



**NI 43-101 TECHNICAL REPORT FOR**  
**EL PINGUICO PROJECT**  
**GUANAJUATO MINING DISTRICT, MEXICO**

Guanajuato City, Guanajuato State  
Mexico

Nearby Central coordinates

20°58' Latitude N, 101°13' longitude W

Prepared for

VANGOLD RESOURCES LTD.

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Report By:

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Consulting Geological Engineer

Effective Date: February 28, 2017

## **DATE AND SIGNATURE PAGE**

### **AUTHOR CERTIFICATION**

I, Carlos Cham Domínguez, am Certified Professional Geologist and work for FINDORE S.A. DE C.V. located at Marco Antonio 100, col. Villa Magna, San Luis Potosi, S.L.P., Mexico 78210.

This certificate applies to the technical report entitled NI 43-101 Technical Report for El Pinguico Project, Guanajuato Mining District, Mexico, with an effective date of February 28, 2017.

I am a Certified Professional Geologist in good standing with the American Institute of Professional Geologists (AIPG) with registration number CPG-11760. I graduated with a bachelor degree in Geology from the Universidad Autónoma de San Luis Potosí (Mexico) in 2003. I graduated with a MBA (finance) degree from the Universidad Tec Milenio (Mexico) in 2012 and I have a diploma in Mining and Environment from the University Miguel de Cervantes (Spain) in 2013.

I have practiced my profession continuously for 13 years and have been involved in: mineral exploration and mine geology on gold and silver properties in Mexico.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101.

I visited the El Pinguico Project between the 2<sup>nd</sup> and 5<sup>th</sup> of January, 2017.

I am responsible for the preparation of and take full responsibility for all sections of the technical report.

I have not had prior involvement with the property that is the subject of this technical report.

I am independent of the issuer, VANGOLD RESOURCES LTD. applying all the tests of Section 1.5 of National Instrument 43-101. I am also independent of Exploraciones Mineras Del Bajío S.A. de C.V., (EMDB), Ricardo Ramírez Zenteno and Maria Ascensión Canchola Guerra and have no interest in the El Pinguico Project, Guanajuato Mining District, Mexico.

I have read National Instrument 43-101 and Form 43-101 FI and the items for which I am responsible in this report entitled, NI 43-101 Technical Report for El Pinguico Project, Guanajuato Mining District, Mexico, with an effective date of February 28, 2017, has been prepared in compliance with same.

As of the effective date of the technical report, to the best of my knowledge, information and belief, the items of the technical report that I was responsible for contain all scientific and technical information that is required to be disclosed to make the technical report not misleading

Dated this 28 day of February, 2017 at San Luis Potosí, S.L.P., Mexico.

Signed at February 28, 2017

Signed and sealed

*“Carlos Cham Domínguez”*

**Carlos Cham Domínguez, C.P.G.**

Reg. No. CPG-11760

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## **1.0 SUMMARY**

VANGOLD RESOURCES LTD. (Vangold) has signed an asset acquisition agreement with Exploraciones Mineras Del Bajío S.A. de C.V., (EMDB) a private Mexican company, to acquire 100% interest in the El Pinguico property. The property consists of two contiguous mining concessions covering 71 hectares, located approximately 5 km southeast of Guanajuato city, in the state of Guanajuato, in central Mexico. These concessions encompass the historic silver and gold El Pinguico-Carmen Mine. This Technical Report is being submitted to support the information released in a press release on January 5, 2017 entitled “Vangold Signs Agreement for 100% Interest In Historic El Pinguico Mine”.

The property has a historic mine with 2 access adits, one is called El Pinguico Adit and the other called El Carmen Adit. The mine is not currently in operation and has not been in operation since 1913. The main objective of the proposed exploration work is to gather all available project data into a database, map the surface outcrops and underground openings to better understand the geology and mineralization controls and assess the areas with reported historical estimates for both the insitu vein material and the underground stockpile.

The gold silver veins in the historical El Pinguico Mine have the same strike as the Veta Madre (a locally prolific gold and silver vein in the region) and located approximately 4.5 km from the producing El Cubo Mine, a subsidiary of Endeavour Silver (TSX : EDR) and 2.5 km from Las Torres Mine of Fresnillo plc.

The property has excellent road access, communications, basic mining infrastructure and proximity to beneficiation plants.

This report describes the results of the 2017 stockpile trench sampling, reports details of the historical estimates and gives recommendations for further exploration work for the project.

### **1.1 LOCATION AND PROPERTY DESCRIPTION**

The Pinguico Project is located 5 kilometers southeast from Guanajuato city, the property consists of two mining concessions (El Pinguico and 2<sup>a</sup> Ampl. El Pinguico) for a total of 71 hectares.



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The property has an approximate altitude of 2200 meters above sea level, and the terrain consists of gentle slopes and some abrupt terrain changes. Access is via the city of Guanajuato by land transportation. The nearest community is Calderones and the nearest city is Guanajuato (20 minutes).

## **1.2 OWNERSHIP**

The mineral concessions were in the name of Ricardo Ramírez Zenteno (deceased) whose wife Maria Ascensión Canchola Guerra inherited the titles. María Ascensión Canchola Guerra ceded the rights to EMDB, which now has 100% of the title rights. The title transfer documents are in the process of being registered under the approval of a public notary and the public registry of mining. The author has relied on the opinion of a legal expert, who is not a qualified person as defined by NI43-101, with respect to land tenure of the El Pinguico concessions. Alberto M. Vázquez of the law firm VHG Servicios Legales, S.C., confirmed that EMDB is the legal owner of the El Pinguico Title Documents and that they are not subject to any prior claim by another party.

## **1.3 SURFACE RIGHTS, POWER, WATER, PERSONNEL, TAILINGS, PROCESSING PLANT AND INFRASTRUCTURE**

This project is within 7 km of a major city with a population exceeding 150,000 people.

There are no historic tailings ponds on the property.

The El Pinguico project has several mine workings and there are more than 10 other old workings within the property and they have not been inspected by the author. The historic mining of interest initially is the El Pinguico-Carmen Mine, which consists of 10 mining levels according to the historic map. This mine is the most important on the property and has several vertical shafts: the Humboldt shaft of 397 meters depth, the Pinguico shaft of 283 meters, the Fortuna shaft of 303 meters, the El Centro shaft of 200 meters and the Carmencitas shaft of 61 meters. Access to the underground workings is by the El Carmen adit on level 4, all other entrances are inaccessible. Inside the mine there is an underground stockpile which was not extracted, and is located in the stope of the El Pinguico zone. There is evidence of other underground mining activity on the property that needs to be inspected and reviewed.

On the surface there is a dump of approximately 90,000 m<sup>3</sup> in an area of approximately 15,000 m<sup>2</sup>, the author recommends a program including rental of heavy machinery to sample this material. There are remnants of old beneficiation plants. The property is close to other working mines such as Las Torres mine of the company Fresnillo plc. (Figure 6).

#### **1.4 HISTORY**

Guanajuato is one of the oldest mining districts in North America with Spanish Colonial mining dating back to 1520. It was between 1548 and 1554 when a silver deposit was discovered in the area which led to the creation of Guanajuato as a population center.

The history of the El Carmen and El Pinguico Mines on the property began with the discovery of gold silver mineralization and the first rich deposits began to be exploited in 1904 and after a few years of operation, the mines closed due to the Mexican revolution in around 1913.

Inside the El Pinguico-Carmen mine, there is a large underground stockpile in the area of the El Pinguico vein, which has been there since the mine was closed at the time of the Mexican Revolution. Two Mexican government agencies have completed historical estimates (CRM in 1959 and SGM in 2012), and Vangold will undertake work programs to assess these historical estimates.

In 1959 the governmental organization “Consejo de Recursos Minerales” (CRM, the Mexican Geological survey agency in 1959) completed a topographic survey of the stockpile and an estimation of tonnes. Their work concluded there is 103,415 tonnes of stockpile material and assigned an average grade of 2.72 g/t Au and 251 g/t Ag. The CRM also made an estimation of insitu vein material and reported 4,921 tonnes with an average grade of 5.4 g/t Au and 424 g/t Ag (CRM 1959). The reports by CRM is not very detailed and there is little information available regarding the key assumptions, parameters and methods used for the estimates. The volume of the stockpile was estimated using a topographic survey of the top of the pile and the volume of the workings from historical mine plans. The grade was determined through trench sampling of top of the stockpile. Since only the top of the stockpile could be accessed for sampling, these grades may not reflect the grades of material throughout the stockpile and therefore should not be relied upon. The CRM classified the historical estimates as probable reserves but due to the uncertainty associated with the grade distributions through the stockpile the QP would not place them in this category using current CIM guidelines for Probable Mineral Reserves. Vangold needs

to verify the grade distribution in the entirety of the stockpile material and not just the top 1.5 meters to meet current guidelines for Mineral Reserves. The QP has not done sufficient work to classify the historical estimate as current mineral resources or reserves and Vangold is not treating the historical estimates as current mineral resources or reserves.

In 2012, EMDB asked the "Servicio Geológico Mexicano" (SGM, the Mexican Geological Survey agency) to complete a estimation of grades and tonnage of the same underground stockpile. SGM classified the historical estimate into "Certified Tonnes" and grade for the top 5 m of the stockpile and only gave "Uncertified Tonnes" estimate for the remaining stockpile material with no grade estimated. SGM reported finding 25,600 tonnes with an average grade of 1.667 g/t Au and 143 g/t Ag, in their certified tonnage category and put 96,828 tonnes into their uncertified category and did not assign any grade to this material. SGM determined the grade of the top 5m of the stockpile through trench sampling of the material and estimated the tonnage by topographic survey and historical mine plans. SGM did not have confidence that the grade obtained in their trench sampling reflected the grade of the whole stockpile beyond a depth of 5m. SGM reported the tonnage of material below the 5m threshold but did not assign any grade to the tonnes. None of the categories of classification assigned by SGM comply with those set out in NI 43-101 or CIM guidelines. The work that SGM completed to estimate the tonnage of the stockpile appear reasonable and likely reflect the amount of material in the stopes. The grade distribution throughout the whole of the stockpile needs to be verified before it can be applied to the whole of the tonnes available and qualify for current classification standards. The QP has not done sufficient work to classify the historical estimate as current mineral resources or reserves and Vangold is not treating the historical estimates as current mineral resources or reserves.

The QP accepts these two historical estimates as reasonable estimates of the tonnage of stockpile material available in the underground workings and recommends that Vangold undertake a study to further assess the distributions of the grade throughout the whole of the stockpile.

In 2017, the author completed a resampling program on the top of the stockpile and returned similar grades for the trench samples as are reported by SGM (Section 9)

## **1.5 GEOLOGY**

The Guanajuato Mining District is located on the border between the Mesa Central physiographic region and the Transmexican Volcanic Belt (Aranda-Gómez et al., 1989) of Mexico. Within the property there are Mesozoic rocks with low grade metamorphism where the schistosity is associated with folds with northeast dipping axes. In the mine area there are mineralized normal faults of the Guanajuato Mining District.

On the property there exist different types and ages of lithologies: Esperanza Formation, Red Conglomerate, La Luz Formation and a sequence of volcanic rocks (Loseros Formation, Bufa Rhyolite tuff, Calderones Formation, Cedros andesite and Chichindaro Fm) (Carta geológico Minera Aldama F14-C53 SGM, 2002). Some authors suggest that the El Pinguico vein is a splay from the Veta Madre.

### **1.6 MINERALIZATION**

The Guanajuato Mining District is mainly characterized by epithermal deposits associated with continental Tertiary acid volcanism (e.g., Querol et al., 1991). On the El Pinguico property, the most important historically productive vein has been the El Pinguico Vein, which produced silver and gold.

The El Carmen-El Pinguico Vein is considered to be part of the top of the Veta Madre Vein system, the main vein in the historic Guanajuato Silver District, and the depth extent is still unknown. The mineralization in the Pinguico-Carmen mine, like those of the Guanajuato camp in general, consist of a mixture of native gold and silver, polybasite, pyargyrite, tetrahedrite, marcasite, sphalerite, galena, pyrite and chalcopyrite.

### **1.7 EXPLORATION**

Vangold hired Findore S.A. DE C.V. (the author's Geological Services Company in Mexico) (Findore) to resample the underground stockpile to assess the gold and silver values reported in the CRM (1959) and SGM (2012) reports. Vangold took these first steps to initiate a due diligence review of the historical estimates.

The work included locating the same trenches sampled by SGM in 2012, removing slumped material from the trenches and taking new samples in as close proximity to the historical samples as possible. All the SGM trenches were easily located by the trench ID number marked on the mine walls and Vangold's work benefited from a worker assisting them who had participated in the SGM sampling program. A total of 57 samples were obtained from the trenches in the stockpile and sent for analysis.

The results from the 2017 sampling program confirmed the grades found by SGM (2012) as most of the individual sample results and the overall average grades are close in both gold and silver values. The 2017 samples returned a slightly higher averaged value (1.75 g/t Au and 183.58 g/t Ag) than SGM samples (1.662 g/t Au and 143 g/t Ag). The samples from the CRM (1959) study, show much higher gold and silver values than SGM or the 2017 samples, 2.72 g/t Au and 251 g/t Ag. The higher results in the 58 year old study may be correct as the stockpile may not have been so covered or diluted by falls of waste rock from the walls of the mine as they appear to be in 2017. Vangold is pleased that the 2017 sampling program found similar results in gold and silver grades to the historical work and they will undertake further study work on the underground stockpile to review the tonnage estimations in the historical reports and assess the distribution of the grade within the stockpile material.

## **1.8 INTERPRETATION AND CONCLUSIONS**

Due to the 2017 stockpile sampling results obtained by VANGOLD and since there has been no significant mineral extraction or exploration on the El Pinguico-Carmen Mine property since it was closed in 1913, the author considers the El Pinguico project has potential for hosting gold and silver mineralization and merits further exploration work. After Vangold completes their initial surface investigations of the property, including mapping, they will assess the potential for vein material in the mine and the parallel vein systems both along strike and at depth. Due to the results obtained by VANGOLD in 2017 from the stockpile sampling (1.75 gr/ton Au and 183.58 gr/ton Ag) the author considers that the El Pinguico project has potential which merits additional work. The new sampling has supported this and due to the results of this exploration, the author recommends that VANGOLD continue the exploration work on the project site.

## **1.9 RECOMMENDATIONS**

In 2017, Vangold was able to confirm the historical grades used to support the historical estimates. Now the company would like to continue this work of investigating the potential of the underground stockpile but also wants to gather all available data on the project into a project database and begin surface and underground investigations. There is a lot of information to gather and synthesize before the next phase of exploration can be planned. The mining on the project stopped in the early 1900s and there has been little exploration completed on the project, specifically there are no records of any drilling being done. After Vangold completes their initial surface investigations of the property, including mapping,

they will assess the potential for vein material in the mine and the parallel vein systems both along strike and at depth.

Specifically the author recommends

**Phase 1:** exploration work that includes a basic surface exploration program:

- Analysis and interpretation of satellite images: This is for the possible location of any structures on the surface of the property, such veins or faults.
- Sampling the dump on the surface (rent a backhoe).
- Geochemical soil sampling: Make a geochemical grid of soil samples to locate possible areas of interest.
- Surface geological survey: Detailed mapping of lithological units (1:2,000 scale), alterations, structures and mineralization, all with their respective rock sampling.
- Data digitization: Integration of all the data taken in the field into a project database.
- Written Report to summarize the findings.

Total budget to complete Phase 1 program \$107,000.00 CAD per 45 days and includes 1 Mexican QP, 1 Mexican senior geologist, 1 junior geologist, cost of the assays, equipment rental, field assistants as required.

Mexican taxes and others (In Mexico there is a sales tax called “Impuesto al Valor Agregado” I.V.A.) 16% of the Phase 1: \$17,120.00 CAD.

Labour	\$35,000.00
Equipment Rental	\$32,000.00
Sample Analysis Costs	\$40,000.00
Phase 1	\$107,000.00 CAD
I.V.A. Tax	<u>\$ 17,120.00 CAD</u>
TOTAL	\$ 124,120.00 CAD

Rounding this, we can have a general number for the costs:

**Total budget to complete Phase 1 program \$125,000.00 CAD**



## **2.0 INTRODUCTION**

VANGOLD RESOURCES LTD. (Vangold) has signed an asset acquisition agreement with Exploraciones Mineras Del Bajío S.A. de C.V., (EMDB) a private Mexican company, to acquire a 100% interest in the El Pinguico property. The property consists of two contiguous mining concessions covering 71 hectares, located approximately 5 km southeast of Guanajuato city, in the state of Guanajuato, Mexico. These concessions encompass the historic silver and gold El Pinguico-Carmen Mine. This Technical Report is being submitted to support the information released in a press release on January 5, 2017 entitled “Vangold Signs Agreement for 100% Interest In Historic El Pinguico Mine”.

The property has a historic mine with 2 access adits, one is called El Pinguico Adit and the other called El Carmen Adit. The mine is not currently in operation and has not been in operation since 1913. The main objective of the proposed exploration work is to gather all available project data into a database, map the surface outcrops and underground openings to better understand the geology and mineralization controls and assess the areas with reported historical estimates for both the in situ vein material and the underground stockpile.

The property has excellent road access, communications, basic mining infrastructure and proximity to beneficiation plants.

This report describes the results of the 2017 stockpile trench sampling, reports details of the historical estimates and gives recommendations for further exploration work for the project.

### **2.1 TERMS OF REFERENCE AND PURPOSE**

Vangold commissioned the author of this independent NI 43-101 Technical Report to review and summarize the historical mining work at the El Pinguico Project and recommend (if appropriate) an initial exploration program to further understand the project geology and complete further work to assess the areas of historical mining.

The author has been paid a fee for this work in accordance with normal professional consulting practice and is acting as a Qualified Person as defined under National Instrument 43-101. The author conducted a personal inspection of the El Pinguico Property between the 2<sup>nd</sup> and 5<sup>th</sup> of January, 2017.



## **2.2 INFORMATION SOURCES**

This report about the El Pinguico project is based on the following sources of information:

- Publicly available technical reports, published by Mexican government agencies.
- Private technical documents made by people interested in the property.
- Press releases of VANGOLD RESOURCES.
- Discussions with the owners of the property, as well as with people who once worked in El Pinguico mine.
- Maps from government agencies, previous owners and consultants.

All of the above information sources are listed in the Reference Section of this report. The author has reviewed and analysed data provided by VANGOLD RESOURCES, previous owners of the property and public information sources described above, and has drawn his own conclusions.

## **2.3 PARTICIPATION OF THE AUTHOR IN THE FIELD**

From the 2nd to the 5th of January 2017, the author performed a site visit to supervise and ensure the quality of the work required. During this time, the author personally visited the main El Pinguico Mine, supervised the 2017 underground trench sampling program.

Laboratory Certificates for the 2017 samples submitted to the assay laboratory are included in Appendix 1.



### **3.0RELIANCE IN OTHER EXPERTS**

The author has relied on the opinion of a legal expert, who is not a qualified person as defined by NI 43-101 with respect to land tenure of the El Pinguico concessions.

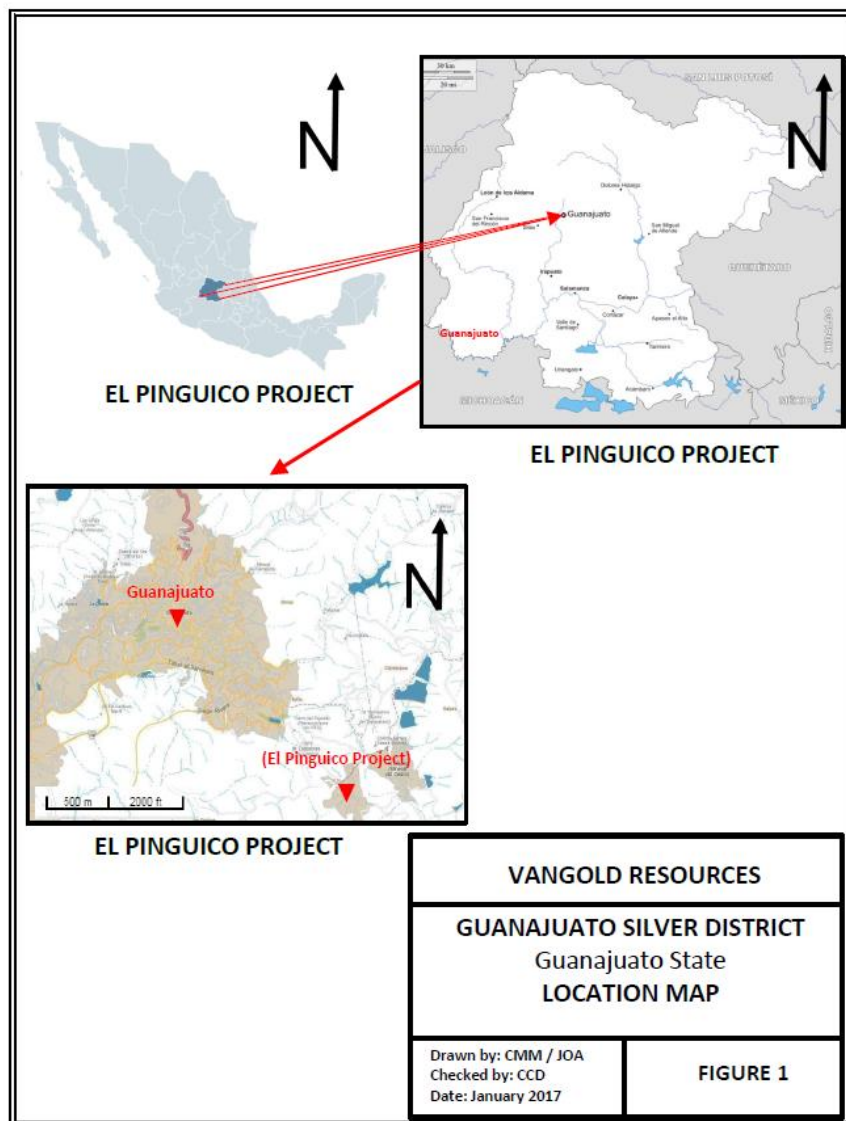
Alberto M. Vázquez of the law firm VHG Servicios Legales, S.C., confirmed that EMDB is the legal owner of the El Pinguico Title Documents and that they are not subject to any prior claim by another party. The Author relied heavily on this opinion to gain confidence in the land tenure and issue the current report to Vangold. The land tenure for the El Pinguico project with respect to the Mining Permits is included in Section 4 of this report and specifically subsection 4-2 (page 10).

Alberto M. Vázquez issued a memo entitled, "TITLE OPINION, MINING CONCESSIONS, EL PINGUICO PROJECT", on the Date of February 28, 2017.

## 4.0 PROPERTY DESCRIPTION AND LOCATION

The property is located in Guanajuato Municipality of Guanajuato State in Mexico and is centered near 20°58' Latitude N, 101°13' longitude W, at Universal Transverse Mercator coordinates 269530 E, 2320054 N (WGS84 datum, Zone 14) and on Mexican government 1:50000 map sheet Aldama F14-C53 (**Figure 1** and **Figure 2**).

**Figure 1 El Pinguico Project Location Map**





#### **4.1 PROPERTY AREA AND LOCATION**

The El Pinguico project covers an area of 71 hectares. The Project is located 6.5 kilometers to the southeast of the downtown of Guanajuato City and 1.8 kilometers to the southeast of Calderones community in the State of Guanajuato, Mexico.

#### **4.2 LAND TENURE, LEGAL AGREEMENTS AND OTHER ASSETS**

The property consists of 2 mining claims (Figure 2). The first one is called EL PINGUICO, title number T-166665, with an area of 48 hectares (expires on July 10, 2030 and has a mining exploitation permit). The second claim is called 2nd AMPL. DE EL PINGUICO with title number T-165491 and an area of 23.708 hectares (expires on October 29, 2029 and has a mining exploitation permit). The current registered holder of the concessions is Maria Ascensión Canchola Guerra.

The mineral concessions were under the name and control of Mr. Ricardo Ramírez Zenteno (deceased) whose wife Mrs. Maria Ascensión Canchola Guerra inherited the titles. In 2012 Mrs. María Ascensión Canchola Guerra ceded the rights to EXPLORACIONES MINERAS DEL BAJIO SA DE CV (EMBD) which currently holds and controls the 100% interest in the mining claims. The mining claims have been certified by a notary public and now are in the process of registration in the public registry of mining.

VanGold has signed an asset acquisition agreement with EMDB. Under the terms of the agreement, Vangold will acquire 100% interest in the property by paying US\$20,000 on execution of the agreement, US\$30,000 on receipt of TSXV approval, issue 5,000,000 common shares on closing, and make a final payment of US\$50,000 on the date that is six months after TSXV approval. Vangold has further granted EMDB royalties equal to (i) 4% Net Smelter Return (NSR) and 15% Net Profit Interest (NPI) on minerals recovered from the Stockpile; and (ii) 3% NSR (of which Vangold can repurchase one-third (ie. 1% NSR interest) for US\$1,000,000) and 5% NPI on all newly mined mineralization exclusive of the stockpile. The agreement remains subject to a number of conditions, including the approval of the TSX Venture Exchange. All securities issued will be subject to a four month hold period. (VANGOLD NEWS RELEASE, Vancouver, B.C. / TheNewswire / January 5, 2017).

In Mexico, claims that are less than 1000 hectares do not require annual work requirements. The claims that cover the El Pinguico and Segunda Ampliacion de El Pinguico must report any production of minerals from the claims and pay an annual fee of approximately \$750.00 CAD.



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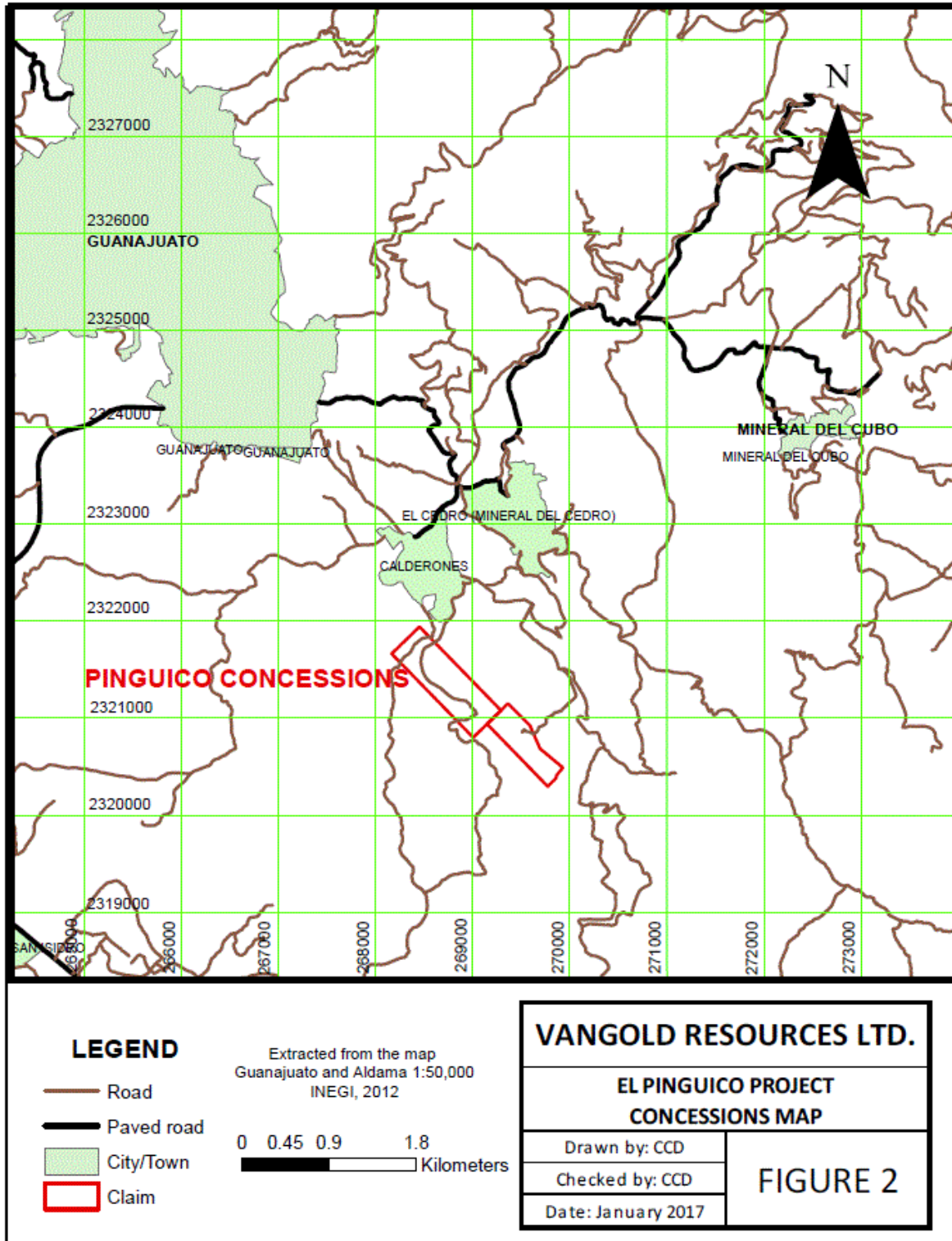
Some of the local property owners within the concession have given permission for exploration work to be carried out on their lands. Permission from the remaining land owners will be acquired before the start of any drilling or surface trenching programs as this first phase of work is completed.

The QP is not aware of any environmental liabilities located on the property or if environmental studies have been completed on the project.

For the recommended work, the permission of the owners of the surface lands must be obtained and until now, it has the permission of one owner, and this permit covers approximately 60% of the surface lands of the claims of the El Pinguico project.

The author believes that there is no significant risk that may affect the access, title or right or ability to perform the work.

**Figure 2 Concession Map**



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

### **5.1 PHISIOGRAPHY, TOPOGRAPHY, ELEVATION, CLIMATE AND VEGETATION**

The State of Guanajuato is located in the Central Mesa and south of the Mexican Plateau. The terrain consists of gentle slopes and some abrupt terrain changes. This central area with respect to the country is strategic for its economic development, as it makes it a hub for roads, railways and many kinds of economic activities.

Elevation on the property is around 2200 meters above sea level. The climate in the project area is temperate with an average annual temperature of 18° C, with summer months typically around 30° C and as low as 5° C in the winter. The rainy season is between the months of June and September with annual precipitation typically 650 mm. The classification of the regional climate would be warm-sub humid. Exploration and mining operations can be carried out year round.

The vegetation in Guanajuato State is composed mainly of scrubland and grassland ((<http://www.cuentame.inegi.org.mx>, 11 January 2017) January 2017).

### **5.2 ACCESS AND PROXIMITY TO POPULATION CENTRES**

The El Pinguico project is accessible from Guanajuato city via a road to Las Torres mine and then from a road to the community of Calderones which is within the project area. The total travel distance is 7 kilometers and travel time is about 20 minutes from Guanajuato. The local access on the property is through an extensive network of unpaved roads.

Guanajuato city is one of the main cities of the central-north Mexico and also is the capital of the state. It has services and typical tourist spots as expected in a touristic place.

### **5.3 SURFACE RIGHTS, POWER, WATER, PERSONNEL, TAILINGS, PROCESSING PLANT AND INFRASTRUCTURE**

This project is within 7 km of a major city with a population exceeding 150,000 people. Vangold does not anticipate any problems with sourcing workers for the exploration phase of the project. There are no historic tailings ponds on the property but there is a large waste

rock dump from historic mining of approximately 90,000 m<sup>3</sup> in an area of approximately 15,000 m<sup>2</sup>.

The El Pinguico project has several mine workings (more than 10 other old workings are inside the property and not visited yet), but the main one is the El Pinguico-Carmen Mine, which consists of 10 mining levels according to the historic map. This mine is the most important on the property and has several vertical shafts: the Humboldt shaft of 397 meters depth, the Pinguico shaft of 283 meters, the Fortuna shaft of 303 meters, the El Centro shaft of 200 meters and the Carmencitas shaft of 61 meters. Currently this mine can only be accessed by the El Carmen adit (level 4), all other entrances are inaccessible. Inside this mine there is an underground stockpile which was never extracted, and is in the stope of the El Pinguico zone. In the property there are other mine workings, some of them in veins and with about 200 meters of development. On the surface there is a dump of approximately 90,000 m<sup>3</sup> in an area of approximately 15,000 m<sup>2</sup>, it is recommended to rent heavy machinery to sample this material. There are also remnants of old beneficiation plants. The property is close to other working mines such as Las Torres mine of the company Fresnillo plc. (Figure 13).

The author's initial due diligence work indicates that the property interest is subject only to normal environmental regulations and liabilities as stipulated under the laws of Mexico and the sufficiency of rights for exploration and mining operations on the property is subject only to normal procedures and permits under the laws of Mexico. However the author recommends that Vangold verify these operating parameters with their legal experts.



## **6.0 HISTORY**

### **6.1 GUANAJUATO MINING DISTRICT**

The mining history of Guanajuato dates back to the sixteenth century, when the Spanish conquerors started mineral exploration in the region in 1520. Between 1548 and 1554 silver was discovered in the area of the San Bernabé and Rayas veins. This discovery led to the settling of people in the area and the city of Guanajuato as a population center. Guanajuato was one of the premier mining districts of Nueva España (New Spain) at this time.

In 1548 the first silver vein, San Bernabé (La Luz), was discovered by a local mule driver. In these early years the silver ore was hand mined and transported by mule to Zacatecas to be milled.

In 1558 the first mine shafts were sunk at Rayas and Mellado mines, which led to the discovery of the famous Veta Madre Vein of Guanajuato. Today this vein runs along the hills that border the glen of Guanajuato in the north and northwest, marked by mines and shafts along its way. This discovery triggered an exploration rush that saw the discovery of the Valenciana, Tepeyac, Mellado, Cata and Sirena silver occurrences.

In 1771 large inventories of silver sulphides, mixed with ruby silver and native silver were discovered at Valenciana and the Valenciana Mine was estimated to be producing one-third of the world's silver.

During the period of 1760 to 1810, the Guanajuato mines accounted for 30% of the entire Mexican production and 20% of the entire world's output of silver. The Production stopped as the result of the War of Independence from Spain in the year 1810, but in 1868 the Valenciana mine was reopened by British investment capital. The principal or "mother vein has yielded the sum of one billion dollars as indicated by the mint and government records. The Valenciana mine proved to be the regions greatest silver producer with workings down to 2,400 feet and producing over \$300 million dollars of silver or approximately 60 million British pounds".

The Mexican Revolution occurred between 1910 and 1920 and all mining was stopped or slowed during this time.

## **6.2 EL PINGUICO-CARMEN MINE**

The mining history of the El Carmen and El Pinguico Mines are intimately related. Initially these mines belonged to different owners and their major mining works include: the Humboldt shaft, Fortuna shaft, El Centro shaft, Carmencitas shaft and Pinguico shaft. All the shafts were started in waste and were sunk to conduct underground exploration and mining of the mineral deposits within the Carmen-Pinguico Fault system. This early work is thought to have commenced around 1890.

The first rich deposits on the property began to be exploited in 1904, a year after the former owner of the El Pinguico mine, Mr. Amado Delgado, transferred the mine to The Guanajuato Development Company, directed by Mr. C.W. Bryant and renamed it The Pinguico Mining and Milling Company. The mine was in production from the late 1800's to 1913 and produced over 200,000 ounces of gold equivalent during this time (EMBSA, Proyecto El Pinguico, 2014). A metallurgical plant was installed for the concentration and cyanidation systems with a capacity of 250 tons per day (report with Unknown signature, 1945). This plant no longer exists and was operated until the year 1913 when the owners left the region due to armed conflicts.

Between 1932 and 1933, the engineer Luis Frausto carried out feasibility studies to exploit headings and stopes at the El Carmen and El Pinguico Mines. According to his calculations, an inventory of 75,000 tons of mineralization was estimated with grades (in average) between of 300 to 400 gr/t Ag and 4 to 5 gr/t of Au, in addition to some mineral shoots below level 8 (Meave, 1959). This is a historical estimate and may not be representative of current mineral resources or reserves. The results of this study are presented in this report to indicate the whole of the historical work completed on the project.

In 1944 Mr. Fernando Cueto Fernández reactivated the El Carmen-El Pinguico Mines briefly but was not successful. In that same year, and early 1945, contractor Tomas Colmenero tried to mine the "Dos Estrellas" stope, but the vein was very hard and the extraction difficult. Mr. Tomas Colmenero extracted some mineralized material from the "Dos Estrellas" stope and the resulting samples returned obtained the following results (report with Unknown signature, 1945):

**Table 1 RESULTS OF MINERAL EXTRACTED FROM THE “DOS ESTRELLAS” STOPE**

<p>LOTES DE MINERAL EXTRAIDO DE LOS HACIOS DEL “REBAJO DOS ESTRELLAS” DE LA MINA EL PINGUICO.</p>					
LOTES	L E Y E N		LOTES	L E Y E N	
No.	Au. Grams.	Ag. Kgrs.	No.	Au. Grams.	Ag. Kgrs.
30	4.5	0.400	55	15.0	1.995
31	10.3	1.039	56	10.0	1.060
32	25.0	2.585	57	12.5	1.297
36	11.0	1.082	58	18.0	1.247
37	10.7	0.704	60	4.5	0.300
41	13.0	1.053	61	10.5	1.039
43	12.0	1.488	62	18.5	1.244
44	14.0	1.389	63	6.5	0.396
45	11.0	1.069	64	10.0	1.142
46	21.0	1.519	65	9.0	0.396
47	20.0	1.690	66	10.0	0.446
48	10.5	0.639	67	10.0	0.585
50	5.0	0.695	69	10.3	2.904
51	5.0	0.745	70	6.0	0.664
52	7.0	0.403	71	11.0	1.100
53	17.5	1.617	72	5.5	0.395

### 1959 CRM Historical Estimate Study of the El Pinguico Mine Area

In 1959 the governmental organization “Consejo de Recursos Minerales” (CRM, the Mexican Geological survey agency in 1959) wrote a report titled “Geological Survey of the Area El Pinguico”, where it reported “reserves” of an underground stockpile and a resource estimation of “in situ” mineralization from the El Pinguico vein (*see appendix 5*).

Vangold is treating the resources and reserves from the CRM report as historical estimates. The QP has not done sufficient work to classify the historical estimates as current mineral resources or reserves and Vangold is not treating the historical estimates as current. Vangold will undertake future work to assess the potential in these areas.

### Historical Estimation of Insitu Veins

The historical estimate was built using polygonal method, based on 160 channel samples taken in situ (*see appendix 5*, only shows places of interest). There is insufficient information available on the methodology used in the estimate to form an opinion as to the quality of the estimate.

### DOS ESTRELLAS STOPE

The “Dos Estrellas stope”, is located northwest of the Pinguico shaft and is an area worked by Pinguico Mines Company. The CRM made a long section map, showing elevated gold and



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silver values and appeared to demonstrate linear continuity of these values (Appendix 5). The CRM took 17 channel samples from the Dos Estrellas stope and reported average vein width = 1.52 m, 1.8 g/t Au, and 91 g/t Ag. In another area of this same stope, they report: vein width = 0.8 m, 6.0 g/t Au, 733 g/t Ag.

**CARSON STOPE**

The Carson stope is located 50 m further north and in the same orientation of Dos Estrellas stope and consists of a series of small mine workings, where the CRM found gold and silver mineralization. The average of 11 samples taken in different parts of the workings gave the following values: width of the vein = 1.05 m, 5.7 g/t Au, 457 g/t Ag.

### EL CARMEN ADIT

The CRM took 12 samples of muck pile the El Carmen adit, which gave averages of 1.0 g/t Au and 128 g/t Ag.

**Table 2 Historical Estimate for the "IN SITU" Vein Mineralization from BLOCKS 1, 2 and 3 (CRM 1959) (Shown in Mexican currency)**

Por lo tanto, el volumen de reservas de mineral "in situ" clasificado como probable, es el siguiente:

Block	Volumen Mtrs. Cub.	Densidad.	Toneladas métricas secas.	Ensayes Grms./t.		Clase de Mineral.	Valor actual teórico.		
				Au.	Ag.		Au.	Ag.	Total.
1	1546.0	2.5	3865.0	5.7	457	Probable.	\$ 313,100.00	\$ 641,509.00	\$ 954,609.00
2	350.0	2.5	876.0	4.9	347	Probable.	\$ 60,672.00	\$ 110,448.00	\$ 171,120.00
3	72.0	2.5	180.0	1.2	101	Probable.	\$ 3,001.00	\$ 6,596.00	9,597.00
<b>SUMAS</b>	<b>1968.0</b>	<b>2.5</b>	<b>4921.0</b>	<b>5.4</b>	<b>424</b>		<b>\$ 376,773.00</b>	<b>\$ 758,633.00</b>	<b>\$1135,406.00</b>

The in situ historical sampling data obtained by the CRM in 1959 appear reasonable to the author, because they are similar to others in historical maps, although more work needs to be done to verify this..

CRM reports a historical estimate of 4921 tonnes with grades of 5.4 g/t Au and 424 g/t Ag. Table 5 is from the CRM report and show the classification applied to be probable reserves but the author considers them to be a historical estimation and has limited information with which to form an opinion on classification.

The reports by CRM is not very detailed and there is little information available regarding the key assumptions, parameters and methods used for the estimates. CRM estimated the tonnages of the insutu veins using polygonal blocks but did not report the ranges of confidence for the blocks. The grades used in the estimate were obtained through channel sampling in stopes of the vein material. To assess the potential of the insitu vein material, Vangold should resample the areas outlined in the historical estimates area and plan a drill program to test the vein material beyond the underground workings. The CRM classified the historical estimates as probable reserves but due to the uncertainty associated with the grade distributions beyond the vein exposures underground, the author would not place them in this category using current CIM guidelines for Probable Mineral Reserves. The author has not done sufficient work to classify the historical estimate as

current mineral resources or reserves and Vangold is not treating the historical estimates as current mineral resources or reserves. Vangold will undertake future work to assess the potential in these areas.

### **Historical Estimation of the Underground Stockpile**

An underground stockpile of broken mineralization is located in the northwest part of the mine and partially occupies the block from level 4 to 7. This stockpile extends for 300 meters longitudinally; unfortunately a part of this material is half covered by falls of the waste rock that hosts the Pinguico vein (*Figure 7*).

CRM only considered material up to level 7 of the mine in the stockpile inventory but the report mentions the possibility of additional material continuing in levels 8 and 9.

The CRM dug 20 trenches along the top of the stockpile to sample it. The averaged results of all their samples is 3.2 g/t Au and 288 g/t Ag (4).

**Table 3 Assay Results of Underground Stockpile Samples from Blocks A, B and C, (CRM 1959)**

BLOCK A.			
Núm. Muestra.	Ancho en metros.	Ensayes Gras./t.	
		Au.	Ag.
177	6.40	1.0	119
176	8.40	1.8	198
175	8.60	1.6	138
174	9.40	5.3	511
173	12.60	1.5	117
172	5.50	2.2	218
171	8.70	1.2	115
170	6.60	2.0	180
169	2.75	1.2	158
168	5.20	1.0	119
	7.45	2.0	193
BLOCK B.			
Núm. Muestra.	Ancho en metros.	Ensayes Gras./t.	
		Au.	Ag.
180	3.00	5.0	565
179	3.50	11.0	1377
178	5.00	5.5	593
	3.83	6.8	790
BLOCK C.			
Núm. Muestra.	Ancho en metros.	Ensayes Gras./t.	
		Au.	Ag.
167	10.50	3.0	237
165	15.20	4.0	202
164	8.00	4.2	232
163	8.50	2.4	178
162	10.00	1.2	250
161	11.80	1.76	230
	10.67	2.8	221

CRM completed the following work to determine the volume of the stockpile:

- Topographic survey of the stockpile surface and measurement from the surface of the stockpile to level 7.
- 20 trenches were dug along the top of the stockpile roughly every 14.4 m.
- An approximate boundary was delineation of the Pinguico vein.

- Determination of the density of the stockpile (including rock material and air spaces). They used two methods for determination and reported 1.4 t/m<sup>3</sup>, but they do not mention what kind of methods were used to calculate this.
- Calculation of averages for the trench samples and review of their distribution in the mass of the stockpile
- Calculation of individual volumes (The report does not mention how individual volumes were determined).

**Table 4 Historical Estimate of the Underground Stockpile Including Blocks A, B AND C Estimated by CRM in 1959 (Shown in Mexican currency)**

Block.	Volumen Mtrs. Cub.	Densidad.	Toneladas métricas secas.	Factor dilución.	Toneladas M.S. Ajustadas.	Ensayes Grms./t.		Valor actual teórico. M.N.		
						Au.	Ag.	Au.	Ag.	Total.
A	17,747.0	1.4	24,845.0	0.650	16,149.0	2.0	193	\$ 455,818.00	\$1132,039.00	\$ 1587,857.00
B	14,238.0	1.4	19,933.0	0.650	12,956.0	6.8	790	\$ 1234,217.00	\$3716,845.00	\$ 4951,062.00
C	95, 293.0	1.4	133,411.0	0.557	74,310.0	2.8	221	\$ 2936,360.00	\$5964,656.00	\$ 8901,016.00
SUMAS	127,278.0		178,189.0		103,415.0	3.2	288	\$ 4626,395.00	\$10813,540.00	\$15439,935.00

Teniendo en cuenta que solamente fué posible muestrear una cara de la masa de mineral quebrado, por medio de zanjas, cuya profundidad media fué de 3.5 metros, razonablemente y en relación con el declive general que presenta el perfil del expuesto mineral, se puede asignar un factor de seguridad de 30% al valor total de esta reserva.

Resumiendo, las actuales reservas de la mina, son:

Mineral probable "in situ"	4,921.0 Tons.	\$ 1,135,406.00 M.N.
Mineral quebrado probable	103,415.0 "	\$ 15,439,935.00 M.N.
Valor total teórico		\$ 16,575,341.00 M.N.

The historical estimate of the main stockpile as reported by the CRM (1959) is 103,415 metric tonnes grading 3.2 g/t Au and 288 g/t Ag as probable reserves.

The reports by CRM is not very detailed and there is little information available regarding the key assumptions, parameters and methods used for the estimates. The volume of the stockpile was estimated using a topographic survey of the top of the pile and the volume of the workings from historical mine plans. The grade was determined through trench sampling of top of the stockpile. Since only the top of the stockpile could be accessed for sampling, these grades may not reflect the grades of material throughout the stockpile. The



CRM classified the historical estimates as probable reserves but due to the uncertainty associated with the grade distributions through the stockpile the QP would not place them in this category using current CIM guidelines for Probable Mineral Reserves. Vangold needs to verify the grade distribution in the entirety of the stockpile material and not just the top 1.5 meters to meet current guidelines for Mineral Reserves. The QP has not done sufficient work to classify the historical estimate as current mineral resources or reserves and Vangold is not treating the historical estimates as current mineral resources or reserves. Vangold will undertake future work to assess the potential in these areas.

The CRM report mentions there may be additional mineralized zones below level 7 called Sangria del Carmen and there may be further mineralization deeper in other areas such as near the Tatalayo fault.

#### **2012 SGM Historical Estimate Study of the underground stockpile at the El Pinguico**

In 2012, EMDB hired the "Servicio Geológico Mexicano" (SGM, the Mexican Geological Survey agency) to perform a "reserve certification" on the same underground stockpile that CRM had estimated in 1959.

SGM took 56 samples in 19 trenches distributed over 300 meters on the stockpile. Each trench was dug to a depth of 1.5 meters. SGM could not sample vertically deeper because level 7 is inaccessible (*see appendix 6*).

Table 5 shows the assay results from the 19 trenches. SGM tried to replicate the sample locations and results found in the CRM report (1959). SGM sampling returned an average width of the trenches of 6.95 meters (with areas over 10 meters wide) and an average grade of 1.662 g/t of Au and 167 g/t of Ag (with 2 samples over 8 g/t of Au and 800 g/t of Ag - samples 15A and 22A).

**Table 5 SAMPLE ASSAYS RESULTS FROM SGM TRENCH SAMPLES FROM EL PINGUICO UNDERGROUND STOCKPILE**

BLOCK EP-1b							
LEY MEDIA GENERAL MINA PINGÜICO (SGM)					LEY MEDIA POR FAJILLA		
Fajilla	Muestra	Espesor	Ag	Au	Espesor	Ag	Au
No.	clave	m	g/ton	g/ton	m	g/ton	g/ton
1	SGM-1A	4.00	335	2.200	12	131	1.3
	SGM-1B	4.00	15	0.667			
	SGM-1C	4.00	44	1.033			
2	SGM-2A	3.50	169	1.500	10.5	78	.933
	SGM-2B	3.50	28	0.900			
	SGM-2C	3.50	36	0.400			
3	SGM-3A	2.50	199	1.800	7.5	198	1.8
	SGM-3B	2.50	223	2.100			
	SGM-3C	2.50	173	1.500			
4	SGM-4A	3.50	42	0.333	14	140	1.108
	SGM-4B	3.50	132	1.000			
	SGM-4C1	3.50	138	1.000			
	SGM-4C2	3.50	249	2.100			
5	SGM-5	2.00	14	0.167	2	14	.167
6	SGM-6A	2.20	43	0.400	6.6	99	1.011
	SGM-6B	2.20	210	2.133			
	SGM-6C	2.20	44	0.500			
7	SGM-7A	1.80	68	0.533	5.4	52	.522
	SGM-7B	1.80	45	0.700			
	SGM-7C	1.80	43	0.333			
8	SGM-8A	1.30	181	1.367	2.6	181	1.717
	SGM-8B	1.30	181	2.067			
9	SGM-9A	1.75	182	1.533	7	104	1
	SGM-9B	1.75	44	0.500			
	SGM-9C1	1.75	43	0.533			
	SGM-9C2	1.75	145	1.433			
10	SGM-10A	2.20	85	0.567	8.8	58	5
	SGM-10B	2.20	37	14.433			
	SGM-10C1	2.20	697	3.667			
	SGM-10C2	2.20	109	1.333			
11	SGM-11A	2.00	66	0.567	6	113	.933
	SGM-11B	2.00	149	1.333			
	SGM-11C	2.00	124	0.900			
	SGM-12A	3.00	53	0.433			
12	SGM-12B	3.00	66	1.000	12	72	.917
	SGM-12C1	3.00	112	1.367			
	SGM-12C2	3.00	58	0.867			
	SGM-13A	3.00	41	0.400			
13	SGM-13B	3.00	86	0.767	9	62	.6
	SGM-13C	3.00	60	0.633			
	SGM-14A	2.50	137	1.133	5	145	1.067
14	SGM-14B	2.50	152	1.000			
15	SGM-15A	2.00	817	8.467	4	72	4.983
	SGM-15B	2.00	144	1.500			
16	SGM-19A	3.25	145	0.866	6.5	173	1.133
	SGM-19B	3.25	201	1.399			
17	SGM-20A	2.75	319	2.299	5.5	337	2.316
	SGM-20B	2.75	355	2.333			
18	SGM-21A	1.85	265	1.666	3.7	241	1.566
	SGM-21B	1.85	217	1.466			
19	SGM-22A	2.00	1047	8.332	4	0	6.682
	SGM-22B	2.00	654	5.032			
Total =	19 FAJILLAS	132.10	22064	219.595			
	LEY MEDIA	6.95	167	1.662			
Valor del mineral 12-Agosto-12							
V.M.=237.54 USD/ton							
(sin considerar recuperación metalúrgica)							
Fuente: Kitko.com							
Tabla No. 7							

The SGM trenches under the “Carson” and “Dos Estrellas” stopes are not included in their calculations and SGM does not clarify why these three trenches were excluded. The trenches that were left out of these calculations were:

**Table 6 Assay Results that SGM did not Include in the Historical Estimate SGM (2012)**

<b>TRENCH</b>	<b>WIDTH</b>	<b>Au (g/ton)</b>	<b>Ag (g/ton)</b>
SGM 16	3.0	1.333	210
SGM 17	2.0	0.967	105
SGM 18	5.0	2.233	151

The samples taken by SGM were sent to their own laboratory in Chihuahua, Mexico. They used fire assay method with gravimetric finish for gold and atomic absorption (AA) to determine the silver values.

SGM classified the tonnages reported as certified and uncertified to assign a level of confidence to their work. The certified tonnes were determined using the following data.

- a) Specific gravity: 1.4 t/m<sup>3</sup>
- b) Mining swell factor: 35%
- c) Calculation of metric tonnage, they considered:
  - Calculation of the blocked area and volume
  - Calculation of the average length of the trenches
  - Calculation of the average grade per block
  - Tonnage calculation

SGM assigned a confidence range of 5 m below the trench bottom to the averaged trench assay data (SGM, 2012. Certificación de reservas mineral quebrado en la Mina “El Carmen El Pingüico” Municipio de Guanajuato, Gto).

SGM assigned 25,600 tonnes to their certified class for the underground stockpile with averaged grades (diluted) of 1.66 g/t Au and 167 g/t Ag. This tonnage is located within 5 to 6.5 m of the top of the stockpile. The QP has not done sufficient work to classify the historical estimate as current mineral reserves and Vangold is not treating the historical estimate as current mineral reserves. Vangold will undertake future work to assess the potential in these areas.

The remaining stockpile material is classified by SGM as “uncertified” due to their inability to sample below the trenches or homogenously throughout the remainder of the stockpile material. They could not assign a reasonable grade to the rest of the material but assign a tonnage of 148,900 "uncertified" tonnes (the total stockpile), and results in a final number of 96,828 tonnes with the application of the mining swell factor (SGM,2012) (Table 7).

SGM determined the grade of the top 5m of the stockpile through trench sampling of the material and estimated the tonnage by topographic survey and historical mine plans. SGM did not have confidence that the grade obtained in their trench sampling reflected the grade of the whole stockpile beyond a depth of 5m. SGM reported the tonnage of material below the 5m threshold but did not assign any grade to the tonnes. None of the categories of classification assigned by SGM comply with those set out in NI43-101 or CIM guidelines. The work that SGM completed to estimate the tonnage of the stockpile appear reasonable and likely reflect the amount of material in the stopes. The grade distribution throughout the whole of the stockpile needs to be verified before it can be applied to the whole of the tonnes available and qualify for current classification standards. Vangold will undertake future work to assess the potential in these areas.

Table 7 Historical Estimate for the Underground Stockpile (SGM, 2012)

CÁLCULO DE RESERVAS DE BLOCK									
PROSPECTO: MINA EL CARMEN - EL PINGUICO									
PROYECTO: CERTIFICACIÓN DE RESERVAS DE MINERAL QUEBRADO	VETA EL PINGUICO		MINERALIZACIÓN: SULFUROS		BLOCK No. EP-1b		TIPO DE RECURSOS: INDICADOS		
REFERENCIAS OBRA MINERA	LONG. MUESTRA	ANCH. (m)	L X A (m <sup>2</sup> )	Au gr/ton	Ag gr/ton	Pb %	Cu %	Zn %	ACCESIBILIDAD: MEDIANO PLAZO
BLOCK LIBERADO DEBAJO DEL REBAJE DOS ESTRIELLAS - CARSON ENTRE EL TIRO EL PINGUICO Y LOS NIVELES 4 Y 7 MINA EL PINGUICO	300.00	6.95	15.310	1.660	167.00				AREA: 15.310 m <sup>2</sup>
									VOLUMEN: 106.404.5 m <sup>3</sup>
									PESO ESP.: 1.4
									TON. METRICAS:
Ver Planos No. 1 y 2									TONS. BLOCK: 148.968
									F. ABUNDAMIENTO: 85%
									DEDUCCION: 52.138 Ton
									TON DILUIDAS 96.828
TOTALES PROMEDIO	300.00	6.95 A. DILUIDO	15.310	3.20	288				
PROMEDIO									
COSTIGO DILUCION									
CABEZA DE MINA									
				1.66	167				
PERDIDAS METALUR. %									
LEY RECUPERABLE									
							CONTENIDOS		
							Au (Kg)	96.828	
							Ag (Kg)	9.682.8	
							Pb(Ton)		
							Zn (Ton)		
OBSERVACIONES:									
EL FACTOR SEGURIDAD O DE ABUNDAMIENTO PARA RECURSOS INDICADOS (0.65)									
NO SE APLICA FACTOR DE DILUCION. EL MINERAL ESTA DILUIDO									
RECUPERACIONES EN PLANTA: SE DESCONOCEN. NO SE HAN REALIZADO PRUEBAS METALURGICAS									
RELACION DE CONCENTRACION (R/C): SE DESCONOCE. NO SE HAN REALIZADO PRUEBAS METALURGICAS									
							FECHA: ago-12		
							CALCULO: ING. JESUS CHÁREZ BLANCO		
							REVISO: ING. ENRIQUE A. GARCÍA REYES		

During this same year (2012) but after the SGM report was issued, EMDB decided to perform a bulk density study of the rocks in the stockpile (with no QP supervision) to determine if the 1.4 swell factor used by SGM in their work was conservative. EMDB shipped the samples to an SGS certified Laboratory in Durango, Mexico.

The samples were wax coated, and weighed then submerged in water. SGS reported the samples returned a bulk density of 2.18 g/cm<sup>3</sup> (Table 8) and a specific gravity by picnometer method of 2.54 g/cm<sup>3</sup> (Table 9). The total weight of samples used to determine the older numbers used in the CRM report is unknown. Note these are specific gravity measurement of the individual rocks but are not representative of the stockpile as a whole.

**Table 8 Bulk Density Results (SGS 2012) (WITHOUT PRESENCE OF QP)**

Tabla 2: Resultados Densidad Bulk									
Muestra		Peso (g)			Volumen (cm <sup>3</sup> )			Densidad de la Muestra	
No.	Roca	Peso Inicial	Peso Con Cera	Volumen de Agua Desplazada	Muestra Con Cera	Cera	Solo Muestra	Densidad g/cm <sup>3</sup>	Densidad lbs/cm <sup>3</sup>
1	SGM-5	1.655	1.899	0.962	1	0.2	0.7	2.26	141.0
2	Duplicado 1	0.980	1.155	0.616	1	0.2	0.5	2.18	136.0
3	Duplicado 2	1.063	1.292	0.778	1	0.2	0.6	1.90	118.5
4	Duplicado 3	1.011	1.193	0.665	1	0.2	0.5	2.05	128.1
5	Duplicado 4	1.007	1.186	0.671	1	0.2	0.5	2.01	125.2
6	Duplicado 5	0.927	1.143	0.647	1	0.2	0.4	2.11	131.6
7	Duplicado 6	1.343	1.582	0.797	1	0.2	0.6	2.36	147.3
8	Duplicado 7	1.149	1.424	0.791	1	0.3	0.5	2.18	136.3
9	Duplicado 8	1.000	1.245	0.672	1	0.3	0.4	2.30	143.3
10	Duplicado 9	1.102	1.310	0.651	1	0.2	0.5	2.44	152.2
Promedio SGM-5								2.18	135.9

**Table 9 SPECIFIC GRAVITY RESULTS PERFORMED BY SGS 2012 (WITHOUT PRESENCE OF QP)**

Tabla 3: Resultados Gravedad Especifica							
Muestra No.	Id de muestra	Peso (g)				Gravedad Especifica (g/cm <sup>3</sup> )	Gravedad Especifica (in/ft <sup>3</sup> )
		Picnómetro vacío	Picnómetro con Agua	Muestra Seca	Muestra + Agua		
1	SGM-5	20.317	45.125	21.318	45.735	2.56	159.8464235
Duplicado	SGM-5	20.327	45.125	21.328	45.734	2.55	159.438652
Triplicado	SGM-5	20.32	45.124	21.322	45.728	2.52	157.1919324
				Promedio SGM-5		2.54	158.8256693

To begin a validation process of these historical estimates found in both the CRM report (1959) and the SGM report (2012), Vangold retained the author to resample the trenches in the underground stockpile. The results of these samples are presented in Section 9.0 (Exploration) of this report.

## **7.0 GEOLOGICAL SETTING AND MINERALIZATION**

### **7.1 REGIONAL GEOLOGY**

The oldest formation in the region is the Esperanza Formation (Jurassic, Ortiz-Hernández 1990), and includes carbonaceous and calcareous shales interspersed with sandstones, limestones and flows of andesitic and basaltic lavas. The whole unit is weakly metamorphosed into phyllites, slates and marble. The thickness of this unit exceeds 600 meters and its age has been assigned to the Cretaceous (Dávila and Martínez 1987) based on radiolarian recognition. (Figure 4)

The La Luz Formation (Randall, 1982), overlies the Esperanza Formation and consists mainly of intercalated layers of clastic sedimentary rocks and massive and pillow lavas, dated by the K-Ar method at  $108.4 \pm 6.2$  Ma, (Zimmerman, in Ortiz, 1989). Locally rhyolitic tuffs and agglomerates are present and occurrences of massive volcanogenic sulphides have been noted. The minimum thickness of the Formation is about 1000 m.

Red Conglomerate of the Guanajuato Formation (Edwards, 1955), from Middle Eocene to Early Oligocene, is in angular discordance with the Esperanza Formation and less frequently with the La Luz andesite. The conglomerate consists of pebbles and cobbles with sandy intercalations. At its base there are layers of volcanic sandstones and andesitic lavas. The Guanajuato Red Conglomerate has a thickness that varies between 1,500 and 2,000 m and its age is from the Late Eocene to Early Oligocene.

The overlying volcanic sequence of the middle Tertiary originates in and adjacent to a caldera, and consists of five units described in ascending stratigraphic order:

- Loseros Formation, layers of greenish volcanic sandstone from 10 to 52 m thick.
- (2) Bufo Rhyolitic Tuff, ash flow tuff of 360 m thickness, has been dated by the K-Ar method at  $37 \pm 3.0$  M.a. (Gross, 1975); in the Las Torres mine, the La Bufo rhyolitic tuff is found on the top (hangingwall) of the Veta Madre.
- (3) Calderones Formation is a greenish volcanoclastic unit which includes lahars and a megabreccia with a thickness of 200-250 meters and rests discordantly on the Bufo Rhyolitic Tuff.



- (4) Cedros Andesite, has a thickness varying from 250 to 640 m and consists of andesitic lava flows with intercalations of red layers and andesitic to dacitic tuffs.
- (5) Chichindaro Formation is formed by a sequence of domes and lava flows interspersed with breccias and rhyolitic volcanic tuffs (Saldaña, 1990; Martínez, 1991). The porphyritic fluid textures are characteristics of domes and flows. With a thickness of up 250 m and is assigned an age of  $32.0 \pm 1.0$  M.a. (Gross, 1975) according to the K-Ar method.

### **INTRUSIVE ROCKS**

The La Luz intrusive complex located northwest of the district, consists of several phases that intrude into the Mesozoic volcano-sedimentary sequence below the Guanajuato Red Conglomerate. This consists of diorite, tonalite (Cerro Pelón) and dikes of various compositions (Martínez, 1987). The basalt-diabase dikes are contemporary with the La Luz intrusive. The tonalite of Cerro Pelón is dated to  $157 \pm 8.8$  Ma, and the diorite of Tuna Mansa (La Palma) is dated to  $122.5 \pm 5.6$  Ma, (Zimmerman, in Ortiz et al, 1989). The volcano-sedimentary sequence is also intruded by the San Juan de Otates ophiolite complex (Servais et al., 1982), which consists of serpentinitized peridotites, clinopyroxenites and gabbro dated in  $112 \pm 6.8$  Ma, (Zimmerman, in Ortiz et al. Al, 1989) and outcrop about 35 km northwest of the city of Guanajuato. (Figure 3)

Figure 3 Regional Geology

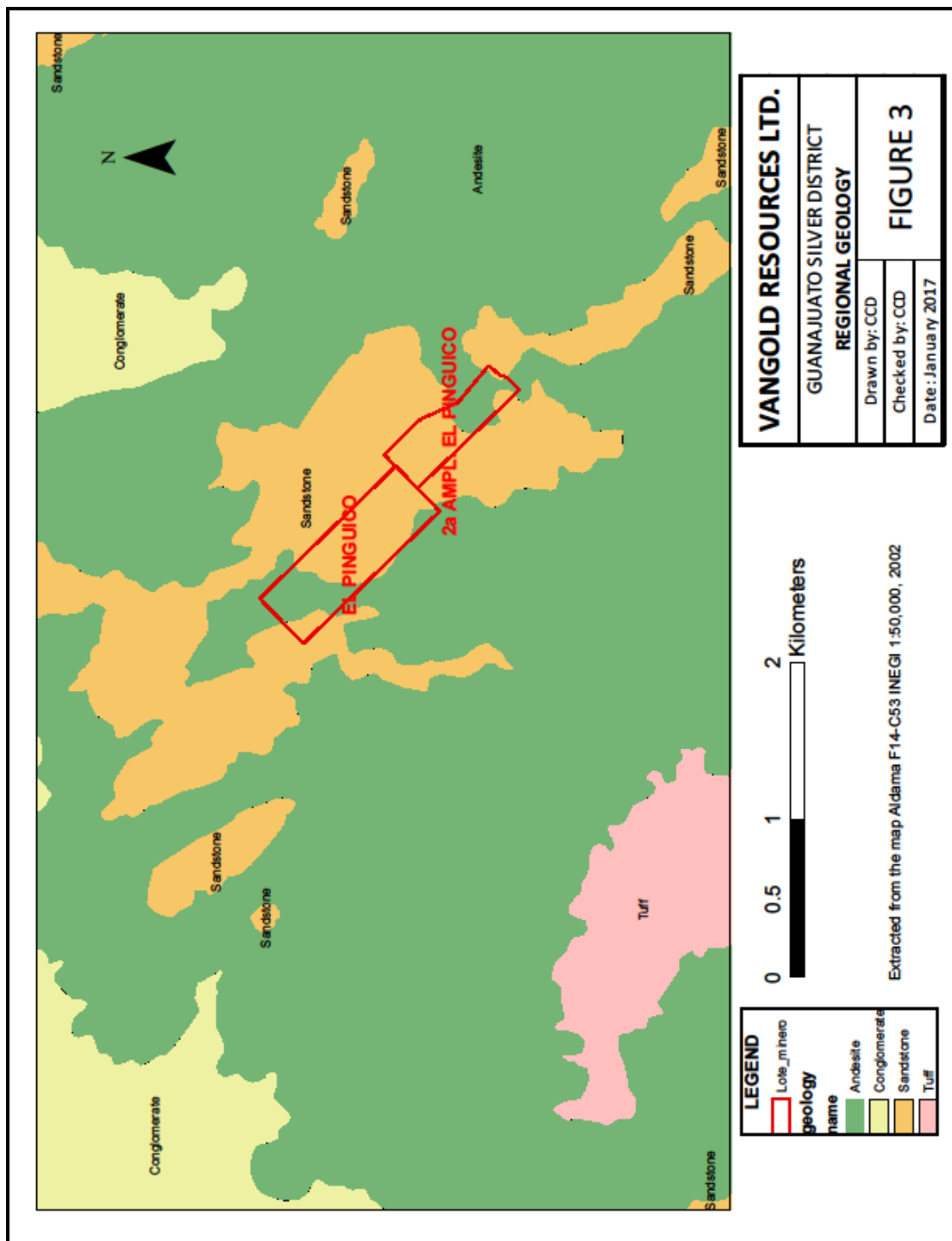
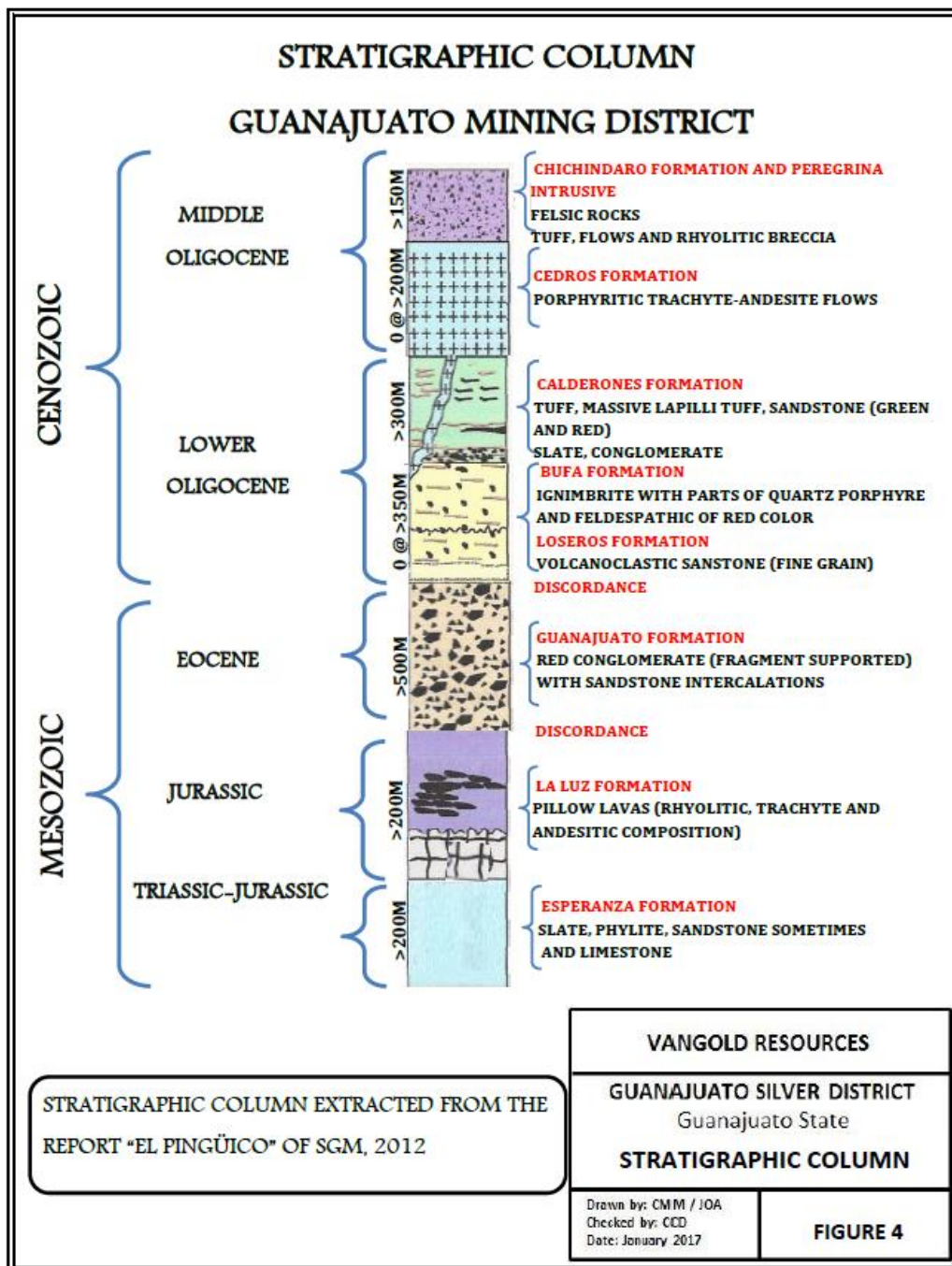


Figure 4 Stratigraphic Column



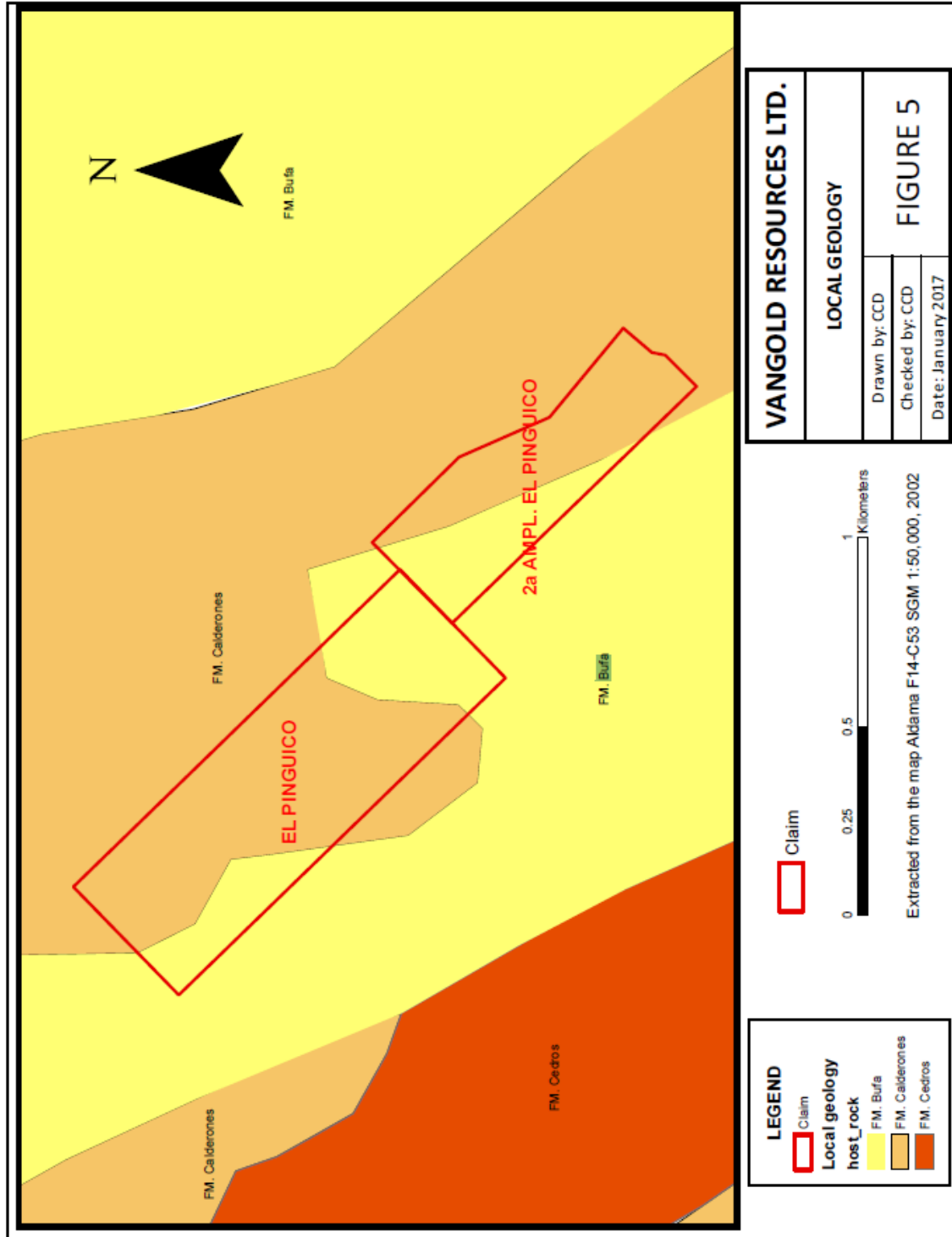


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Outcrops in the area of the El Carmen-El Pinguico mine are of the Tertiary formations called Calderones y Bufa; host of the El Carmen-El Pinguico Vein. The oldest unit is the Bufa Formation and, consists of rhyolites, tuffs and rhyolitic breccias. It has a light pink color, thickness of approximately 500 m and hosts most of the mineralization of the El Carmen-El Pinguico Vein. The Calderones Formation overlies the Bufa Formation and, outcrops in the southeast portion of the mining district of Guanajuato. It consists of massive andesite, tuffs and andesitic breccias of green color, and has a thickness of approximately 500 m.

El Pinguico-Carmen Mine, has several mining developments on parallel veins and perpendicular to El Pinguico Vein and has little or no mine development in these veins. San Jose and Pachuca veins, these veins have no more than two hundred meters of development and it is unknown if they have economic values, since no historical records of these places were found, but having development.

Figure 5 Local Geology



The El Carmen-El Pinguico Vein has a strike of 327°/79°NE on average. Due to its structural position, it is considered to lie within the hangingwall (upper portion) of the large Veta Madre Vein (which dips to the west) and tends to be cut by this. The El Carmen-Pinguico Vein is hosted in a series of fissures and faults produced by tensional stresses and emplaced subsequent to the great mega fault of the Veta Madre.

### **7.3 STRUCTURE**

The Mining District of Guanajuato is a series of fault blocks delimited by normal regional northwest-southeast faults, known as La Sierra or Villalpando System, Veta Madre System and La Luz System. The Veta Madre system has a strike length of 20 km, Villalpando 10.5 km and La Luz 10 km. All these vein systems end in the Northern fault that is part of the northwest-southeast fault system (Figure 6).

### **7.4 MINERALIZATION**

The El Carmen-El Pinguico Vein is considered part of the top of the Veta Madre Vein system, the main vein in the historic Guanajuato Silver District, and remains open at depth. The Veta Madre vein is associated with a mega fault that outcrops for 25 kilometers with an orientation of 135°/47°SW and is displaced in its middle part by the Amparo fault that moves it to the northeast.

The El Pinguico Vein is one of the most important veins of El Pinguico-Carmen Mine. This vein was emplaced in a fault/fissure zone with associated gold and silver mineralization. The average width of the vein system is 6.95 meters and has a maximum width of 12 meters.

Gold and silver bearing fluids also carrying sulphur and iron were emplaced in the fractured rock mass from depth with sufficient temperature and pressure drops, the fluids cooled and the metals came out of solution and formed the Pinguico vein.

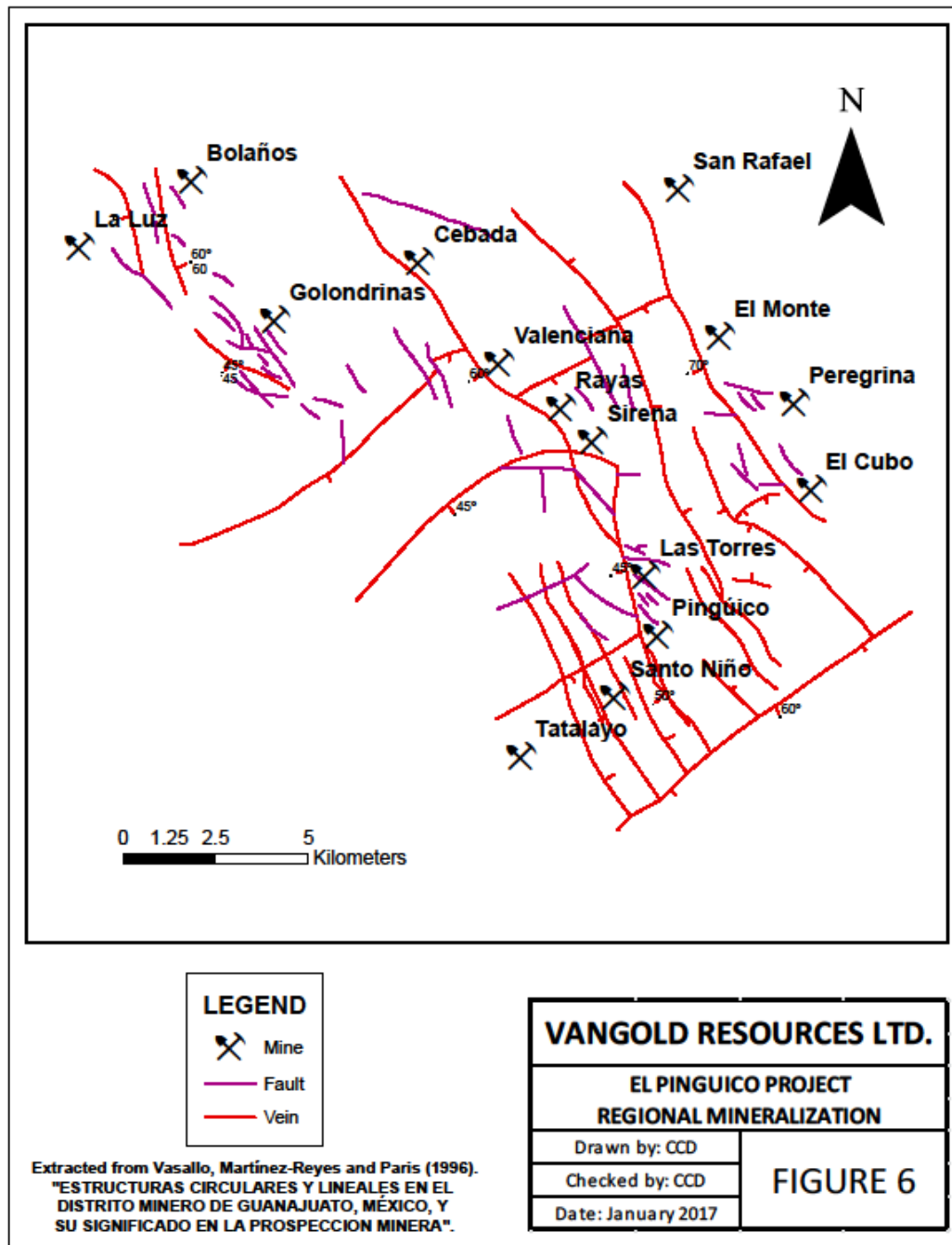
The mineralization at the Pinguico-Carmen mine, like those of the Guanajuato camp in general, consist of a mixture of gold and silver. These occur in association with crumbling sugar quartz veins, within brecciated rock, and as replacement in the altered rhyolite (Robt. T. Hill, 1906). The vein has very strong argilization and silicification. The broken rocks from the El Carmen-El Pinguico vein show sulphide mineralization in a matrix of white crystalline



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quartz, calcite and rhyolitic breccia. Mineralization consists of native gold and silver, polybasite, pyargyrite, tetrahedrite, marcasite, sphalerite, galena, pyrite and chalcopyrite.

Figure 6 Regional Structure and Major Vein Locations





## **8.0 DEPOSIT TYPES**

The majority of the deposits of the Guanajuato District, including the veins on the property, which are part of the Veta Madre system, are of the epithermal and mesothermal types, and appear mainly as fracture filling, although there are also important areas with stockwork veins.

It should be noted that with consideration of the vein mineralogy, the mineralization gangue minerals and the alteration, the vein system could be classified as adularia-sericite type epithermal veins, or within the intermediate sulphidation type epithermal deposits (Camprubí and Albinson, 2006). Such epithermal deposits are a major source of gold and silver mining in many parts of the world.

## **9.0 EXPLORATION**

### **9.1 2017 SAMPLING PROGRAM OF THE UNDERGROUND STOCKPILE**

VANGOLD hired FINDORE S.A. DE C.V. (the author's Geological Services Company in Mexico) to take samples of the underground stockpile, to compare to the sampling done by CRM in 1959 and SGM in 2012 (all the field work supervised by the author). Vangold took these samples to initiate a due diligence review of the historical estimates by comparing the sample results from the CRM and SGM studies.

To perform this work, the author with two other geologists and five hired laborers dug out the trenches in the mine and took new stock pile samples in as close proximity to the historical samples as possible. All samples were then carried to surface for dispatch to the assaying laboratory. Fortunately, all the SGM trenches were easily located by the trench ID number marked on the mine walls. The top material in each trench was dug out to remove rocks that may have fallen into the trenches from the surrounding areas. In most of the trenches, it was possible to dig below the level of the SGM sampling. Guidance was provided by one of the workers who was present during the SGM 2012 sampling program. Figure 8 and Figure 9 show the location of the trenches that were excavated by the SGM in 2012 and again in 2017 by the author.

Findore located 20 trenches of different lengths in different parts of the stockpile and were distributed over 340 meters (approximate length of the stockpile). Most of the trenches were sampled as close to the location where the CRM (1959) and SGM (2012) samples were taken. A few new trenches were dug to sample the rocks where it was not safe to sample the older trenches. The stockpile is very unstable in places so it is very dangerous and it requires great care to work in this area.

Each sample was taken along the floor of the trench to be representative of the rock exposed in the trench. The sample bag was then sealed and secured underground until transported to the surface. A total of 57 samples were obtained from the trenches in the stockpile and sent for analysis. Twenty of these same samples were analyzed for specific gravity. The samples taken were representative of the material in the trenches and all the rocks collected in the sampling were collected in an unbiased way to reflect the bulk of the material in the stockpile.

## 9.2 Specific Gravity Analysis Results

From the 20 samples the specific gravity “of the samples” from the stockpile averaged to 2.566 g/cm<sup>3</sup>. This is the specific gravity of the rocks within the pile but not of the whole stockpile. Piled and irregularly shaped rocks have air spaces between them. Historically, CRM (1959) and SGM (2012) have applied a specific gravity value to the stockpile of 1.4. The author has reviewed their determinations and finds this to be a reasonable number.

**Table 10 SPECIFIC GRAVITY OF THE SAMPLES TAKEN BY THE AUTHOR FROM THE STOCKPILE AVERAGED TO 2.566 g/cm<sup>3</sup>**

<b>Sample #</b>	<b>Specific Gravity (g/cm<sup>3</sup>)</b>
F-001	2.75
F-003	2.58
F-005	2.6
F-007	2.54
F-009	2.66
F-012	2.71
F-014	2.55
F-022	2.53
F-026	2.46
F-030	2.44
F-034	2.53
F-036	2.53
F-038	2.52
F-042	2.56
F-046	2.57
F-049	2.52
F-054	2.54
F-060	2.47
F-062	2.52
F-064	2.74
<b>AVERAGE</b>	<b>2.566</b>

In 2012, EMDB took samples (without QP supervision) to undertake specific gravity and bulk density measurements. These samples were sent to a certified laboratory in Durango, Mexico (SGS) and returned a specific gravity of 2.54 and a density Bulk of 2.18 g/cm<sup>3</sup>.

Comparing the results of the samples taken by EMBD and those taken by the author, the results are very similar (Table 8 and Table 9).

### 9.3 2017 Trench Sample Assay Results

The tables in this section show the location data for each trench and the gold and silver assay results for each sample taken by the author in the El Pinguico underground stockpile.

The results from the 2017 sampling program confirm the grades found by SGM (2012) as most of the individual sample results and the overall average grades a close in gold and silver values. There is a week bias in the results where the 2017 samples returned a slightly higher averaged value (1.75 g/t Au and 183.58 g/t Ag) than SGM samples (1.662 g/t Au and 143 g/t Ag). The samples from the CRM (1959) study, show much higher gold and silver values than SGM or the 2017 samples, 2.72 g/t Au and 251 g/t Ag. The higher results in the 58 year old study may be correct as the stockpile may not have been so covered or diluted by falls of waste rock from the walls of the mine as they appear to be in 2017 (Table 11 to Table 13, and Figure 7 to Figure 10):

**Table 11 Comparison of Assay Results for the Underground Stockpile Trench Samples CRM (1959), SGM (2012) and Vangold (2017)**

CRM (1959)				SGM (2012)				VANGOLD (Taken by the author in 2017)				COMMENTS
TRENCH	Width (m)	Au gr/ton	Ag gr/ton	TRENCH	Width (m)	Au gr/ton	Ag gr/ton	TRENCH	Width (m)	Au gr/ton	Ag gr/ton	
M180	3.0	5	565									Not sampled by VANGOLD
M179	3.5	11	1377									Not sampled by VANGOLD
M178	5	5.5	593									Not sampled by VANGOLD
M177	6.4	1	119	22	4	6.682	851	F19	4	5.675	709	
								F18	4	10.725	1042	Made by VANGOLD, not sampled by CRM or SGM
								F17	5.5	2.93	452	Made by VANGOLD, not sampled by CRM or SGM
								F16	4	0.339	25.75	Made by VANGOLD, not sampled by CRM or SGM
M176	8.4	1.8	108	15	4	4.983	72	F15	7.5	0.9965	100.55	



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CRM (1959)				SGM (2012)				VANGOLD (Taken by the author in 2017)				COMMENTS
TRENCH	Width (m)	Au gr/ton	Ag gr/ton	TRENCH	Width (m)	Au gr/ton	Ag gr/ton	TRENCH	Width (m)	Au gr/ton	Ag gr/ton	
M175	8.6	1.6	138	14	5	1.067	145	F14	5	1.3225	132.5	
M174	9.4	5.3	511	13	9	0.6	62	F13	9	1.1587	108.2	
M173	12.6	1.5	117	12	12	0.917	72					Not sampled by VANGOLD
M172	5.5	2.2	218	11	6	0.933	113	F11	6	1.205	173.67	
M171	8.7	1.2	115	10	8.8	5	58	F10	8.8	0.416	47.55	
M170	6.6	2	180	9	7	1	104	F9	7	1.706	121.23	
M169	2.75	1.2	158	8	2.6	1.717	181	F8	2.6	1.5675	116.25	
M168	5.5	1	119	7	5.4	0.522	52	F7	3.2	0.8355	102.75	
M167	10.5	3	237	6	6.6	1.011	99	F6	6.6	1.6307	135.13	
M166	5.5	-	40	5	2	0.167	14					Not sampled by VANGOLD, CRM does not use it for averages
M165	15.2	4	202	4	14	1.108	140	F4	14	1.5683	147.08	
M164	8	4.2	232	3	7.5	1.8	198	F3	7.5	2.0783	194.33	
M163	8.5	2.4	178	2	10.5	0.933	78	F2	10.5	0.626	66.967	
M162	10	1.2	290									
M161	11.8	1.76	230	1	12	1.3	131	F1	12	1.14	60.1	
				19	6.5	1.133	173	F18-A	4.4	1.9475	194.5	Sampled only by SGM an VANGOLD
				20	5.5	2.316	337	F17-A	2	1.24	383	Sampled only by SGM an VANGOLD
				21	3.7	1.566	241	F16_A	4.71	1.7217	250	Sampled only by SGM an VANGOLD
AVERAGE	7.89	2.72	251		6.95	1.66	143		6.42	1.75	183.58	

\*NOTE: This table does not show the results of the trenches 16, 17 and 18 of the SGM, because they were not used to calculate averages, the results of these trenches were shown in table 9.



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The trenches located below the “Carson” and “Dos Estrellas” stopes (north side of the stockpile) have higher values in the CRM sampling than the later sampling. This may be due to waste rock slumping into these stopes and diluting the mineralized material on the top of the stock pile.

Trenches under “Carson” and “Dos Estrellas” stopes:

**CRM:** M174, M175, M176, M177, M178, M179 and M180.

**SGM:** 19, 20, 21 and 22 (last 3, shown in table 9).

**VANGOLD:** F16, F17, F18, F19 and F20.

In the trenches on the other side (south side of the stockpile), there is a very slight increase in Au and Ag values, this may be due to mineralized material falling from open stopes above as these trenches are under Block 3 area of the mine.

Trenches under “BLOCK 3” calculated by CRM in 1959:

**CRM:** M161, M162, M163, M164 and M165.

**SGM:** 1, 2, 3, and 4.

**VANGOLD:** F1, F2, F3 and F4.

**Table 12 Locations of the Vangold 2017 Trenches (Associated Figure 7 and Figure 8)**

<b>TRENCH #</b>	<b>LONG</b>	<b>SAMPLES</b>	<b>DIRECTION</b>
1	12.0 meters	F-052, F-053, F-054, F-055	Southwest to northeast
2	10.5 meters	F-049, F-050, F-051	Southwest to northeast
3	7.5 meters	F-046, F-047, F-048	Southwest to northeast
4	14.0 meters	F-041, F-042, F-043, F-44, F-45	Southwest to northeast
6	6.6 meters	F-038, F-039, F-040	Southwest to northeast
7	3.2 meters	F-036, F-037	Southwest to northeast
8	2.6 meters	F-034, F-035	Southwest to northeast
9	7 meters	F-029, F-030, F-031, F-32, F-33	Southwest to northeast
10	8.8 meters	F-025, F-026, F-027, F-28	Southwest to northeast
11	6 meters	F-022, F-023, F-024	Southwest to northeast
13	9.0 meters	F-014, F-015, F-016	Southwest to northeast
14	5.0 meters	F-012, F-013	Southwest to northeast
15	7.5 meters	F-009, F-010, F-011	Southwest to northeast
16	4.0 meters	F-007, F-008	Southwest to northeast
17	5.5 meters	F-005, F-006	Southwest to northeast
18	4.0 meters	F-003, F-004	Southwest to northeast
19	4.0 meters	F-001, F-002	Southwest to northeast



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<b>TRENCH #</b>	<b>LONG</b>	<b>SAMPLES</b>	<b>DIRECTION</b>
16-A	4.7 meters	F-064, F-065, F-066	Southwest to northeast
17-A	2.0 meters	F-062, F-063	Southwest to northeast
18-A	4.4 meters	F-060, F-061	Southwest to northeast



Figure 7 Stockpile Longsection

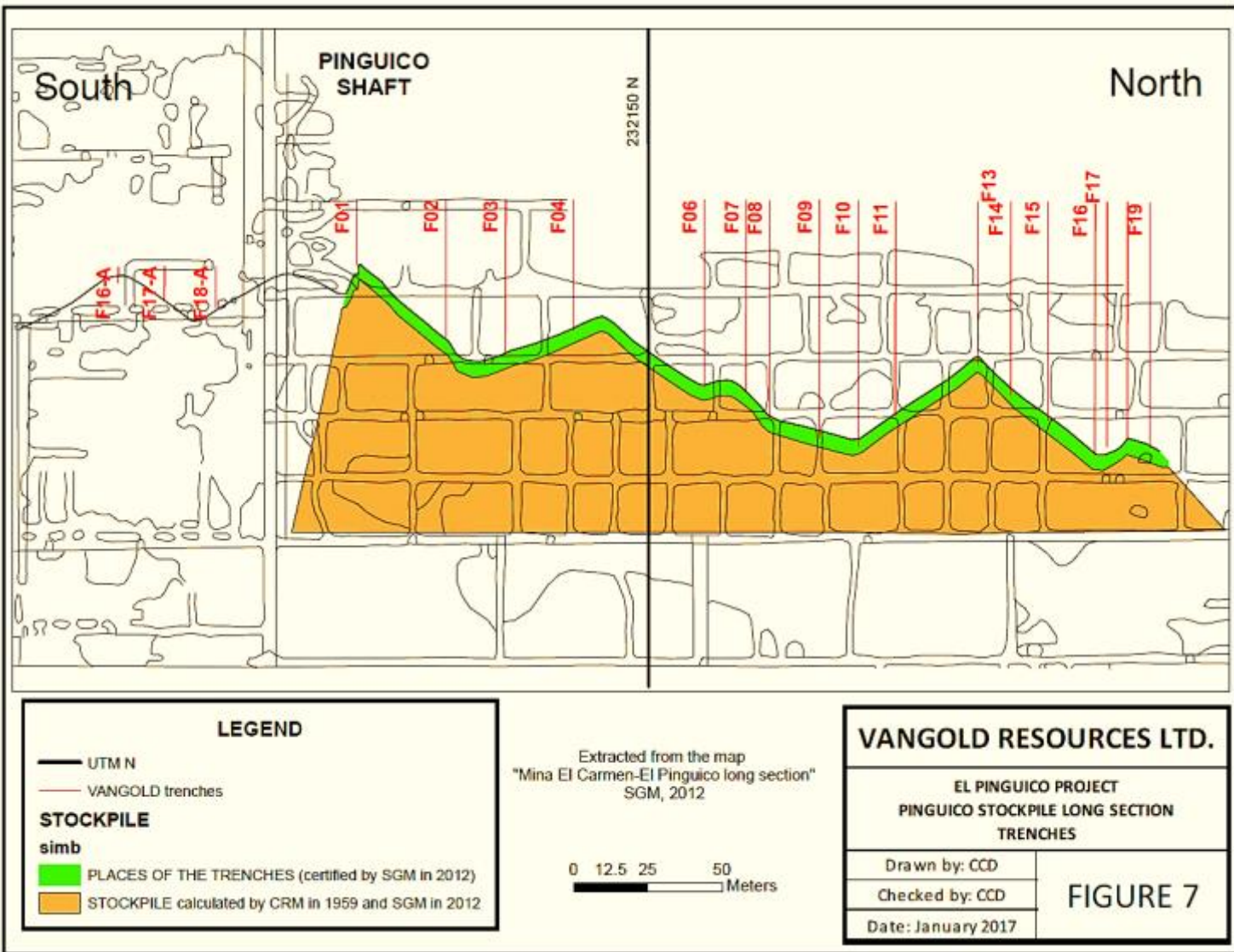
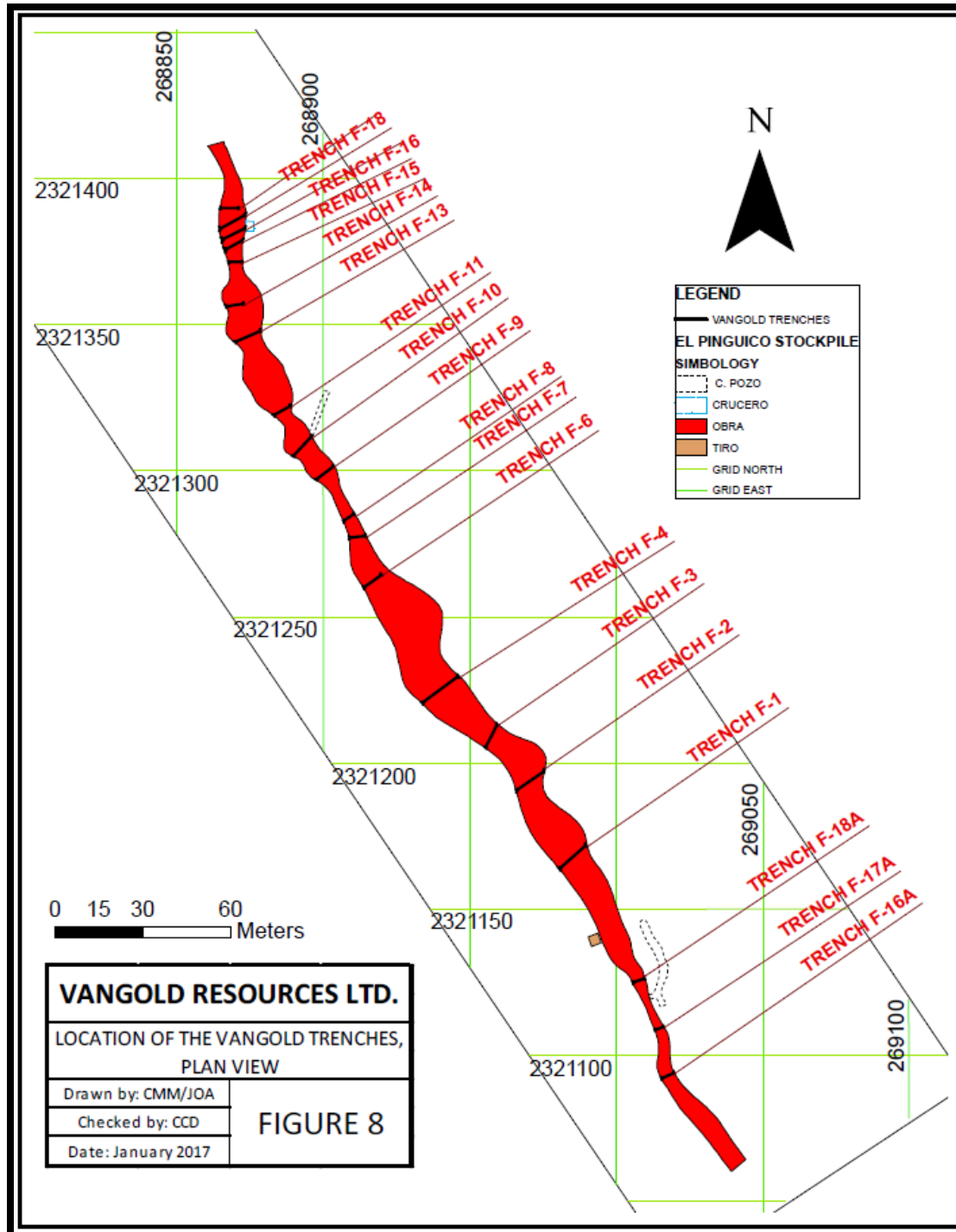


Figure 8 Location of the 2017 Vangold Trenches on the Underground Stockpile

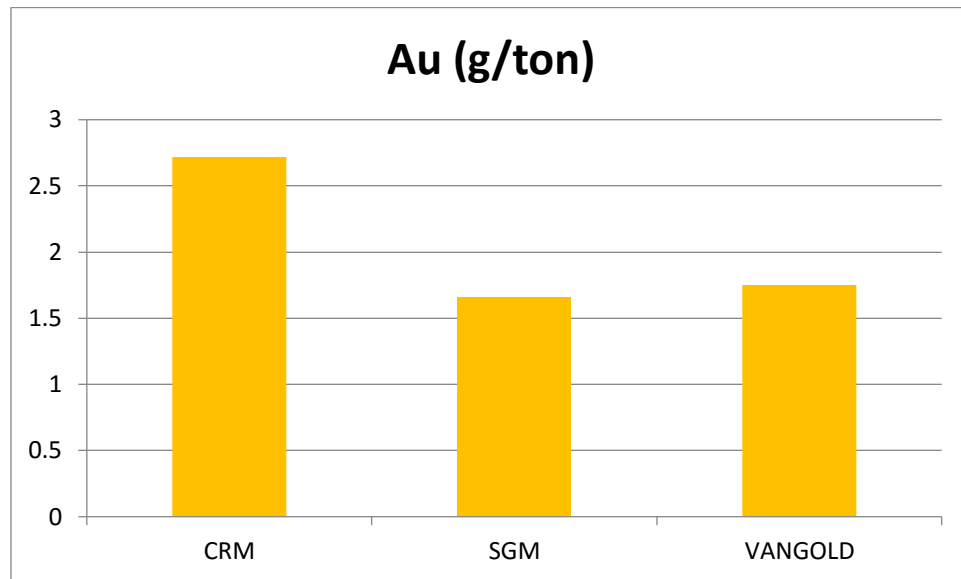


**Table 13 Assay Results for 2017 Trench Samples (Samples Collected by the Author) from El Pinguico Underground Stockpile**

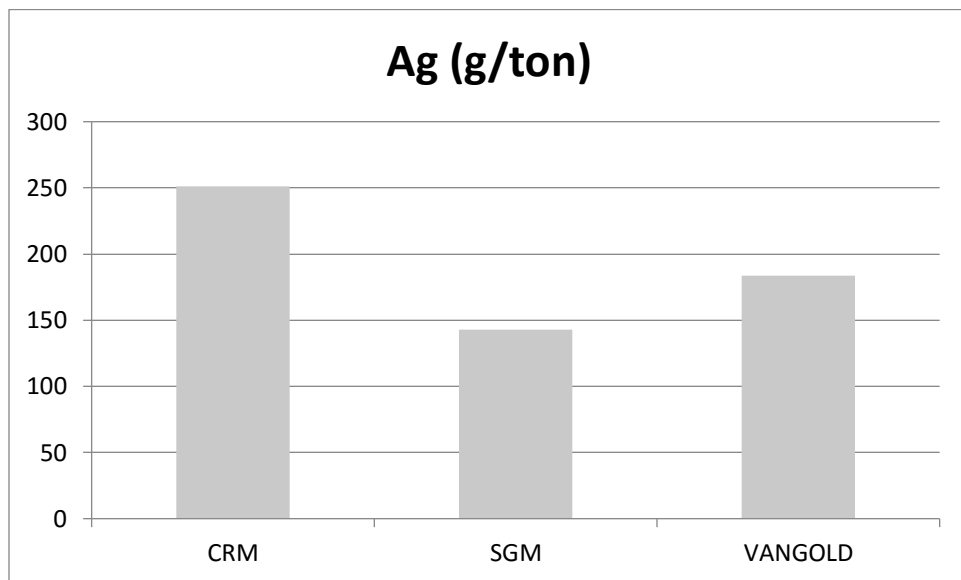
GENERAL MIDDLE VALUES OF THE EL PINGUICO STOCKPILE					MIDDLE VALUES PER TRENCH		
TRENCH	SAMPLE	WIDTH (m)	Au (gr/ton)	Ag (gr/ton)	WIDTH (m)	Au (gr/ton)	Ag (gr/ton)
1	F-052	4.00	1.145	20	12.00	1.14	60.10
	STANDARD						
	F-054	4.00	1.005	27.3			
	F-055	4.00	1.27	133			
2	F-049	3.50	0.672	49	10.50	0.63	66.97
	F-050	3.50	0.304	32.9			
	F-051	3.50	0.902	119			
3	F-046	2.50	2.45	226	7.50	2.08	194.33
	F-047	2.50	1.855	182			
	F-048	2.50	1.93	175			
4	F-041	3.50	0.816	87.4	14.00	1.57	147.08
	F-042	3.50	1.965	185			
	BLANK						
	F-044	3.50	2.66	242			
	F-045	3.50	0.832	73.9			
6	F-038	2.20	3.21	270	6.60	1.63	135.13
	F-039	2.20	0.662	60.5			
	F-040	2.20	1.02	74.9			
7	F-036	1.60	0.531	61.5	3.20	0.84	102.75
	F-037	1.60	1.14	144			
8	F-034	1.30	1.895	153	2.60	1.57	116.25
	F-035	1.30	1.24	79.5			
9	F-029	1.75	0.648	48.8	7.00	1.71	121.23
	F-030	1.75	0.736	70.1			
	F-031	1.75	1.65	144			
	F-032	1.75	3.79	222			
	STANDARD						
10	F-025	2.20	0.214	20.4	8.80	0.42	47.55
	F-026	2.20	0.403	30.5			
	F-027	2.20	0.596	73.5			
	F-028	2.20	0.451	65.8			

GENERAL MIDDLE VALUES OF THE EL PINGUICO STOCKPILE					MIDDLE VALUES PER TRENCH		
TRENCH	SAMPLE	WIDTH (m)	Au (gr/ton)	Ag (gr/ton)	WIDTH (m)	Au (gr/ton)	Ag (gr/ton)
11	F-022	2.00	1.08	207	6.00	1.21	173.67
	F-023	2.00	1.48	174			
	F-024	2.00	1.055	140			
13	F-014	3.00	1.895	186	9.00	1.16	108.20
	F-015	3.00	1.105	94.8			
	F-016	3.00	0.476	43.8			
14	F-012	2.50	1.3	146	5.00	1.32	132.50
	F-013	2.50	1.345	119			
15	F-009	3.75	1.015	118	7.50	1.00	100.55
	F-010	3.75	0.978	83.1			
	BLANK						
16	F-007	2.00	0.657	49.4	4.00	0.34	25.75
	F-008	2.00	0.021	2.1			
17	F-005	2.75	3.78	558	5.50	2.93	452.00
	F-006	2.75	2.08	346			
18	F-003	2.00	15.7	1475	4.00	10.73	1042.00
	F-004	2.00	5.75	609			
19	F-001	2.00	4.83	466	4.00	5.68	709.00
	F-002	2.00	6.52	952			
16-A	F-064	1.57	2.2	255	4.71	1.72	250.00
	F-065	1.57	1.47	216			
	F-066	1.57	1.495	279			
17-A	F-062	2.00	1.24	383	2.00	1.24	383.00
	F-063	STD	0.992	66.1			
18-A	F-060	2.20	1.135	131	4.40	1.95	194.50
	F-061	2.20	2.76	258			

**Figure 9 Comparative Graph Showing Averaged Gold Results for Underground Stockpile Sampling by CRM(1959), SGM (2012) AND VANGOLD (2017)**



**Figure 10 Comparative Graph Showing Averaged Silver Results for Underground Stockpile Sampling by CRM(1959), SGM (2012) AND VANGOLD (2017)**





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With the 2017 sampling program, Vangold has confirmed the assay data used by SGM in their 2012 study is reasonable and reproducible. Vangold will complete further study work on the underground stockpile to confirm the tonnage estimations in the historical estimate reports and assess the distribution of the grade within the stockpile material.



## **10.0 DRILLING**

No drilling has been carried out in El Pinguico Project.

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

The 2017 samples, were collected, recorded, bagged and sent by the author personally to the ALS Laboratory in Guadalajara for sample preparation. The gold, silver and multielement ICP analysis and specific gravity measurements were completed at the ALS laboratory in North Vancouver, Canada. ALS is an independent and globally commercial assay laboratory company that has ISO 17025:2005 certification for its laboratory analysis work.

Rock samples were fine crushed (70% passing a 2mm screen), pulverized (85% passing a 75 micron screen) and a pulp split separated for assaying by a riffle splitter. 30 gram portion of each sample was assayed for gold by standard fire assay and a 10 gram split was analysed for 35 elements by ICP method.

Twenty of these same samples were analysed for specific gravity on pulps using a pycnometer.

Standard Reference Material (SRM) were purchased from CDN Resource Laboratories Ltd. In Vanocuver, Canada and blank samples (Quaternary andesite, from Guanajuato) were inserted into the sample stream at a 5% insertion rate with pulped samples from the underground stockpile for quality control purposes. The results of the standards and blank samples were satisfactory as presented in **Table 14**.

**Table 14 Assay Results and Expected Value for Standard Reference Material and Blank Samples**

SAMPLE	TYPE	Au (ppm)	Ag (ppm)	Reference values for the standards Au (ppm)	Reference values for the standards Ag (ppm)
F-011	BLANK	0.007	0.5		
F-033	STANDARD	<b>0.861</b>	<b>67</b>	<b>0.896 g/t</b>	<b>64.7 g/t</b>
F-043	BLANK	0.016	1.5		
F-053	STANDARD	<b>0.463</b>	<b>38.4</b>	<b>0.452 g/t</b>	<b>38.2 g/t</b>





In the opinion of the author the sampling, sample preparation, security and analytical procedures were all completed to a reliable standard.

## **12.0 DATA VERIFICATION**

The analytical data included in this report was taken from the ALS certificates addressed to VANGOLD and copied to the author. Through observation and sampling, the author has verified a set of data collected by FINDORE. The data was all collected with industry standard practices and assay results appear reasonable

The author personally supervised the sampling work of the underground stockpile, over four days on the project and is directly responsible for collection of samples from the underground stockpile at the mine in the El Pinguico zone.



### **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

No mineral processing nor metallurgical tests were conducted in the property.

### **14.0 MINERAL RESOURCES ESTIMATES**

No current mineral resource estimation has been conducted in the property.

## 15.0 ADJACENT PROPERTIES

The El Pinguico Mine is located approximately 2.5 km from Mina Las Torres, Fresnillo plc. and is located approximately 4.5 km from Endeavor Silver's El Cubo mine, where 3 mines feed a flotation plant that produces mineral concentrates (Figure 13).

The geology of El Cubo mine is low-sulphidation epithermal veins which are typically thousands of metres long, 400 metres deep, and 1 to 3 metres thick.

As reported in their 2017 report, "National Instrument 43-101 Technical Report: Updated Mineral Resource and Reserve Estimates for the El Cubo Project, Guanajuato State, Mexico", (Effective Date, December 31, 2017), their current resources and reserves are as follows,

**Figure 11 Mineral Resource Estimate for Endeavor Silver's El Cubo Mine, Effective date December 31, 2017 (Endeavor Silver, 2017)**

Classification	Tonnes	Silver Equivalent	Silver		Gold	
		g/t	g/t	oz.	g/t	oz.
Measured	213,000	414	192	1,318,500	3.13	21,400
Indicated	732,000	366	194	4,561,100	2.44	57,400
Measured + Indicated	945,000	377	194	5,879,600	2.60	78,800
Inferred	1,453,000	411	214	10,004,000	2.78	129,900

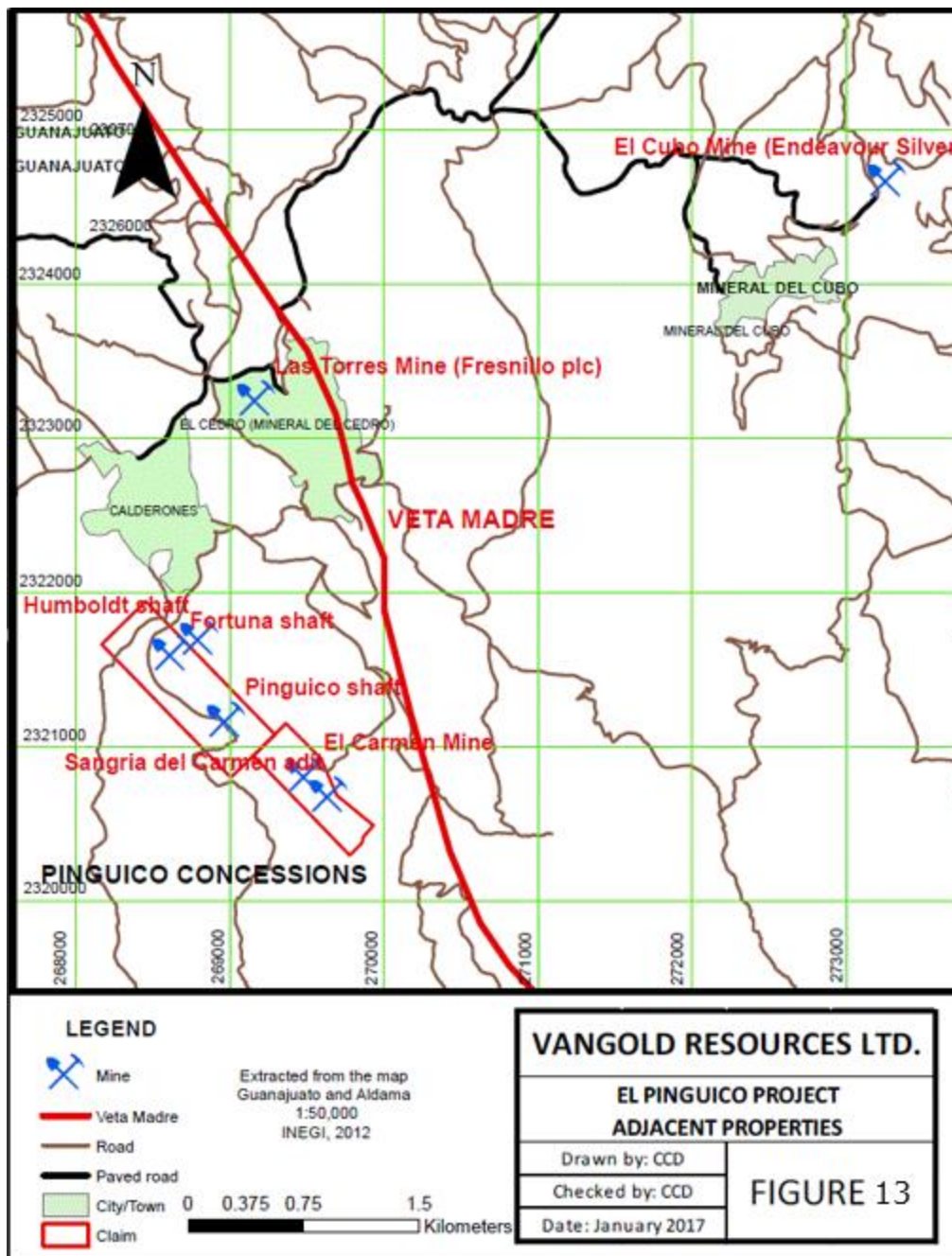
The author has been unable to verify the information and the information is not necessarily indicative of the mineralization on the property that is the subject of this technical report.

**Figure 12 Mineral Reserve Estimate for Endeavor Silver's El Cubo Mine, Effective date December 31, 2017 (Endeavor Silver, 2017)**

Classification	Tonnes (t x 1,000)	AgEq g/t	Ag g/t	Ag (oz) * 1,000	Au g/t	Au (oz) * 1,000	% Dilution
Proven	409.3	295	154	2,028.9	1.99	26.24	26%
Probable	452.7	280	159	2,311.1	1.71	24.85	33%
<b>Total Proven and Probable Reserves</b>	<b>861.9</b>	<b>287</b>	<b>157</b>	<b>4,340.0</b>	<b>1.84</b>	<b>51.09</b>	<b>30%</b>

The author has been unable to verify the information and the information is not necessarily indicative of the mineralization on the property that is the subject of this technical report.

Figure 13 Adjacent Properties





## **16.0 OTHER RELEVANT DATA AND INFORMATION**

The author is not aware of any other relevant material data and information that would result in misleading statements.

## **17.0 INTERPRETATION AND CONCLUSIONS**

Vangold Resources Ltd. signed an agreement with Exploraciones Mineras Del Bajío S.A. de C.V. to acquire the 100% interest of the El Pinguico Property, which contains two mining concessions of 71 Hectares.

The El Pinguico project has several mine workings with more than 10 other old workings within the property. The focus is currently on the El Pinguico-Carmen Mine, which has several vertical shafts: the Humboldt shaft of 397 meters depth, the Pinguico shaft of 283 meters, the Fortuna shaft of 303 meters, the El Centro shaft of 200 meters and the Carmencitas shaft of 61 meters. The mine is currently not in operation and has not been in operation since 1913 but access to the underground workings is available through the El Carmen adit on level 4.

Inside the El Pinguico-Carmen mine, there is a large underground stockpile in the area of the El Pinguico vein. Two Mexican government agencies have completed historical estimation studies (CRM in 1959 and SGM in 2012), and Vangold will undertake work programs to assess these Historical estimation results. The reports by CRM is not very detailed and there is little information available regarding their estimates. Vangold is of the opinion that these historical estimates present results that are encouraging enough for them to acquire the property but realize the studies are not to be relied upon and they are planning future work programs to assess the results from these studies.

In 1959, CRM completed a sampling program and a topographic survey of the stockpile. They reported historical estimates of 103,415 tonnes of stockpile material with an average grade of 2.72 g/t Au and 251 g/t Ag they classed in probable category. The CRM also made an estimation of insitu vein material and reported a historical estimate results of 4,921 tonnes with an average grade of 5.4 g/t Au and 424 g/t Ag into the probable category. The reports by CRM is not very detailed and there is little information available regarding the key assumptions, parameters and methods used for the estimates. CRM estimated the tonnages of the in situ veins using polygonal blocks but did not report the ranges of confidence for the blocks. The grades used in the estimate were obtained through channel sampling in stopes of the vein material. To assess the potential of the insitu vein material, Vangold should resample the areas outlined in the historical estimates area and plan a drill program to test the vein material beyond the underground workings. The CRM classified the historical estimates as probable reserves but due to the uncertainty associated with the

grade distributions beyond the vein exposures underground, the QP would not place them in this category using current CIM guidelines for Probable Mineral Reserves. The QP has not done sufficient work to classify the historical estimate as current mineral resources or reserves and Vangold is not treating the historical estimates as current mineral resources or reserves. Vangold will undertake future work to assess the potential in these areas.

Then in 2012, SGM completed an estimation of the same underground stockpile and reported finding 25,600 tonnes with an average grade of 1.667 g/t Au and 143 g/t Ag, in their "Certified" tonnage category and put 96,828 tonnes into their uncertified category. SGM classified the historical estimate into "certified" tonnes and grade for the top 5 m of the stockpile and only gave uncertified tonnage estimate for the remaining material with no grade estimated. SGM determined the grade of the top 5m of the stockpile through trench sampling of the material and estimated the tonnage by topographic survey and historical mine plans. SGM did not have confidence that the grade obtained in their trench sampling reflected the grade of the whole stockpile beyond a depth of 5m. SGM reported the tonnage of material below the 5m threshold but did not assign any grade to the tonnes. None of the categories of classification assigned by SGM comply with those set out in NI43-101 or CIM guidelines. The work that SGM completed to estimate the tonnage of the stockpile appear reasonable and likely reflect the amount of material in the stopes. The grade distribution throughout the whole of the stockpile needs to be verified before it can be applied to the whole of the tonnes available and qualify for current classification standards. The QP has not done sufficient work to classify the historical estimate as current mineral resources or reserves and Vangold is not treating the historical estimates as current mineral resources or reserves.

The QP accepts these two historical estimates as reasonable estimates of the tonnage of stockpile material available in the underground workings and recommends that Vangold undertake a study to further assess the distributions of the grade throughout the whole of the stockpile.

In 2017, VANGOLD hired Findore, the author's company, to resample the underground stockpile and assess the gold and silver values reported in the CRM (1959) and SGM (2012) reports. Vangold took these first steps to initiate a due diligence review of the historical estimates.

They gathered and analyzed 57 samples from the trenches on the stockpile. The results confirmed the grades found by SGM (2012) where Vangold's results averaged 1.75 g/t Au



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and 183.58 g/t Ag and SGMs averaged to 1.662 g/t Au and 143 g/t Ag. The oldest samples from the CRM (1959) study have much higher gold and silver values than SGM or Vangold with 2.72 g/t Au and 251 g/t Ag. It is the author's opinion the higher results may be due to rock slumps of waste rock from the walls of the mine. Vangold is pleased that the 2017 sampling program found similar results in gold and silver grades to the historical work and they will undertake further study work on the underground stockpile to review the tonnage estimations in the historical estimate reports and assess the distribution of the grade within the stockpile material

Due to the 2017 stockpile sampling results obtained by VANGOLD and since there has been no significant mineral extraction or exploration on the El Pinguico-Carmen Mine property since it was closed in 1913, the author considers the El Pinguico project has potential for hosting gold and silver mineralization and merits further exploration work. The property has been minimally explored in the past and there is no evidence of any drilling completed on the property. After Vangold completes their initial surface investigations of the property, including mapping, they will assess the potential for vein material in the mine and the parallel vein systems both along strike and at depth.

The author believes that the only risk or uncertainty that can be expected is that the trench samples do not necessarily demonstrate the grade of the whole stockpile.



## **18.0 RECOMMENDATIONS**

In 2017, Vangold was able to confirm the historical grades used to support the historical estimates. Now the company would like to continue this work of investigating the potential of the underground stockpile but also wants to gather all available data on the project into a project database and begin surface and underground investigations. There is a lot of information to gather and synthesize before the next phase of exploration can be planned. The mining on the project stopped in the early 1900s and there has been little exploration completed on the project, specifically there are no records of any drilling being done. After Vangold completes their initial surface investigations of the property, including mapping, they will assess the potential for vein material in the mine and the parallel vein systems both along strike and at depth.

Specifically the author recommends

**Phase 1:** exploration work that includes a basic surface exploration program:

- Analysis and interpretation of satellite images: This is for the possible location of any structures on the surface of the property, such veins or faults.
- Sampling the dump on the surface (rent a backhoe).
- Geochemical soil sampling: Make a geochemical grid of soil samples to locate possible areas of interest.
- Surface geological survey: Detailed mapping of lithological units (1:2,000 scale), alterations, structures and mineralization, all with their respective rock sampling.
- Data digitization: Integration of all the data taken in the field into a project database.
- Written Report to summarize the findings.

Total budget to complete Phase 1 program \$107,000.00 CAD per 45 days and includes 1 Mexican QP, 1 Mexican senior geologist, 1 junior geologist, cost of the assays, equipment rental, field assistants as required.



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Mexican taxes and others (In Mexico there is a sales tax called “Impuesto al Valor Agregado” I.V.A.) 16% of the Phase 1: \$17,120.00 CAD.

Labour	\$35,000.00
Equipment Rental	\$32,000.00
Sample Analysis Costs	\$40,000.00
Phase 1	\$107,000.00 CAD
I.V.A. Tax	<u>\$ 17,120.00 CAD</u>
TOTAL	\$ 124,120.00 CAD

Rounding this, we can have a general number for the costs:

**Total budget to complete Phase 1 program \$125,000.00 CAD**

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## **20.0 APPENDICES**

APPENDIX 1. CERTIFIED LABORATORY ANALYSES FOR THE SAMPLES COLLECTED  
IN THE STOCKPILE BY THE AUTHOR

Page: 1  
Total # Pages: 3 (A - C)  
Plus Appendix Pages  
Finalized Date: 2- FEB- 2017  
This copy reported on  
3- FEB- 2017  
Account: VGTORZPX

To: VAN GOLD  
USA

ALS Canada Ltd.  
2103 Dollarton Hwy  
North Vancouver BC V7H 0A7  
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218  
www.alsglobal.com



CERTIFICATE GU17010155

Project: EL PINGUICO

This report is for 57 Rock samples submitted to our lab in Guadalajara, JALISCO,  
Mexico on 19- JAN- 2017.

The following have access to data associated with this certificate:

CARLOS CHAM  
CAMERON KING

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
LOG- 24	Pulp Login - Rcd w/o BarCode
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP41	35 Element Aqua Regia ICP- AES	ICP- AES
Ag- OG46	Ore Grade Ag - Aqua Regia	ICP- AES
ME- OG46	Ore Grade Elements - AquaRegia	ICP- AES
Cu- OG46	Ore Grade Cu - Aqua Regia	ICP- AES
Zn- OG46	Ore Grade Zn - Aqua Regia	ICP- AES
OA- GRA08b	Specific Gravity for Pulps	WST- SIM
Au- AA23	Au 30g FA- AA Finish	AAS
Au- GRA21	Au 30g FA- GRAV Finish	WST- SIM

To: VAN GOLD  
ATTN: CARLOS CHAM  
USA

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.  
\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

Page: 2 - A  
Total # Pages: 3 (A - C)  
Plus Appendix Pages  
Finalized Date: 2- FEB- 2017  
Account: VGTORZPX

To: VAN GOLD  
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Project: EL PINGUICO

**CERTIFICATE OF ANALYSIS GU17010155**

Sample Description	Method Analyte Units LOR	ME-21 Rec'd Wt. kg	Au-AA23 Au ppm	Au-GRA21 Au ppm	ME-ICP41 Ag ppm	ME-ICP41 Al %	ME-ICP41 As ppm	ME-ICP41 B ppm	ME-ICP41 Ba ppm	ME-ICP41 Be ppm	ME-ICP41 Bi ppm	ME-ICP41 Ca %	ME-ICP41 Cd ppm	ME-ICP41 Co ppm	ME-ICP41 Cr ppm	ME-ICP41 Cu ppm
1		4.84	4.83	>100	>100	0.36	46	<10	80	0.6	<2	0.20	2.1	<1	5	36
2		3.62	6.52	>100	>100	0.36	35	<10	40	0.6	<2	0.08	1.1	<1	8	28
3		4.52	>10.0	>100	>100	0.36	51	<10	40	0.7	<2	0.10	5.7	1	7	142
4		3.86	5.75	>100	>100	0.37	53	<10	40	0.8	<2	0.08	2.3	1	5	77
5		4.64	3.78	>100	>100	0.32	32	<10	30	0.8	<2	0.09	1.4	1	8	36
6		4.30	2.08	>100	>100	0.21	17	<10	20	<0.5	<2	0.06	0.6	1	12	18
7		3.44	0.657	49.4	49.4	0.30	28	<10	20	0.5	<2	0.07	<0.5	<1	2	9
8		4.02	0.021	2.1	2.1	0.35	20	<10	20	0.5	<2	0.10	<0.5	1	1	3
9		3.74	1.015	>100	>100	0.25	36	<10	20	<0.5	<2	0.05	0.5	1	5	9
10		4.04	0.978	83.1	83.1	0.25	40	<10	30	<0.5	<2	0.05	0.5	<1	5	7
11		3.32	0.007	0.5	0.5	0.08	5	<10	40	<0.5	<2	>25.0	1.6	1	3	10
12		4.80	1.300	>100	>100	0.23	32	<10	20	<0.5	<2	0.27	0.8	1	4	26
13		5.20	1.345	>100	>100	0.27	28	<10	20	<0.5	<2	0.12	0.6	<1	5	14
14		4.44	1.895	>100	>100	0.29	34	<10	30	<0.5	<2	0.15	0.6	1	4	16
15		4.20	1.105	94.8	94.8	0.25	32	<10	20	<0.5	<2	0.11	<0.5	1	5	12
16		4.58	0.476	43.8	43.8	0.23	30	<10	30	<0.5	<2	0.07	<0.5	1	6	9
22		5.16	1.080	>100	>100	0.26	24	<10	20	<0.5	<2	0.08	0.7	1	4	17
23		5.02	1.480	>100	>100	0.29	25	<10	20	<0.5	<2	0.15	0.6	1	4	16
24		6.08	1.055	>100	>100	0.28	22	<10	20	<0.5	<2	0.14	0.5	1	3	13
25		5.02	0.214	20.4	20.4	0.31	44	<10	20	0.5	<2	0.08	<0.5	1	8	5
26		4.94	0.403	30.5	30.5	0.30	26	<10	20	<0.5	<2	0.10	<0.5	<1	3	9
27		5.10	0.596	73.5	73.5	0.30	21	<10	20	<0.5	<2	0.08	0.6	<1	3	13
28		4.64	0.451	65.8	65.8	0.30	15	<10	20	<0.5	<2	0.07	0.9	1	4	15
29		4.02	0.648	49.8	49.8	0.31	20	<10	20	0.5	<2	0.20	1.3	<1	3	18
30		3.94	0.736	70.1	70.1	0.29	24	<10	20	0.5	<2	0.24	0.9	1	3	14
31		3.38	1.650	>100	>100	0.29	21	<10	20	0.5	<2	0.17	0.7	<1	3	18
32		3.86	3.79	>100	>100	0.28	22	<10	20	0.5	<2	0.10	0.7	1	4	19
33		0.08	0.861	67.0	67.0	0.84	485	<10	10	<0.5	<2	1.16	206	16	23	5400
34		3.90	1.895	>100	>100	0.34	32	<10	20	0.6	<2	0.21	0.8	1	3	23
35		3.10	1.240	79.5	79.5	0.36	55	<10	30	0.7	<2	0.22	0.9	1	2	18
36		3.36	0.531	61.5	61.5	0.31	42	<10	20	0.5	<2	0.09	0.5	<1	3	10
37		3.56	1.140	>100	>100	0.33	62	<10	30	0.6	<2	0.24	0.7	1	3	20
38		3.96	3.21	>100	>100	0.48	159	<10	30	0.8	<2	0.20	2.1	<1	4	47
39		4.02	0.602	60.5	60.5	0.32	49	<10	20	0.5	<2	0.07	0.9	<1	5	13
40		4.18	1.020	74.9	74.9	0.29	53	<10	30	<0.5	<2	0.06	1.0	1	4	10
41		4.08	0.816	87.4	87.4	0.30	49	<10	20	0.5	<2	0.07	<0.5	<1	7	10
42		5.10	1.965	>100	>100	0.66	76	<10	20	1.0	<2	0.24	<0.5	1	5	17
43		3.16	0.016	1.5	1.5	0.08	2	<10	30	<0.5	<2	>25.0	1.1	<1	4	10
44		5.06	2.66	>100	>100	0.67	45	<10	30	1.2	<2	0.26	0.8	1	4	17
45		4.74	0.832	73.9	73.9	0.59	42	<10	60	1.1	<2	0.44	0.7	<1	3	12



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EL PINGUICO MINE  
GUANAJUATO, MX  
NI 43-101 TECHNICAL REPORT

Project: EL PINGUICO

minerals

CERTIFICATE OF ANALYSIS GU17010155

Sample Description	Method Analyte Units LOR	ME-ICP41 Fe %	ME-ICP41 Ca ppm	ME-ICP41 Hg ppm	ME-ICP41 K %	ME-ICP41 La ppm	ME-ICP41 Mg %	ME-ICP41 Mn ppm	ME-ICP41 Mo ppm	ME-ICP41 Na %	ME-ICP41 Ni ppm	ME-ICP41 P ppm	ME-ICP41 Pb ppm	ME-ICP41 S %	ME-ICP41 Sb ppm	ME-ICP41 Sc ppm
1		1.35	<10	3	0.27	10	0.04	663	<1	0.06	1	160	543	1.22	5	1
2		0.96	<10	3	0.21	10	0.04	662	<1	0.06	2	130	72	1.00	27	1
3		1.02	<10	2	0.24	10	0.04	459	1	0.08	2	160	218	1.02	63	1
4		0.94	<10	1	0.22	10	0.04	586	<1	0.07	2	170	91	0.98	23	1
5		0.98	<10	2	0.19	10	0.04	724	1	0.07	2	140	70	0.95	9	1
6		0.72	<10	1	0.19	10	0.01	159	<1	0.06	1	110	45	0.52	7	<1
7		0.50	<10	<1	0.20	10	0.02	138	<1	0.07	<1	150	28	0.38	2	<1
8		0.55	<10	1	0.22	10	0.02	161	1	0.08	1	190	19	0.37	3	<1
9		0.66	<10	<1	0.21	10	0.02	206	1	0.06	1	110	49	0.43	4	<1
10		0.81	<10	1	0.23	10	0.02	177	1	0.06	1	110	59	0.59	3	<1
11		0.29	<10	1	0.03	10	0.13	171	2	0.06	9	260	3	0.01	3	1
12		1.48	<10	1	0.19	10	0.03	1655	1	0.08	2	120	49	0.46	8	2
13		0.88	<10	1	0.22	10	0.03	608	<1	0.07	1	130	40	0.44	4	1
14		0.90	<10	2	0.23	10	0.02	312	<1	0.08	1	150	53	0.58	6	1
15		0.75	<10	1	0.21	10	0.02	174	<1	0.07	1	120	47	0.49	3	<1
16		0.61	<10	1	0.20	10	0.02	140	<1	0.07	1	110	33	0.40	2	<1
22		0.51	<10	<1	0.20	10	0.02	211	<1	0.07	1	120	33	0.29	9	<1
23		0.76	<10	1	0.22	10	0.03	388	1	0.08	2	150	37	0.42	6	1
24		0.69	<10	1	0.21	10	0.02	282	1	0.08	2	160	32	0.42	5	1
25		0.61	<10	<1	0.22	10	0.02	108	1	0.06	1	120	20	0.40	2	<1
26		0.68	<10	<1	0.21	10	0.03	242	4	0.09	2	140	25	0.38	2	1
27		0.65	<10	1	0.20	10	0.03	258	3	0.09	2	130	26	0.35	4	<1
28		0.61	<10	1	0.19	10	0.03	247	1	0.09	1	130	27	0.25	4	<1
29		0.86	<10	1	0.23	10	0.03	266	2	0.08	1	190	37	0.65	2	1
30		0.87	<10	1	0.21	10	0.03	274	2	0.08	1	210	46	0.63	4	1
31		0.70	<10	1	0.21	10	0.03	177	1	0.08	1	160	38	0.43	3	<1
32		0.67	<10	<1	0.21	10	0.02	129	1	0.07	1	120	35	0.38	3	<1
33		9.01	10	8	0.08	10	0.66	410	21	0.06	46	470	6160	>10.0	95	3
34		0.74	<10	1	0.21	10	0.03	169	1	0.08	1	190	59	0.46	8	1
35		0.86	<10	2	0.26	20	0.06	342	1	0.10	2	420	66	0.67	5	1
36		0.62	<10	1	0.22	10	0.03	204	<1	0.08	1	200	39	0.44	3	1
37		0.90	<10	2	0.21	10	0.04	296	<1	0.08	2	400	74	0.73	9	1
38		1.40	<10	1	0.22	20	0.04	482	10	0.08	1	180	359	1.07	16	1
39		0.76	<10	1	0.21	10	0.02	205	4	0.09	1	120	74	0.42	5	1
40		0.72	<10	1	0.23	10	0.02	124	2	0.09	1	110	79	0.48	4	<1
41		0.92	<10	1	0.17	10	0.03	543	2	0.08	1	100	36	0.38	3	1
42		1.26	<10	1	0.10	10	0.04	255	2	0.08	2	180	60	0.81	7	2
43		0.31	<10	1	0.03	10	0.13	170	2	0.05	8	290	2	0.02	<2	1
44		0.96	<10	1	0.23	10	0.03	91	1	0.10	2	190	63	0.70	7	2
45		0.96	<10	1	0.26	10	0.03	59	<1	0.08	1	300	71	0.78	2	2



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EL PINGUICO MINE  
GUANAJUATO, MX  
NI 43-101 TECHNICAL REPORT

Project: EL PINGUICO

Minerals

CERTIFICATE OF ANALYSIS GU17010155

Sample Description	Method Analyte Units LOR	ME-ICP41 Sr ppm	ME-ICP41 Th ppm	ME-ICP41 Ti %	ME-ICP41 Ti ppm	ME-ICP41 U ppm	ME-ICP41 V ppm	ME-ICP41 W ppm	ME-ICP41 Zn ppm	Ag-OC46 Ag ppm	Cu-OC46 Cu %	Zn-OC46 Zn %	OA-GRA08b S.C. Unit/ty
1		17	<20	<0.01	<10	<10	5	<10	168	466	0.001	0.001	2.75
2		9	<20	<0.01	<10	10	4	<10	201	952			2.58
3		12	<20	<0.01	<10	10	5	<10	438	1475			2.60
4		9	<20	<0.01	<10	20	5	<10	188	609			
5		9	<20	<0.01	<10	<10	3	<10	134	558			
6		7	<20	<0.01	<10	<10	2	<10	85	346			2.54
7		12	<20	<0.01	<10	<10	2	<10	25				2.66
8		16	<20	<0.01	<10	<10	2	<10	18				
9		6	<20	<0.01	<10	<10	2	<10	41	118			
10		7	<20	<0.01	<10	<10	2	<10	52				
11		325	<20	<0.01	<10	<10	26	<10	59				2.71
12		15	<20	<0.01	<10	<10	4	<10	55	146			2.55
13		11	<20	<0.01	<10	<10	3	<10	53	119			
14		17	<20	<0.01	<10	<10	4	<10	67	186			
15		9	<20	<0.01	<10	<10	3	<10	47				
16		7	<20	<0.01	<10	<10	2	<10	41				2.53
22		9	<20	<0.01	<10	<10	3	<10	36	207			
23		15	<20	<0.01	<10	<10	4	<10	35	174			
24		23	<20	<0.01	<10	<10	3	<10	29	140			
25		10	<20	<0.01	<10	<10	2	<10	30				2.44
26		11	<20	<0.01	<10	<10	2	<10	48				2.40
27		10	<20	<0.01	<10	<10	2	<10	50				
28		10	<20	<0.01	<10	<10	2	<10	54				
29		23	<20	<0.01	<10	<10	3	<10	128				
30		25	<20	<0.01	<10	<10	2	<10	82				
31		18	<20	<0.01	<10	<10	3	<10	65	144			
32		12	<20	<0.01	<10	<10	2	<10	64	222			
33		37	<20	0.06	10	<10	35	10	>10000			3.84	
34		24	<20	<0.01	<10	<10	3	<10	107	153			2.53
35		24	<20	<0.01	<10	<10	4	<10	150				
36		12	<20	<0.01	<10	<10	3	<10	99				2.53
37		28	<20	<0.01	<10	<10	4	<10	137	144			
38		21	<20	<0.01	<10	<10	3	<10	326	270			2.52
39		11	<20	<0.01	<10	<10	3	<10	133				
40		9	<20	<0.01	<10	<10	3	<10	149				
41		10	<20	<0.01	<10	<10	3	<10	60				2.56
42		31	<20	<0.01	<10	<10	5	<10	71	185			
43		315	<20	<0.01	<10	<10	26	<10	57				
44		29	<20	<0.01	<10	<10	6	<10	75	242			
45		44	<20	<0.01	<10	<10	6	<10	83				





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CERTIFICATE OF ANALYSIS

GU17010155

Method  
Analyte  
Units  
LOR

Sample Description

WE-21 Recvd Wt. kg	Au-AA23 Au ppm	Au-GR21 Au ppm	ME-ICP41 Ag ppm	ME-ICP41 Al %	ME-ICP41 As ppm	ME-ICP41 B ppm	ME-ICP41 Ba ppm	ME-ICP41 Be ppm	ME-ICP41 Bi ppm	ME-ICP41 Ca %	ME-ICP41 Cd ppm	ME-ICP41 Co ppm	ME-ICP41 Cr ppm	ME-ICP41 Cu ppm
5.28	2.45		>100	0.51	44	<10	20	1.1	<2	0.21	0.8	<1	5	27
4.64	1.855		>100	0.78	38	<10	20	1.5	<2	0.20	0.7	1	4	21
6.04	1.930		>100	0.85	41	<10	20	1.6	<2	0.21	0.7	1	12	21
4.48	0.672		49.0	0.73	64	<10	20	1.7	<2	0.22	0.8	1	4	18
5.38	0.304		32.9	0.43	31	<10	20	0.8	<2	0.08	0.5	1	4	8
3.76	0.902		>100	0.62	53	<10	20	1.1	<2	0.18	0.5	<1	4	12
3.48	1.145		20.0	0.89	59	<10	50	2.3	2	0.47	1.1	2	3	19
0.08	0.463		38.4	0.76	142	10	10	<0.5	51	0.46	214	176	41	>10000
4.56	1.005		27.3	0.77	86	<10	60	1.7	2	0.27	0.9	<1	2	33
5.10	1.270		>100	0.39	11	<10	30	0.9	<2	0.10	0.7	<1	4	18
4.24	1.135		>100	0.41	24	<10	40	0.8	<2	0.09	<0.5	<1	4	18
4.28	2.76		>100	0.56	20	<10	60	1.2	<2	0.10	<0.5	<1	5	16
4.18	1.240		>100	0.29	20	<10	20	0.8	<2	0.05	1.4	1	7	36
0.06	0.982		66.1	0.83	481	<10	10	<0.5	27	1.15	204	15	22	5340
4.42	2.20		>100	0.29	27	<10	30	0.8	<2	0.08	0.6	<1	4	19
2.94	1.470		>100	0.30	23	<10	20	<0.5	<2	0.10	0.5	1	4	21
4.82	1.495		>100	0.28	19	<10	50	0.7	<2	0.07	<0.5	1	8	23



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Sample Description	Method Analyte Units LOR	ME- ICP41 Fe %	ME- ICP41 Ga ppm	ME- ICP41 Hg ppm	ME- ICP41 K %	ME- ICP41 La ppm	ME- ICP41 Mg %	ME- ICP41 Mn ppm	ME- ICP41 Mo ppm	ME- ICP41 Na %	ME- ICP41 Ni ppm	ME- ICP41 P ppm	ME- ICP41 Pb ppm	ME- ICP41 S %	ME- ICP41 Sb ppm	ME- ICP41 Sc ppm
		0.01	10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1
46		1.18	<10	1	0.20	10	0.04	817	1	0.09	2	150	64	0.70	9	2
47		0.90	<10	1	0.23	10	0.04	225	1	0.08	2	150	47	0.67	4	2
48		0.88	<10	2	0.22	10	0.04	166	1	0.06	2	180	51	0.76	7	2
49		1.33	<10	2	0.22	10	0.07	1445	1	0.10	2	190	44	0.78	6	2
50		0.70	<10	1	0.23	10	0.03	350	1	0.07	2	150	18	0.45	2	1
51		0.94	<10	1	0.25	10	0.03	220	<1	0.11	2	230	34	0.75	2	1
52		1.14	<10	2	0.26	30	0.08	282	1	0.11	4	180	106	0.92	4	4
53		17.75	10	14	0.15	10	0.51	676	32	0.04	49	220	6310	>10.0	23	1
54		1.54	<10	2	0.25	30	0.04	104	1	0.10	2	210	138	0.22	3	3
55		0.57	<10	1	0.21	10	0.02	44	<1	0.09	1	70	50	0.17	<2	1
60		0.62	<10	1	0.19	10	0.03	119	1	0.08	1	60	31	0.20	2	1
61		0.73	<10	1	0.20	10	0.04	186	1	0.08	1	80	19	0.03	3	2
62		0.55	<10	1	0.18	10	0.02	57	1	0.07	1	50	32	0.14	7	<1
63		8.91	10	8	0.08	10	0.65	403	20	0.06	45	470	6100	>10.0	88	3
64		0.63	<10	1	0.17	10	0.02	91	<1	0.09	1	80	40	0.23	7	<1
65		0.50	<10	1	0.15	10	0.03	116	<1	0.07	2	110	24	0.24	6	<1
66		0.58	<10	1	0.19	10	0.02	64	1	0.08	1	70	33	0.18	6	<1

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**CERTIFICATE OF ANALYSIS GU17010155**

Sample Description	Method Analyte Units LOR	ME- ICP41 Sr ppm 1	ME- ICP41 Th ppm 20	ME- ICP41 Ti % 0.01	ME- ICP41 Ti ppm 10	ME- ICP41 U ppm 10	ME- ICP41 V ppm 1	ME- ICP41 W ppm 10	ME- ICP41 Zn ppm 2	Ag- OG46 Ag ppm 1	Cu- OG46 Cu % 0.001	Zn- OG46 Zn % 0.001	OA- GRA08b S.G. Unity 0.01
46		23	<20	<0.01	<10	<10	4	<10	134	226			2.57
47		25	<20	<0.01	<10	<10	5	<10	96	182			
48		27	<20	<0.01	<10	<10	6	<10	96	175			
49		28	<20	<0.01	<10	10	5	<10	161				2.52
50		11	<20	<0.01	<10	<10	3	<10	72				
51		24	<20	<0.01	<10	<10	5	<10	94	119			
52		75	<20	<0.01	<10	10	9	<10	208				
53		15	<20	0.03	<10	<10	18	10	>10000		1.365	7.11	
54		60	<20	<0.01	<10	<10	9	<10	149				2.54
55		25	<20	<0.01	<10	<10	4	<10	57	133			
60		17	<20	<0.01	<10	<10	6	<10	52	131			2.47
61		16	<20	<0.01	<10	<10	5	<10	44	258			
62		11	<20	<0.01	<10	<10	5	<10	55	383			2.52
63		37	<20	0.06	10	<10	35	10	>10000			3.87	
64		13	<20	<0.01	<10	<10	3	<10	91	255			2.74
65		12	<20	<0.01	<10	<10	2	<10	50	216			
66		12	<20	<0.01	<10	<10	3	<10	66	279			



EL PINGUICO MINE  
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USA

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Finalized Date: 2- FEB- 2017  
Account: VGTORZPX

Project: EL PINGUICO

CERTIFICATE OF ANALYSIS		GUI7010155
CERTIFICATE COMMENTS		
Applies to Method:	<b>LABORATORY ADDRESSES</b>  Processed at ALS Guadalajara located at Jazmin 1140, e/R. Michel y Amapola, Sector Reforma Colonia San Carlos, Guadalajara, JALISCO, Mexico. CRU- 31 PUL- 31  Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada. Ag- OG46 ME- ICP41	
Applies to Method:	LOG- 22 SPL- 21  LOG- 24 WEI- 21  Cu- OG46 Zn- OG46	



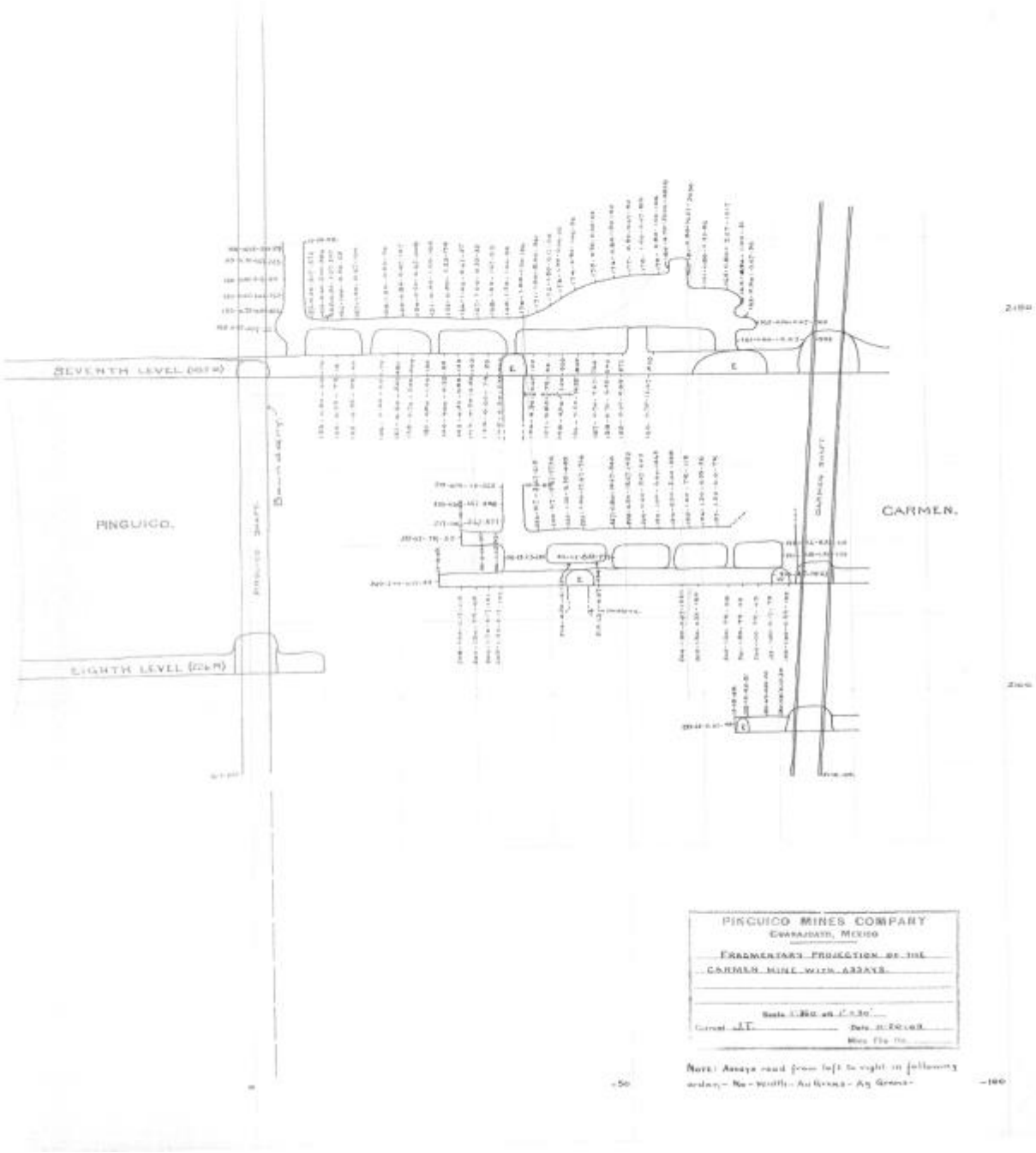
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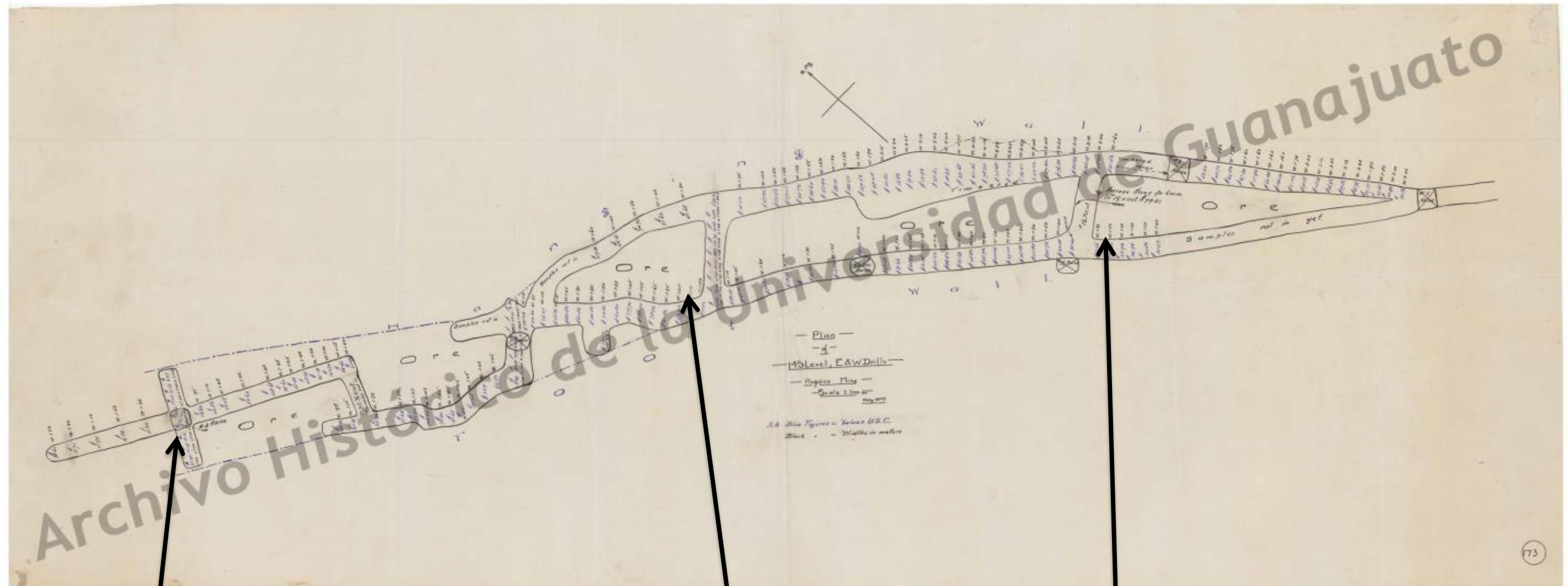
APPENDIX 2. FRAGMENTARY PROJECTION OF THE CARMEN MINE WITH ASSAYS (LEVELS 7, 8, PINGUICO MINE COMPANY, 1909)

NOTE: Assays read from left to right in following order: No. – Width – Au grams – Ag grams



APPENDIX 3. PINGUICO MINE, PLAN OF 145 LEVEL WITH ASSAYS (HISTORICAL ARCHIVE OF THE UNIVERSIDAD DE GUANAJUATO, 1907)

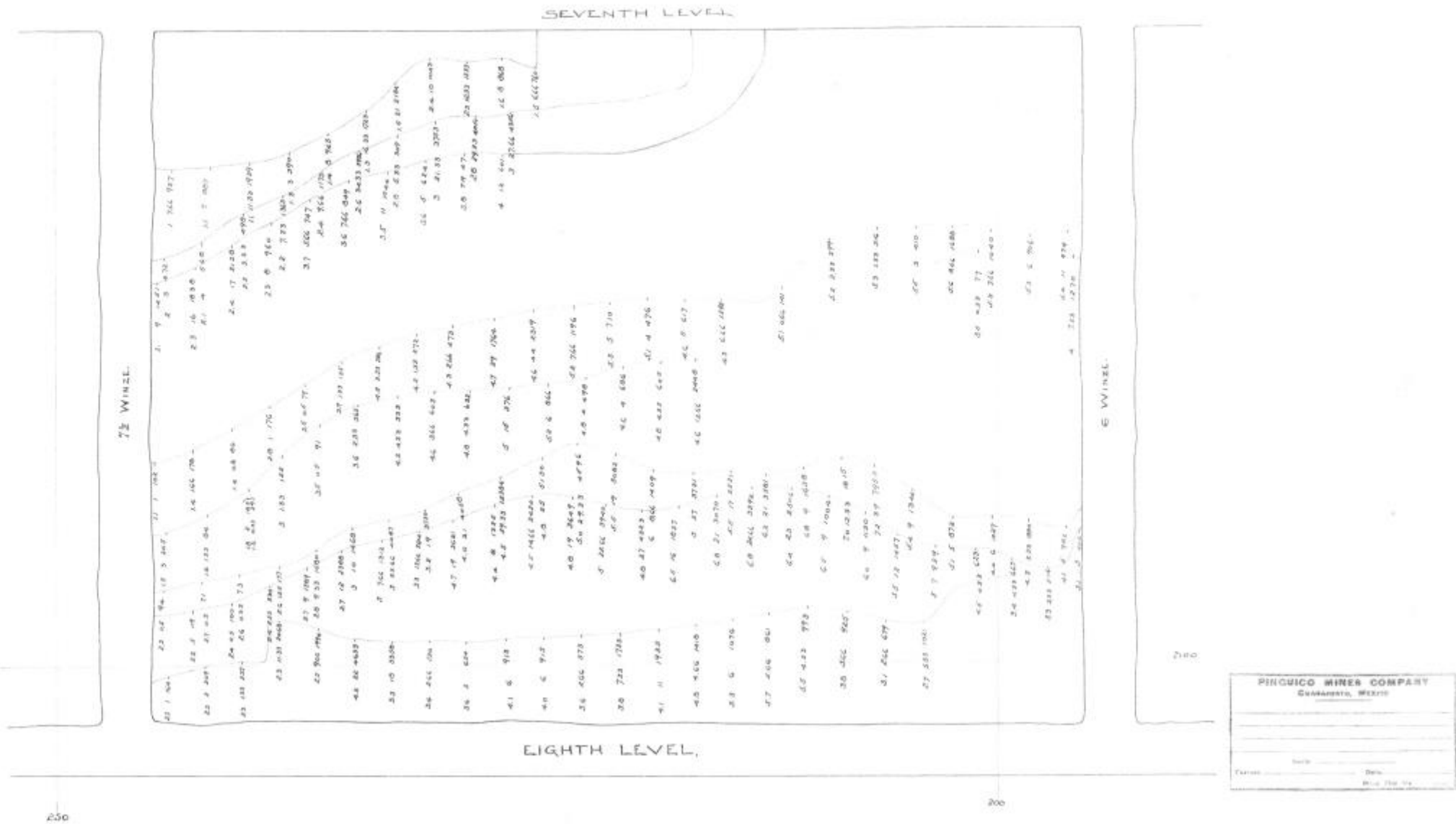
NOTE: blue figures = values U.S.C., black = widths in meters





APPENDIX 4. LONGITUDINAL STOPE SHOWING VALUES BETWEEN LEVELS 7 AND 8 (HISTORICAL MAP OF PINGUICO MINES COMPANY, BETWEEN 1906 AND 1907).

NOTE: The numbers in the map are shown in groups of three, the first number is the width, the second is the value of gold and the third is the value of the silver.





**APPENDIX 5.**



**APPENDIX 6.**

**APPENDIX 7.**

## APPENDIX 8.