-17-ED-35	694216.85	2177859.86	1391.39	112.75	230	-80	2017	El Dorado
LM-17-ED-36	694296.84	2177649.57	1415.15	159.9	270	-65	2017	El Dorado
LM-17-ED-37	694281.05	2177736.79	1398.57	131.2	240	-63	2017	El Dorado
LM-17-ED-38	694332.17	2178054.92	1374.59	132.55	195	-50	2017	El Dorado
LM-17-ED-39	694377.18	2178088.61	1371.28	59.45	5	-45	2017	El Dorado
LM-17-ED-40	694387.03	2177979.11	1407.08	194.25	235	-70	2017	El Dorado
LM-17-ED-41	694337.4	2178057.73	1373.95	115.25	260	-75	2017	El Dorado
LM-17-ED-42	694337.4	2178057.73	1373.95	97.6	260	-45	2017	El Dorado
LM-17-ED-43	694416.17	2178063.06	1392.04	108.3	95	-45	2017	El Dorado
LM-17-ED-44	694426.13	2177931.75	1441.22	256.2	232	-58	2017	El Dorado
LM-17-ED-45	694445.77	2178005.15	1444.11	191.2	85	-52	2017	El Dorado
LM-17-ED-46	694467	2177998.86	1465.19	207.4	85	-50	2017	El Dorado
LM-17-ED-47	694386.24	2177979.39	1407.21	201.3	180	-67	2017	El Dorado
LM-17-ED-48	694244.81	2177804.84	1400.27	269.4	78	-55	2017	El Dorado
LM-17-JB-10	694010.52	2177679.4	1422.29	142.45	0	-90	2017	Juan Bran
LM-17-JB-11	694013.15	2177679.69	1422.32	166.05	90	-60	2017	Juan Bran
LM-17-JB-12	694166.91	2177956.19	1387.51	93.25	0	-85	2017	Juan Bran
LM-17-JB-13	694185.36	2177901.06	1383.29	79.95	135	-85	2017	Juan Bran
LM-17-JB-14	694263.97	2178171.68	1390.84	75.85	270	-60	2017	Juan Bran
LM-17-JB-15	694163.82	2177923.76	1389.86	112.75	250	-70	2017	Juan Bran
LM-17-JB-16	694147.65	2177827.5	1398.66	145.55	270	-65	2017	Juan Bran
LM-17-JB-17	694100.64	2177744.53	1410.91	139.4	90	-72	2017	Juan Bran

Hole ID	WGS84 UTM (m)		Collar Elev (m)	Total Depth (m)	Azimuth	Dip	Year	Area
	Easting	Northing						
LM-17-JB-18	694179.16	2177974.64	1382.51	72.75	324	-55	2017	Juan Bran
LM-17-JB-19	694164.7	2177954.98	1387.44	120.95	275	-50	2017	Juan Bran
LM-17-JB-20	694110.07	2177780.71	1403.45	159.6	300	-57	2017	Juan Bran
LM-17-JB-21	694203.66	2178177.46	1425.84	97.6	270	-58	2017	Juan Bran
LM-17-JB-22	694264.17	2178171.06	1391.06	60.6	215	-45	2017	Juan Bran
LM-17-JB-22A <sup>1</sup>	694264.17	2178171.06	1391.06	89.97	215	-45	2017	Juan Bran
LM-17-JB-23	694225.81	2178213.99	1409.47	85.4	210	-52	2017	Juan Bran
LM-18-CS-12	693902.8	2178463.34	1456.88	79.3	92	-45	2018	Cinco Senores
LM-18-ED-49	694263.33	2177878.58	1390.81	199.77	90	-65	2018	El Dorado
LM-18-ED-50	694328.39	2177616.91	1421.83	189.1	240	-75	2018	El Dorado
LM-18-ED-51	694328.39	2177616.91	1421.83	198.25	140	-80	2018	El Dorado
LM-18-ED-52	694377.76	2178024.05	1393.62	160.6	225	-60	2018	El Dorado
LM-18-ED-53	694272.08	2177935.16	1384.27	147.05	89	-69	2018	El Dorado
LM-18-ED-54	694245.3	2177805.13	1400.25	226.5	100	-55	2018	El Dorado
LM-18-JB-24	694151.66	2178348.06	1436.03	99.15	240	-55	2018	Juan Bran
LM-18-JB-25	694138.96	2178115.04	1471.94	151.45	240	-75	2018	Juan Bran
LM-18-NP-04	694139.08	2177535.31	1588.3	237.9	320	-48	2018	Santa Cruz
LM-18-NP-05	694139.08	2177535.31	1588.3	164.7	14	-48	2018	Santa Cruz
LM-18-SC-05a <sup>2</sup>	694424.01	2177639.4	1476.46	301.95	60	-45	2018	Santa Cruz
LM-18-SC-06a <sup>3</sup>	694423.08	2177584.68	1485.88	295.85	60	-45	2018	Santa Cruz
LM-18-SC-17a <sup>4</sup>	694400.8	2177613.82	1466.67	281.65	65	-45	2018	Santa Cruz
LM-18-SC-19	694348	2177706	1492	237.9	295	-70	2018	Santa Cruz
LM-18-SC-20	694348	2177706	1492	82.35	0	-90	2018	Santa Cruz
LM-18-SC-21	694401.54	2177614.3	1466.54	295.15	60	-45	2018	Santa Cruz
1: wedged off hole LM-17-JB-22								
2: continuation of hole LM-14-SC-05								
3: continuation of hole LM-18-SC-06								
4: continuation of hole LM-18-SC-17								