

**RESERVES AND RESOURCES IN THE  
SAN MARTIN MINE, MEXICO  
AS OF JULY 31, 2014**

**FOR  
STARCORE INTERNATIONAL MINES LTD.**

October 6, 2014

prepared by

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## **1. SUMMARY**

Starcore International Mines Ltd. (“Starcore”) estimates the reserves and resources for the San Martin mine effective as of July 31 of each year to match its fiscal year. Mine personnel have prepared this report under the direction of David R. Gunning P. Eng, and the results of this work was modified and verified by Joseph W. Campbell P. Geo. in compliance with National Instrument 43-101 (“NI 43-101”) on the San Martin Project in the State of Querétaro, Mexico. Mr. Gunning is the Chief Operating Officer and a Director of Starcore and is a Qualified Person (“QP”) as defined by NI 43-101. Mr. Campbell is an independent QP as defined by NI 43-101. While relying on mine staff and other experts for information contained in this report, particularly Oscar Zarate, Chief Geologist at the San Martin Mine who is not independent and not qualified as a QP under NI 43-101, Mr. Gunning and Mr. Campbell take full responsibility for all aspects of this report. This report follows previous reports by Mr. Gunning in 2013 and earlier reports co-written with Mr. Joe Campbell P. Geo. for the reserves as of July 31<sup>st</sup>, 2011 and by Mr. Campbell as of July 31<sup>st</sup>, 2012.

Starcore acquired the San Martin Mine (“San Martin”) from Goldcorp Inc. (“Goldcorp”) in February 2007. Goldcorp is a Canadian mining company listed on both Canadian and United States Stock Exchanges. Goldcorp acquired the San Martin Project in February 2005 with the take-over of Wheaton River Minerals Ltd., who had acquired San Martin in the take-over in 2002 of the Mexican mining company Minas Luismin S.A. de C.V. (“Luismin”). San Martin is owned and operated by Compañía Minera Peña de Bernal, S.A. de C.V., a wholly owned subsidiary of Starcore.

The project is located northwest of Mexico City, some 50 km east of the City of Querétaro, in the State of Querétaro (Figure 1). The mine is near the towns of Tequisquiapan and Ezequiel Montes, and is immediately to the north of the town of San Martin, which has a population of approximately 2,000. Compañía Minera Peña de Bernal S.A. de C.V., a wholly owned Starcore subsidiary, holds the mining concessions covering 12,992 ha at San Martin (Figure 2). The lease and land status information on San Martin and the information as reported herein was subject to a legal title report by RB abogados of Mexico City (July 19, 2012) and found to be in good standing until at least the year 2041, subject to payment of applicable taxes and royalties. Previous authors accepted this report as evidence of property ownership by Starcore International Mines Ltd and property tax payments have been made as of the date of this report.

The San Martin Project presently consists of two underground mines, San José and San Martin. The San Martin deposit/mine is approximately 700 m NNE of the San José deposit/mine and lies predominantly below claims 1, 2, 4, and 5, shown in the table on page 15 and in Figure 2 (page 16). One 63 hectare parcel of surface rights is a part of the property, known as “Terrenos” that cover the offices and mine entrance. The rest of the property is overlain by surface rights rented from individuals and an ejido (common land) based in the town of San Martin.

The infrastructure at San Martin is typical of a small mining operation and the site includes mine offices, repair shops, laboratory, warehouse and eating facilities for mine personnel (Figure 3). The mine and mill are connected to the electric grid and the mine produces more than enough water for milling operations. Electrical power is supplied by the Federal Power Commission however the mine has a secondary electricity generating system with at least 500kW capacity to supply power to the mill during a power failure and during the peak supply times when prices are higher.

The deposit was discovered in the eighteenth century and high grade mineralization reportedly was exploited by the Spaniards for approximately 40 years, however no production records exist. The first records show the Ajuchitlan Mining and Milling Company produced an estimated 250 thousand tonnes at a grade of 15 g Au/t and 100 g Ag/t during 1900 to 1924.

In 1982, Mexico declared a 6,300 ha National Reserve over the area surrounding the Peña de Bernal but by 1986 Luismin had reached an agreement to work in the National Reserve and initiated an exploration program in 1988.

Mining began in 1993 at 300 tpd, and in early 1994, production began from open pit operations on the San José deposit. The table below illustrates production for the period 1994 to July 2014.

**SAN MARTIN MINE, HISTORIC PRODUCTION (1994 to July 31<sup>st</sup> 2014)**

Year	Historic Annual Production oz. Eq. Au	Tonnes	Grade	
			Au (g/t)	Ag (g/t)
1993	1,707	-	-	-
1994	14,298	134,118	3.19	35
1995	17,068	146,774	3.54	39
1996	21,620	187,691	3.40	44
1997	24,570	219,827	3.27	43
1998	27,539	224,279	3.45	50
1999	29,624	242,295	3.46	46
2000	35,571	284,490	3.60	55
2001	38,068	287,520	3.74	66
2002	41,124	268,451	4.26	71
2003	42,692	276,481	4.29	82
2004	44,377	272,734	4.47	83
2005	38,543	282,392	3.89	65
2006	26,529	278,914	3.20	60
2007	29,606	252,400	3.34	49
2008	21,367	266,600	2.50	32
2009	21,696	272,856	2.44	33
2010	18,156	275,290	2.03	31
2011	23,736	296,845	2.14	38
2012	19,213	309,796	2.09	25
2013	24,424	306,941	2.58	24
Jan-July 2014	13,016	179,662	2.39	24
<b>TOTAL</b>	<b>574,544</b>	<b>5,266,356</b>		

The San Jose open pit operated for several years until the operation made the transition to the mining of the relatively higher grade “manto” style orebodies found near the contact with the dacite flows and the underlying rocks. In the year 2000 the operation began mining some of the steeply dipping vein structures known as tronco deposits. Over the last 14 years that mining has at times been predominantly from tronco deposits.

Over the period August 1, 2013 to July 31, 2014 the mine operated at an average 846 tpd using mechanized mining equipment such as single boom jumbos, 3.5 yard scooptrams and 10 to 20 tonne haulage trucks. Conventional jackleg drills are still used in some of the mine headings.

The mineralization at San Martin occurs in a tabular breccia zone striking northeast and dipping 50° to 90°SE (Figure 4 shows the mine workings along with the local geology). It occurs within Upper Cretaceous black limestones and calcareous shales of the Soyatal Mexcala Formation and varies in width from 1 to 17 m but averages about 4 m (Figure 5). The breccia zone appears in a structural window on the western hillside which is composed primarily of a Tertiary Rhyolite/Dacite.

The San Martin zone appears to predate the late stage Tertiary dacitic flows which cover the local hillsides but may be related to andesitic intrusive which form the Peña de Bernal and have been seen in the deepest San Jose workings. The most developed area of the mine, the San Martin area, has developed 400 meters down dip along a breccia structure formed at the location where older limestones have been thrust upon younger shales.

To the north other predominantly manto deposits have been found along a more northerly direction over several kilometres. The San Jose I, San Martin, and 28 orebodies seem to share the northeasterly strike whereas the San Jose II, 29, 30 and 31 orebodies have a more northerly strike. Post-mineral faulting has resulted in vertical offsets up to 100 m and horizontal offsets to 500 m along several major faults which form the boundaries for the named orebodies or areas.

The deposit has been described as an epithermal, probably a low sulphidation precious metal (Ag-Au) type, related to a Tertiary dacitic/andesite dome. Recent work has failed to locate a postulated dome and mineralization in the troncos may be more mesothermal or fault related.

Mineralization occurs as native gold, electrum, naumannite ( $\text{Ag}_2\text{Se}$ ) and argentojarosite ( $\text{AgFe}_3(\text{SO}_4)_2(\text{OH})_6$ ) associated principally with quartz and lesser calcite. The silver contained in argentojarosite is not recoverable with cyanidation.

It appears that the northeast trending San Martin breccias tronco is related to a thrust fault of limestone upon the younger shales (Rankin 2008). The structure varies in dip from 45 degrees in the lower levels to 70 degrees in the upper levels. Above Level 1 the tronco flattens to the manto deposits which tend to occur along the limestone/shale contact overlain by dacite and rhyolite flows above. This is similar to the structure present in the San Jose deposit except that in the latter case the mantos appear to have been eroded as there are no dacitic rocks capping the limestones. A general mine plan and section is shown as Figure 6. In 2012, a flat lying wide zone of stockwork and vein structures was discovered in the footwall of the San Martin vein, and this added substantially to reserves in this area. This area is now referred to as the San Martin footwall area.

Troncos with a more northerly alignment are present in orebodies San Jose II, and 29 and so far the different direction has not been explained structurally. The mantos in area 29 as well as those found in areas 30 and 31 seem to be aligned in this northerly direction as well.

In addition to the manto, tronco and vein style mineralization there is at least one instance where ore grade mineralization has been dragged along, or deposited along one of the principal faults dividing area 28 from area 29. There are also a few locations where stockwork zones occur in the troncos and economic mineralization extends over widths of more than 20 meters which is currently being exploited in the hangingwall of some past producing tronco stopes. Exploration in 2010 discovered the SAM vein which is a northerly trending vein that is steeper (near vertical) at shallower depths and to the west, but has rotated into a wider sub-horizontal zone as it trends to the north and dips down to the east.

Again in area 29 an extension to the Pilotos mantos stopes was found to the west which greatly aided the production grade in 2011. Although this ore zone is exhausted the workings rehabilitated in the area are being utilized to recover pillars with above average grades.

Assayed samples used in generating these reserves and resources are collected under the direction of the Geological Department and delivered to the mine lab tagged and bagged. In general individual samples do not exceed 1.5m in length and are generally not less than 0.2 m. All samples are prepared and assayed in the on-site assay lab. David Chiu of Inspectorate laboratories in Vancouver has inspected the mine lab facilities and has provided procedures, flux recipes and feedback on all laboratory equipment. The assay results are recorded by geological staff and in the case of diamond drill core samples any pulps returning more than 1 g/t gold are sent to Chemex for check assays. The mine has been awarded the Mexican Quality Award which is similar to International Standards ISO 9001 for quality control in the overall mining operations.

Mr. Gunning visits the San Martin Mine regularly every month and has done so since 2009. Mr. Gunning is a Qualified Person as defined by National Instrument 43-101. Mr. Campbell visited the San Martin Mine from August 18<sup>th</sup> to 22<sup>nd</sup> 2014, and has previously visited the mine on multiple occasions between 2010 and 2012. Mr. Campbell is an independent Qualified Person as defined by National Instrument 43-101. This Mineral Resource/Reserve estimate is effective as of July 31, 2014, and follows the previous independent Resource/reserve estimate made July 31, 2013. Previous audits of Luismin's operations as of December 31, 2001; December 31, 2002; and, August 31, 2004 were performed by Watts Griffis McOuat. Prior to 2001, Pincock, Allen & Holt had conducted independent audits in the years 1998, 1999 and 2000.

The terminology used by the mine to designate Measured and Indicated Mineral Resources and Proven and Probable Mineral Reserves is in general agreement with **the Canadian**



**Institute of Mining Metallurgy and Petroleum** (the “CIM Standards”) as adopted in NI 43-101 as is the Inferred Resources category.

In the years prior to mining by Compañía Minera Peña de Bernal reserve and resource estimates were based on the assumptions and subject to rules defined by Luismin many years ago. In recent years, with the involvement of various professionals, it was recognized that mining methodology was changing due to factors such as:

- a greater percentage of production coming from narrow steeply dipping vein structures
- Sub-horizontal Mantos mineralized structures that were somewhat narrower than historical Mantos
- Reopening and scavenging of the hangingwall mineralization in old stopes where lower grade mineralization was not mined during times of lower gold prices.

Based on the above mining changes, and incorporating mining experience over the last 6 years some of the original Luismin assumptions have been modified to improve tonnage and grade estimation for reserves. The assumptions used in this estimate are:

- A gold price of \$1250 per ounce.
- A silver price of \$19.23 per ounce.
- First half 2014 operating costs of \$74 per metric dry tonne.
- Average metallurgical recoveries of 86% for gold and 52% for silver.
- Using the above price and cost assumptions the resultant calculated cutoff grade is approximately 2.2 g/t Au equivalent.
- Specific gravity of 2.6 has been applied to all calculated mineralized volumes.
- Mining dilution is applied to in situ mineralized zones, and recovery factors are applied to these diluted blocks using the following factors:
  - Mining dilution of 10% of zero grade in horizontal mineralized zones (Mantos) mined by room and pillar.
  - Mining dilution of 10% of zero grade in steeply dipping mineralized zones mined by cut and fill. This dilution factor is modified by first applying a minimum 2 meter mining width to narrow zones. This has resulted in up to 30% dilution for narrower cut and fill vein style (Tronco) mineralized zones.
  - Remnant pillars left in room and pillar stopes are typically 20% of the total tonnage, i.e. 80% extraction. This recovery factor has been applied to sub-horizontal mineralized zones.

In addition to these factors reserve grades are lowered to reflect mined grades in ore blocks that have sufficient historical production to establish that mined grades are lower than estimated from exploration data. The reserves and resources estimated in this report are based on data available up until July 31, 2014.

Total Proven and Probable Mineral Reserves at the San Martin mine as of July 31, 2014 estimated by mine staff and reviewed by David R. Gunning, P. Eng., and Joseph W. Campbell, P.Geo, are **486,586 tonnes at a grade of 2.31 g Au/t and 18.5 g Ag/t** (Table 5). This total includes Proven reserves of 179,589 tonnes grading 2.33 g/t Au and 17 g/t Ag along with Probable reserves of 306,997 tonnes grading 2.30 g/t Au and 19 g/t Ag. In addition to this reserve is 181,546 tonnes at a grade of 2.98 g/t Au and 32 g/t Ag which is hosted in carbonaceous limestone and needs some capital investment in the mill to enable normal recovery. Until the costs and recoveries are better understood this material is uncategorized at the moment. There exists sufficient non-carbonaceous ore to operate for one and a half years, which should be enough time to enable the installation of the required metallurgical changes in the plant.

Total Inferred Mineral Resources at the San Martin mine (excluding San Pedrito) are estimated to be 898,049 tonnes at a grade of 2.15 g/t Au and 24 g/t Ag. Inferred Mineral Resources are not known to the same degree of certainty as Mineral Reserves and do not have demonstrated economic viability.

No reserves or resources have been defined north of Area 31.

The authors believe that the Mineral Reserve and Mineral Resource estimates fairly represent the Mineral Reserve/Mineral Resource potential of the property. The previous NI43-101 compliant estimation prepared was as of July 31, 2013 by David Gunning P. Eng. who reported total reserves of 705,998 tonnes at a grade of 2.53 g Au/t and 23.6 g Ag/t. This total included Proven reserves of 334,271 tonnes grading 2.40 g/t Au and 25 g/t Ag along with Probable reserves of 371,727 tonnes grading 2.61 g/t Au and 22 g/t Ag. In addition to this reserve 174,683 tonnes at a grade of 2.67 g/t Au and 27 g/t Ag was reported but not categorized as reserve as it is hosted in carbonaceous limestone and needs capital investment in the mill to enable normal metal recovery. This capital has not yet been committed.

Mill production from the period August 1, 2013 to July 31, 2014 has been 308,610 tonnes grading 2.55 g Au/t and 24.2 g Ag/t.

Close monitoring and mentoring of the mine staff in recent months has made progress in mine planning but continued improvement is possible in the mine planning, budgeting, and grade control systems at the mine. The budget for future exploration programs on the property will depend on the success of grade control and the ability to maintain profitability.

## **2. INTRODUCTION**

### **2.1 GENERAL**

The following report has been prepared by Starcore International Mines Ltd. (“Starcore”) in compliance with National Instrument 43-101 (“NI 43-101”) on the San Martin Project in the State of Querétaro, Mexico. The report follows earlier reports written for reserves as of July 31, 2011 and 2012 and is based on data collected at the mine and prepared by mine geological staff under the direction of geologist Oscar Zarate. Overall direction of the preparation of the report and verification of data and estimations is by authors David R. Gunning P. Eng, and Joseph W. Campbell, P. Geo.

Starcore is listed on the TSX-V Exchange as SAM with its head office located at 750-580 Hornby St., Vancouver, BC, V6C 3B6. Starcore purchased the San Martin mine from Goldcorp Inc. in February of 2007, and has operated it continuously since that time.

### **2.2 TERMS OF REFERENCE**

The purpose of the report is to summarize the Reserves and Resources within the mine property as of July 31, 2014. The material is prepared in compliance with NI 43-101.

The San Martin Project is one of five operating silver-gold mines, acquired by Goldcorp in 2002, with the acquisition of the shares of the Mexican mining company, **Minas Luismin S.A. de C.V.** (“Luismin”). The San Martin Project is an underground operation using primarily mechanized cut-and-fill mining methods. The ore is then processed by fine crushing, ball milling and tower milling followed by whole ore cyanide leaching, with Au and Ag recovered with zinc precipitation and refined to doré on site.

The San Martin Mine was purchased from Goldcorp by Starcore in early 2007 and is owned and operated by Compañía Minera Peña de Bernal, S.A. de C.V. a wholly owned subsidiary of Starcore.

A NI 43-101 report titled “*A Technical Review of San Martin Project, Mexico for Starcore International Ventures Ltd. and Investec Bank (UK) Limited.*” (“the WGM”) was prepared on February 1, 2007 by Velasquez Spring of Watts Griffiths and McOuat.

This Report is compiled from updated mine data and from regular monthly visits to the San Martin mine by Mr. Gunning for the past 4 years, and by multiple annual visits to the mine by Mr. Campbell through the period 2010-2012 and from August 18 to 22, 2014.

The San Martin mine has maintained consistent procedures for estimating reserves and resources since before production began in 1994. WGM has reported the Reserves and Resources for the mine for Luismin, Goldcorp and Starcore in 2006 and 2007 and in those reports studied and summarized the Mineral Resource/Reserve estimating procedures. Comment on these reports can be found in the July 1, 2009 NI43-101 report.

### **2.3 UNITS AND CURRENCY**

Throughout this report common measurements are in metric units. Tonnages are shown as tonnes (1,000 kg), linear measurements as metres (“m”), or kilometres (“km”) and precious metal values as grams (“g”), grams of gold per tonne (“g Au/t”), and grams of silver per tonne (“g Ag/t”).

All economic data is quoted in US dollars (“US\$”). When peso amounts required conversion into US dollars, the peso exchange rate used was 12.5 pesos equivalent to US\$1.00 as this was the rate used in the 2014 mine operating budget.

### **3. RELIANCE ON OTHER EXPERTS**

Starcore retains legal counsel in Mexico which maintain the permits and property in good standing. The authors have relied on a Mining Concession Legal Title Report dated July 19, 2012, by RB Abogados of Mexico City along with statements from the accounting department showing that the annual payments were made.

This report or portions of this report are not to be reproduced or used for any purpose other than to fulfil Starcore's obligations pursuant to Canadian provincial securities legislation, including disclosure on SEDAR.

This report has been prepared using the resource materials, reports and documents as noted in the text and “References” at the end of this report. The authors conducted an audit of the methods, parameters and documentation used and prepared by mine personnel in the preparation of its Mineral Resource/Reserve estimates for the zones comprising the San Martin Project, including selected reproduction of mathematical calculations.

This report summarizes the Mineral Resource/Reserve estimates for the San Martin Project, effective as of July 31, 2014 using the procedures which have been audited by both PAH and WGM in the past. These procedures have been verified by David R. Gunning, P. Eng. who by virtue of his education and experience is a Qualified Person as defined by NI 43-101 and by Joseph W. Campbell, P. Geo, who virtue of his education and experience is an independent Qualified Person as defined by NI 43-101.

### **3.1 DISCLAIMER**

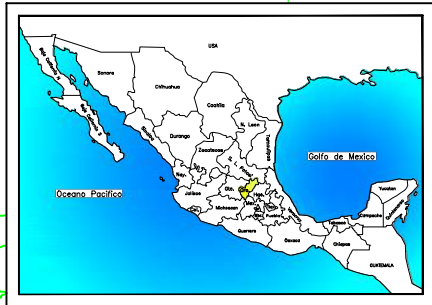
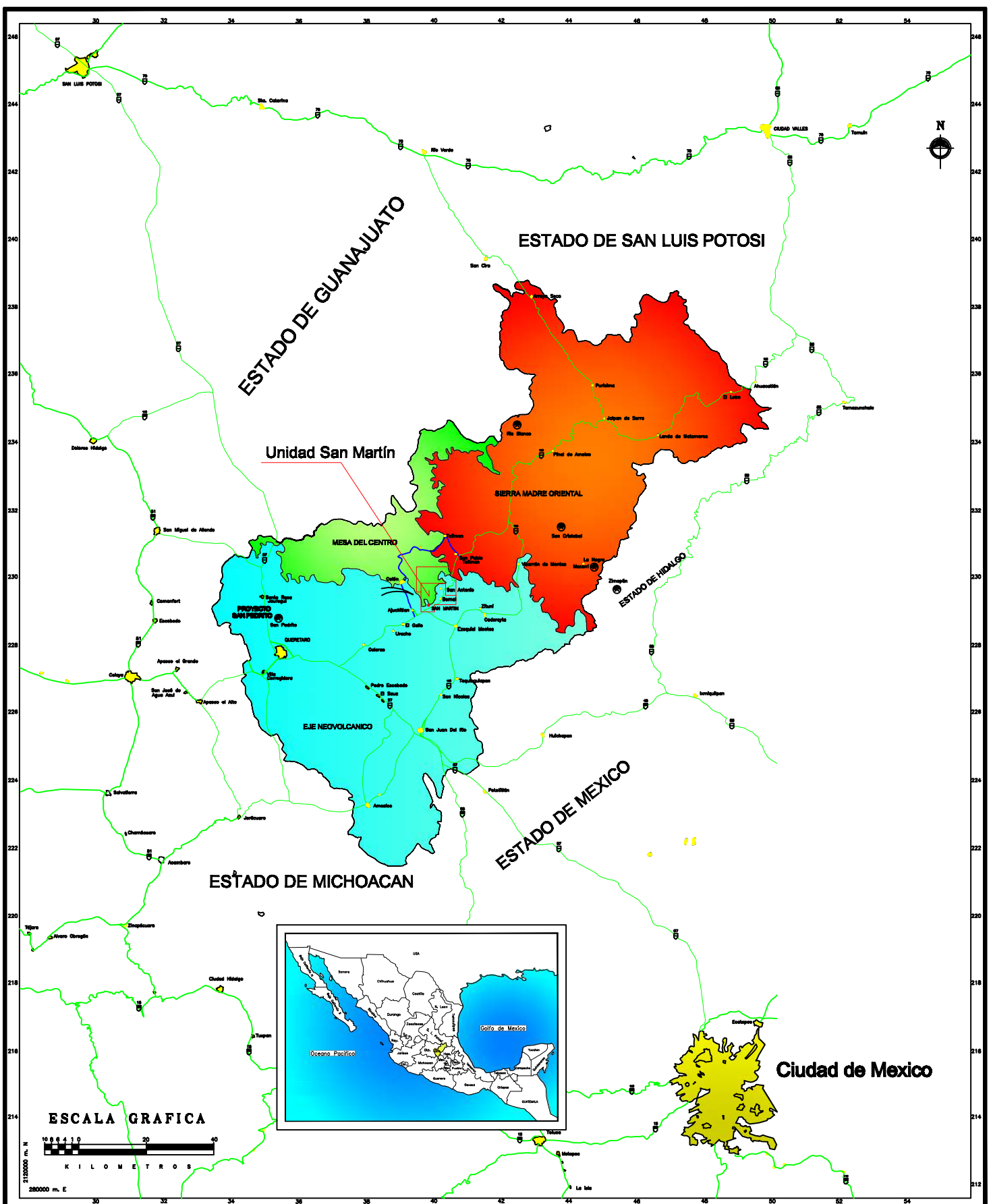
The reserves and resources presented in this report are based on the assumptions stated in the report and the mathematical calculations of mine staff, audited by Mr Gunning and Mr. Campbell, who have made sufficient checks of the work of mine staff to ensure that procedures are being followed and calculations are correct.

This report or portions of this report are not to be reproduced or used for any purpose other than to support the above noted purposes, without the authors’ and Starcore’s prior written permission in each specific instance. Starcore does not assume any responsibility or liability for losses occasioned by any party as a result of the circulation, publication or reproduction or use of this report contrary to the provisions of this paragraph.

## **4. PROPERTY DESCRIPTION AND LOCATION**

### **4.1 LOCATION**

The project is located northwest of Mexico City, some 50 km east of the City of Querétaro, in the State of Querétaro. The mine is near the towns of Tequisquiapan and Ezequiel Montes, and is immediately to the north of the town of San Martin, which has a population of approximately 2,000 (Figure 1).



**ESCALA GRAFICA**



EXPLICACION	
	LIMITES DE ESTADO
	LIMITES DE PROVINCIAS FISIOGRAFICAS
	LUGARES POBLADOS
	RUTA FEDERAL, ESTATAL

ESCALA GRAFICA

UNIDAD SAN MARTIN		
Geología:	Revisó:	Aprobó:
ELABORADO	ING. RAFAEL RODRIGUEZ	ING. MARIANO GARCIA T.
Digitizó:	Escaló:	Fecha:
J. CARMEN MENDOZA	1:200,000	ENERO 2000

**COMPANIA MINERA PEÑA DE BERNAL S.A. DE C.V.**  
 San Martín Mpio. de Colón Oro.

**PLANO DE LOCALIZACIÓN**  
**PROVINCIAS FISIOGRAFICAS**  
**ESTADO DE QUERETARO**

## **4.2 PROPERTY DESCRIPTION**

Compañía Minera Peña de Bernal, S.A. de C.V., a wholly owned Starcore subsidiary, holds the mining concessions covering 6,236 ha at the San Martin Project in the State of Querétaro (Figure 2). In addition there are 6755.6 ha held in concession Lote San Martin 4 which is north and contiguous to the mining concessions, bringing total land holdings to 12,991.7 ha.

The San Martin Project presently consists of two underground mines, San José and San Martin. The San Martin mine is approximately 700 m NNE of the San José mine and lies predominantly below claims 1, 2, 4, and 5 in the table below. One 63 hectare parcel of surface rights is a part of the property, known as “Terrenos” that covers the offices and mine entrance. The rest of the property is overlain by surface rights rented from individuals and an ejido (common land) based in the town of San Martin. The following table summarizes the mining concessions:

There is a 3% royalty payable to CRM on claims 4,5, and 6 but to date no production has come from the San Martin Fraccionamiento claims A, B, and C. There are currently no reserves on these claims.

**TABLE 1**  
**San Martin Concession Information**

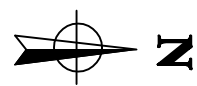
<b>ID number on map</b>	<b>Concession</b>	<b>Tenure Number</b>	<b>Area (hectares)</b>
1	San Martin 2	191134	190.7
2	San Martin	191423	132
3	La Trinidad	204824	2610.7
4	San Martin Frac. A	215262	37.1
5	San Martin Frac. B	215263	22.8
6	San Martin Frac. C	215264	3182.8
7	San Martin 3	215301	60
8	San Martin 4	221844	6755.6

E - 398,000

**"LOTE SAN MARTIN 4"**  
6,755.6145 Has.

8

LOTE SINI SAN JUAN SALVO  
CIRIO PARRONDO PARRONDO  
SALINAS TRUJILLO VICENTE  
SALINAS ATRAYCA MARTINEZ



N - 2,292,000

N - 2,292,000

N - 2,292,000

N - 2,292,000

Terreno Propiedad de  
**COMPANIA MINERA** 63.0 Has.

"SAN MARTIN FRACC. A"  
T-215262

4

"SAN MARTIN 2°"  
T-191134

1

"SAN MARTIN"  
T-191423

2

"SAN MARTIN 3°"  
T-199839

7

"SAN MARTIN FRACCION C°"  
T-199136

6

"SAN MARTIN FRACC. B"  
T-215263

5

"LA TRINIDAD"  
T-204824

3

1.- San Martin 2	T-191134	190.7	has
2.- San Martin	T-191423	132.0	has
3.- La Trinidad	T-204824	2610.7	has
4.- San Martin Frac. A	T-215262	37.1	has
5.- San Martin Frac. B	T-215263	22.8	has
6.- San Martin Frac. C	T-215264	3182.8	has
7.- San Martin 3	T-199839	60.0	has
8.- San Martin 4	T-221844	6755.6	has
AREA TOTAL =		12,991.7	has.



COMPANIA MINERA PEÑA DE BERNAL S.A. DE C.V.  
San Martin Municipio de Colón, Gro.

**GERENCIA DE CONCESIONES MINERAS**  
**LOTES MINEROS**  
UNIDAD SAN MARTIN  
HOJA INEGI G13C87 ESC. 1:50,000



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

### **5.1 ACCESS**

Access to the San Martin project, from Mexico City is some 160 km NW, on the Querétaro to Mexico main highway to the city of San Juan del Rio, then 35 km NE to the town of Ezequiel Montes then roughly 10 km from Ezequiel Montes to the town of San Martin. Paved highway #4 which connects Queretaro with the tourist town of Bernal is within 2 km of the mine entrance.

Access to the project, via Querétaro City, is also readily available from the Querétaro international airport which is 30 km from the minesite and has daily flights from Dallas as well as from Houston, Texas.

### **5.2 CLIMATE**

The climate in the project area is semi-arid, characterized by relatively low rates of precipitation. Average annual rainfall is 479 mm with about 95% occurring during the summer months of June through October. The area has typical warm days with cool nights occasionally dropping below freezing in the winter months due to the elevation of 2000 meters asl. The average annual temperature is 19°C.

### **5.3 LOCAL RESOURCES**

The mine area is located along a prominent hill that rises above the generally flat countryside. Much of the flat countryside is irrigated for the cultivation of grain crops. Some wineries as well as cattle feedlots are present in the area. The hillside is covered with small scrub bushes and grasses suitable only for forage grazing.

Most of the mine personnel are contract labour living in the nearby villages and towns of San Martin and Ezequiel Montes. The city of Querétaro is a major urban center and the proximity to Mexico City provides good support for mine and plant equipment. The mine produces sufficient water for the plant at all times of the year but the water permit states that excess water must be returned to the ground which occurs at the San Jose open pit.

## **5.4 INFRASTRUCTURE**

The infrastructure at San Martin is typical of a small mining operation and the site includes mine offices, repair shops, laboratory, warehouse and eating facilities for mine personnel (Figure 3). The mine and mill are connected to the electric grid and the mine produces more than enough water for milling operations. Electrical power is supplied by the Federal Power Commission however the mine has a secondary electricity generating system with about 500kW capacity to supply power to the mill during a power failure and during the peak supply times when prices are higher.

## **5.5 PHYSIOGRAPHY**

The San Martin mine site is located at an elevation of 2,100masl. along the west margin of a series of smooth prominent hills which rise some 400 m above the generally flat landscape that predominates to the south. There are some farm and ranch lands in the immediate area of the mine but most of the area is covered by small shrubs and cacti. The transition zone between the hillside and valley provides the location for the tailings storage area. Several km to the east, a monolith of dacite, known as the Peña de Bernal rises several hundred meters above the local landscape. Roads have been constructed from local materials to access all of the necessary mine and exploration areas.

## **6. HISTORY**

The deposit was discovered in the eighteenth century and high grade mineralization reportedly was exploited by the Spaniards for approximately 40 years, however no production records exist. The first records show the Ajuchitlan Mining and Milling Company produced an estimated 250 thousand tonnes at a grade of 15 g Au/t and 100 g Ag/t during 1900 to 1924.

In 1982, Mexico declared a 6,300 ha National Reserve over the area surrounding the Peña de Bernal but by 1986 Luismin had reached an agreement to work in the National Reserve and initiated an exploration program in 1988.



Mining began in 1993 at 300 tpd, and in early 1994, production began from open pit operations on the San José deposit. Table 2 illustrates production for the period 1994 to July 31<sup>st</sup>, 2014.

**TABLE 2**  
**SAN MARTIN MINE, HISTORIC PRODUCTION (1994 to July 31<sup>st</sup> 2014)**

Year	Historic Annual Production oz. Eq. Au	Tonnes	Grade	
			Au (g/t)	Ag (g/t)
1993	1,707	-	-	-
1994	14,298	134,118	3.19	35
1995	17,068	146,774	3.54	39
1996	21,620	187,691	3.40	44
1997	24,570	219,827	3.27	43
1998	27,539	224,279	3.45	50
1999	29,624	242,295	3.46	46
2000	35,571	284,490	3.60	55
2001	38,068	287,520	3.74	66
2002	41,124	268,451	4.26	71
2003	42,692	276,481	4.29	82
2004	44,377	272,734	4.47	83
2005	38,543	282,392	3.89	65
2006	26,529	278,914	3.20	60
2007	29,606	252,400	3.34	49
2008	21,367	266,600	2.50	32
2009	21,696	272,856	2.44	33
2010	18,156	275,290	2.03	31
2011	23,736	296,845	2.14	38
2012	19,213	309,796	2.09	25
2013	24,424	306,941	2.58	24
Jan-July 2014	13,016	179,662	2.39	24
<b>TOTAL</b>	<b>574,544</b>	<b>5,266,356</b>		

The San Jose open pit operated for several years until the operation made the transition to the mining of the relatively higher grade “manto” style orebodies found near the contact with the dacite flows and the underlying rocks. In the year 2000 the operation began mining some of the tronco deposits down to depth such that now there are predominantly tronco deposits being mined.

The mine operated at 846 tpd based on the August 2013 to July 2014 period, using mechanized cut and fill mining using single boom jumbos, 3.5 yard scooptrams and 10 to 20 tonne haulage trucks. Conventional drills and slushers are used in some of the narrower mineralized zones. There is a small amount of production from open cuts on the San Martin vein.

## 7. GEOLOGICAL SETTING AND MINERALIZATION

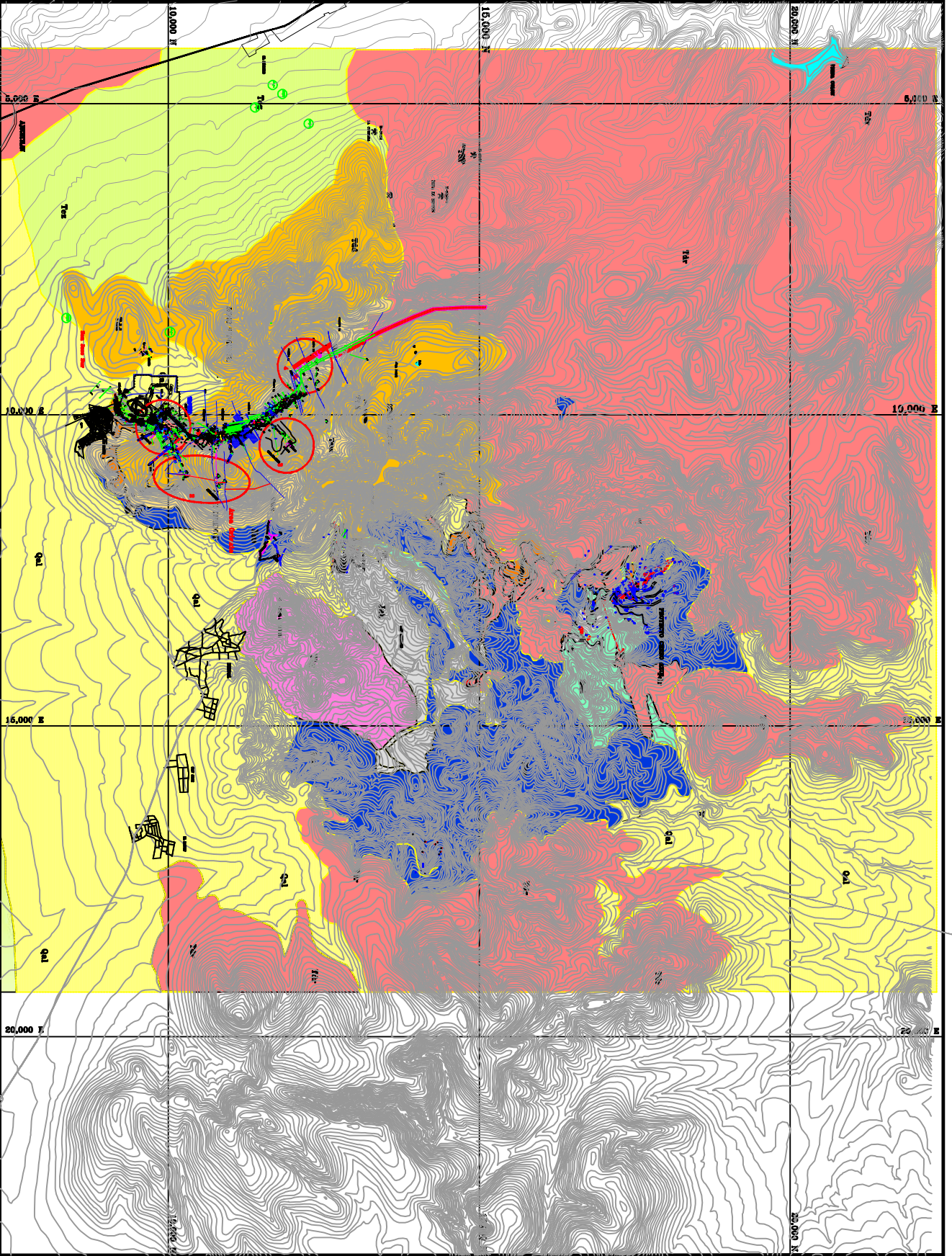
The mineralization at San Martin occurs in a tabular breccia zone striking northeast and dipping 10° to 90°SE (Figure 4 shows the mine workings along with the local geology). It occurs within Upper Cretaceous black limestones and calcareous shales of the Soyatal Mexcala Formation and varies in width from 1 to 17 m but averages about 4 m (Figure 5). The breccia zone appears in a structural window on the western hillside which is composed primarily of a Tertiary Rhyolite/Dacite.

The San Martin zone appears to predate the late stage Tertiary dacitic flows which cover the local hillsides but may be related to andesitic intrusive which form the Peña de Bernal and have been seen in the deepest San Jose workings. The most developed area of the mine, the San Martin area, has developed 400 meters down dip along a breccia structure formed at the location where older limestones have been thrust upon younger shales.

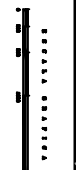
To the north other predominantly manto deposits have been found along a more northerly direction over several kilometres. The San Jose I, San Martin, and 28 orebodies or areas seem to share the northeasterly strike whereas the San Jose II, 29, 30 and 31 areas have a more northerly strike. Post-mineral faulting has resulted in vertical offsets up to 100 m and horizontal offsets to 500 m along several major faults which form the boundaries for the named orebodies or areas. The northern orebodies are all severely faulted into relatively small pieces, faults are both low and high angles and are possibly related to the emplacement of the rhyolite and dacite rocks above.

Past authors on the property felt that these orebodies were all related to one mineralization event, with multiple pulses of solution that had been broken into seven separate bodies by post mineral faulting. Recent experience indicates that more than one structure exists and it is not known whether or not all of these structures were mineralized at the same time.

The breccia zone appears to have developed perpendicular to the direction of greatest stress and parallel to the direction of compression. Locally the mineralization (Area San Martin and Area 29) in the upper part of the vertical zone gradually arches to the (northwest in the case of San Martin and west for Area 29) to form a horizontal, tabular zone that at the mine is termed a manto while the more vertical portion is called the tronco. To date no tronco deposits have been located north of Area 29.



- Carretera
- Drenaje
- Líneas de Nivel
- Límite de Parcela
- Edificio
- Línea de Energía
- Arroyo
- Cercado
- Carretera
- Drenaje
- Líneas de Nivel
- Límite de Parcela
- Edificio
- Línea de Energía
- Arroyo
- Cercado



**UNIDAD SAN MARTÍN**  
 PROYECTO DE OBRAS DE RECONSTRUCCIÓN DE LA ZONA URBANA DE LA UNIDAD SAN MARTÍN  
 PROYECTO DE OBRAS DE RECONSTRUCCIÓN DE LA ZONA URBANA DE LA UNIDAD SAN MARTÍN  
 PROYECTO DE OBRAS DE RECONSTRUCCIÓN DE LA ZONA URBANA DE LA UNIDAD SAN MARTÍN

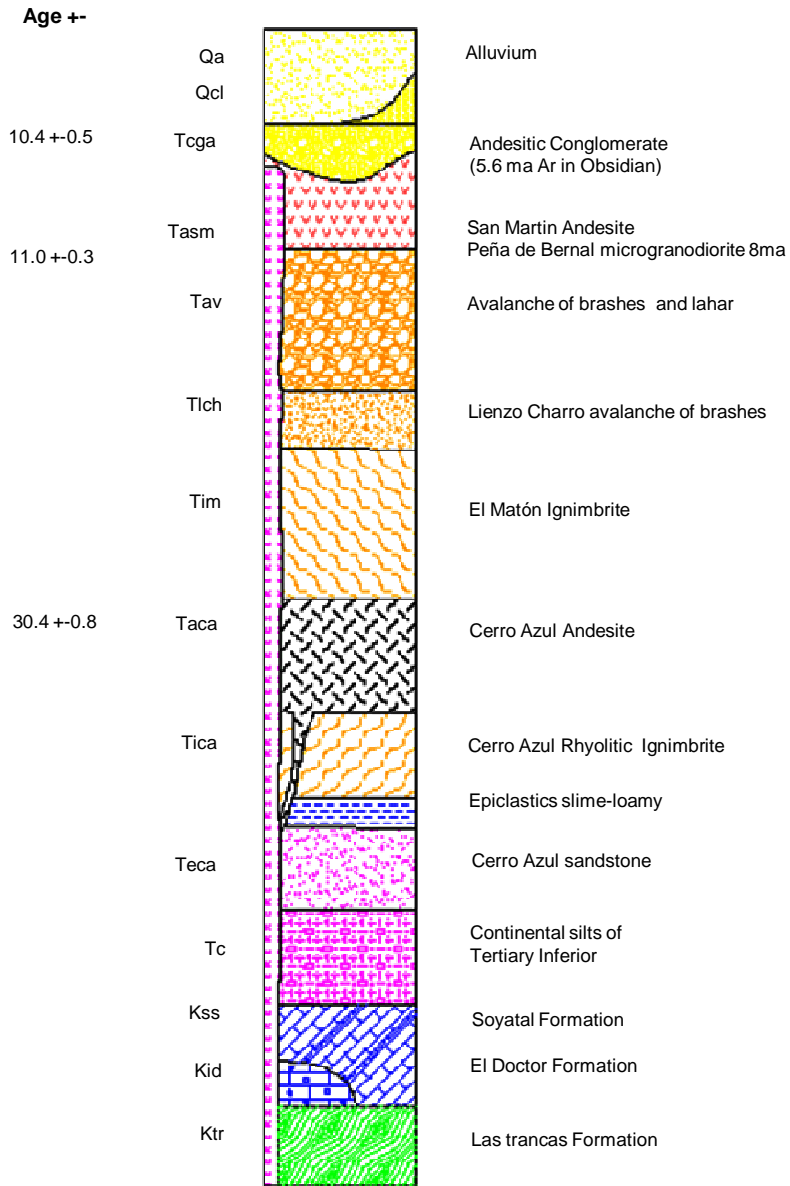
COMUNIDAD MUNICIPAL DE SAN MARTÍN DE LOS ANDES  
 PLAN DE OBRAS DE RECONSTRUCCIÓN DE LA ZONA URBANA DE LA UNIDAD SAN MARTÍN  
 PLAN DE OBRAS DE RECONSTRUCCIÓN DE LA ZONA URBANA DE LA UNIDAD SAN MARTÍN

- LEYENDA**
- Área
  - Zona Urbana
  - Zona Industrial
  - Zona Agrícola
  - Zona de Protección Ambiental
  - Zona de Protección Cultural
  - Zona de Protección Paisajística
  - Zona de Protección Recreativa
  - Zona de Protección Social
  - Zona de Protección Turística
  - Zona de Protección Urbana
  - Zona de Protección Ambiental
  - Zona de Protección Cultural
  - Zona de Protección Paisajística
  - Zona de Protección Recreativa
  - Zona de Protección Social
  - Zona de Protección Turística
  - Zona de Protección Urbana



Figure. 5

Stratigraphic Column San Martin District



(Geology Department & Geology Institute U.A.S.L.P.)

## 8. DEPOSIT TYPE

The deposit has been described as an epithermal, probably a low sulphidation precious metal (Ag-Au) type, related to a Tertiary dacitic/andesite dome. Recent work has failed to locate the postulated dome and mineralization in the troncos may be more mesothermal or fault related. Development in 2008 discovered a sub-parallel vein to the main San Martin breccias with higher grade than the San Martin tronco breccias. This structure named the Guadalupe vein seems to degrade to a series of narrow poorly mineralized veinlets in the upper levels however at levels 8 through 10 it occurs as a strong 2 meter wide vein containing gold grades greater than 3 grams per tonne and silver values greater than 20 grams per tonne.

Exploration in 2010 discovered the SAM vein which is a northerly trending relatively flat vein which steepens to the west. It has been developed for over 400 meters along strike on levels 5 and 6 of area 29. On level 5 parts of the vein are hosted in carbonaceous limestone.

In addition substantial stockwork mineralization is being exploited in the hangingwall of some past producing tronco stopes. Most importantly in 2011 was the drilling and subsequent drifting in some manto deposits in Area 29, west of the old production stopes.

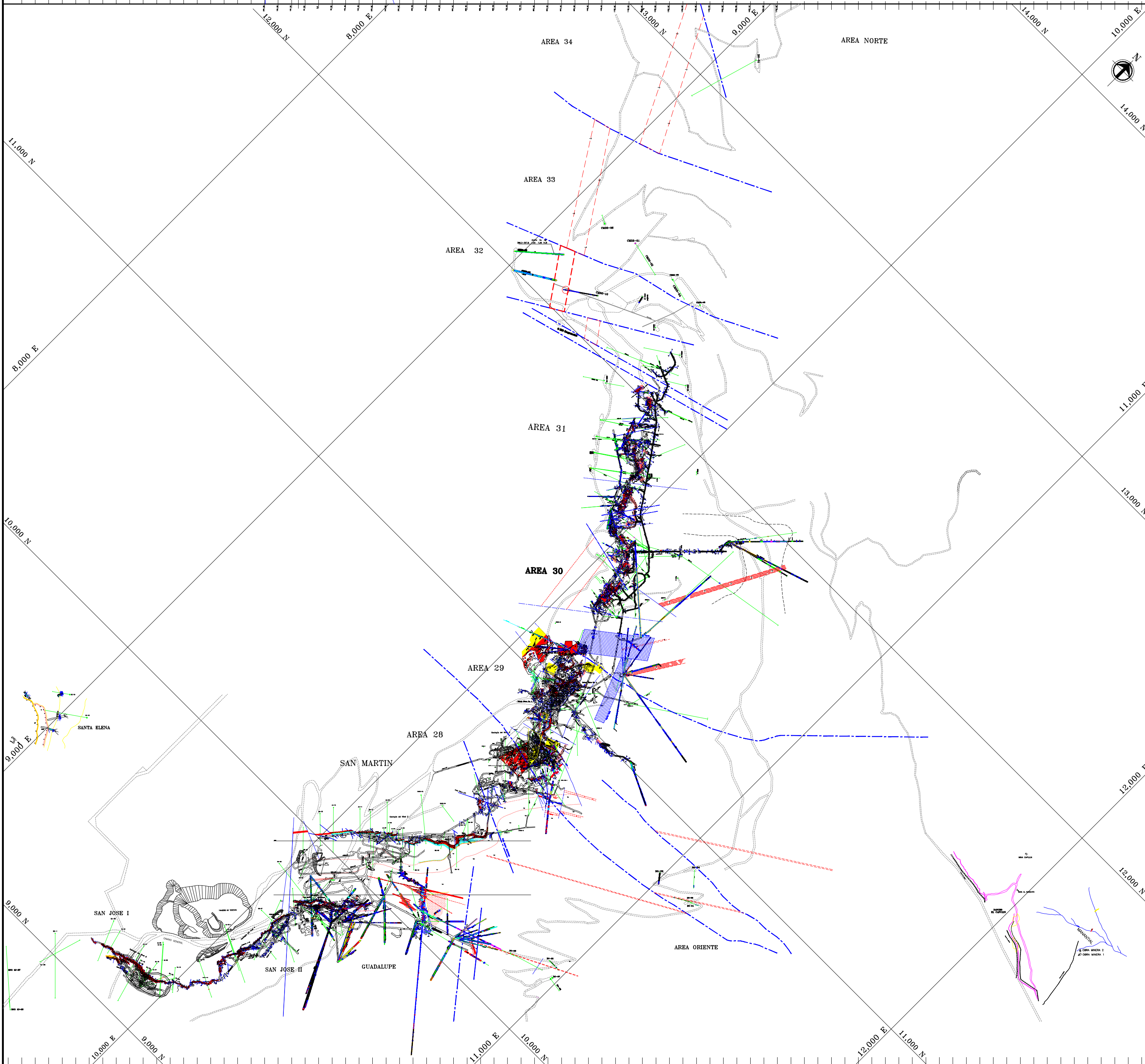
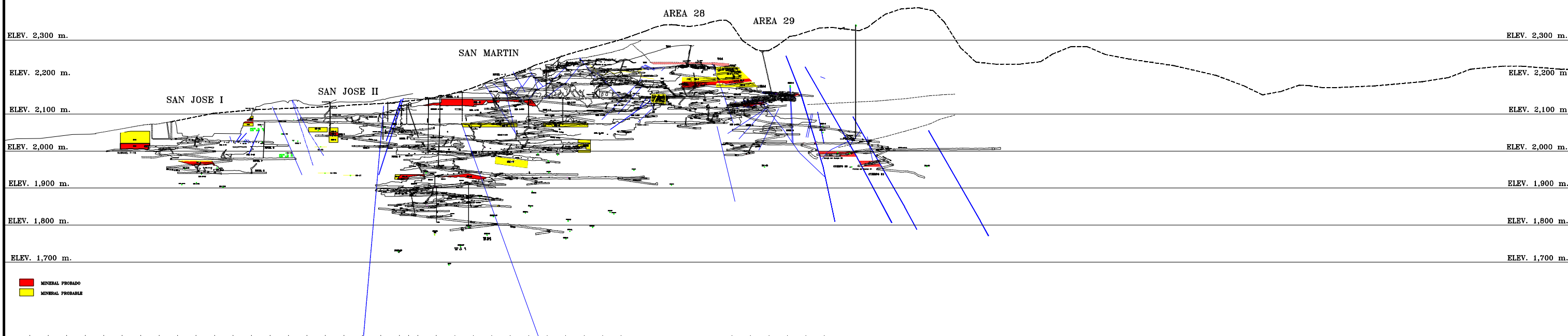
In late 2012 exploration tested the extension of a known but misunderstood zone in the footwall of the San Martin structure at its northern extremity. Drilling and drifting identified a subvertical as well as a more horizontal vein and these veins were developed and exploited recently producing significant tonnages at above average grades during the past fiscal year. This area of the mine is referred to as the San Martin footwall.

Mineralization occurs as native gold, electrum, naumannite ( $\text{Ag}_2\text{Se}$ ) and argentojarosite ( $\text{AgFe}_3(\text{SO}_4)_2(\text{OH})_6$ ) associated principally with quartz and lesser calcite. The silver contained in argentojarosite is not recoverable with cyanidation. Evidence of multiple intrusions of quartz with banding and drusy crystal masses observed in the brecciated zone are indicative of open space deposition.

It appears that the northeast trending San Martin breccias tronco is related to a thrust fault of limestone upon the younger shales (Rankin 2008). The structure varies in dip from 45 degrees in the lower levels to 70 degrees in the upper levels. Above Level 1 the tronco flattens to the manto deposits which tend to occur along the limestone/shale contact overlain by dacite and rhyolite flows above. This is similar to the structure present in the San Jose deposit except that in the latter case the mantos appear to have been eroded as there are no dacitic rocks capping the limestones. A general mine plan and section is shown as Figure 6.



# SECCION LONGITUDINAL N 45° E



LEYENDA			

<b>UNIDAD SAN MARTIN</b>		
Geología: DEPTO. DE GEOLOGIA	Revisó: ING. SAUL NOE JIMENEZ	Aprobó: CP. ARTURO PRESTAMO E.
Digitalizó: J. CARMEN MERINO O.	Escala: 1: 25,000	Fecha: AGOSTO 2011


**COMPAÑIA MINERA PEÑA DE BERNAL S.A. de C.V.**  
 San Martín Municipio de Colón, Qro.

**PLANO GENERAL "UNIDAD SAN MARTIN"**

PLANO 01

Troncos with a more northerly alignment are present in orebodies San Jose II, and 29 and so far the different direction has not been explained structurally. The mantos in Area 29 as well as those found in Areas 30 and 31 seem to be aligned in this direction as well. It seems that the Area 29 orebodies contain more selenium than other orebodies although this may only relate to the fact that Area 29 has higher silver values and therefore more silver selenides (the principal silver minerals).

In addition to the manto, tronco and vein style mineralization there is at least one instance where ore grade mineralization has either been dragged or deposited along one of the principal faults dividing the Area 28 from Area 29. There are also a few locations where stockwork zones occur in the tronco and economic mineralization extends over widths of more than 20 meters. These stockwork zones are becoming an important part of current mine production.

The tronco style mineralization is similar to that found at Guanajuato where the Veta Madre has been mined to depths of 400 meters over a 20 kilometer strike length and where locally stockwork zones have resulted in stopes of 30 meter widths. Both Guanajuato and San Martin have high silica content in the ore although the ore zone at Guanajuato is more vein like rather than the breccias that typify San Martin.

## **9. EXPLORATION**

Exploration at San Martin is a continuous process along the entire northerly trend of the known breccia zones. The exploration is carried out ahead of development by drilling known structures and drifting to prove the grade. Employee operated diamond drilling rigs initially test selected targets, which are then followed by underground development that outlines Proven Mineral Reserves. Target selection is done by geological mapping and projecting known zones down dip and along faults and is aided by surface geophysical surveying which has included magnetics, induced polarization and resistivity. The resistivity surveys have been particularly successful in outlining the quartz breccia and several promising resistivity anomalies, in Areas 32, 33 and 34 to the north of Area 31, remain to be tested. The discovery of the SAM, Guadalupe and San Martin footwall veins are examples of significant recent success from the ongoing underground exploration programs.

## **10. DRILLING**

Drilling at San Martin is done by mine staff (drilling crews), and exploration/development drilling is carried out continuously by three Compañía Minera Peña de Bernal, S.A. de C.V. owned underground diamond drilling rigs, one of which can be modified to drill on surface.

The drill core is logged on site, split and sampled by geological staff and then assayed on site by Compañía Minera Peña de Bernal, S.A. de C.V. personnel. During 2008 most drill samples were also assayed in duplicate by Chemex, since 2009 the procedure has been changed so that only significantly mineralized samples (generally those >1 g/t Au) are analyzed in duplicate by commercial laboratories, currently Chemex in Guadalajara. Core recovery, for the most part, is good, commonly exceeding 95% except for faulted areas where recovery can at times be lower, especially if the hole diameter has been reduced from NQ.

Most of the core drilled at San Martin is NQ with occasional deep holes being reduced to BQ somewhere along their length. Individual drill hole results are shown on the reserve maps for each zone and are commonly referred to in the detailed block estimations.

During the period August 1, 2013 to July 31, 2014 a total of 9,188 meters were drilled using the 3 underground rigs. In addition a contract driller completed 4,283 meters of drilling on surface.

## **11. SAMPLE PREPARATION, ANALYSIS AND SECURITY**

On a daily basis stope grades are estimated based on both chip and muck samples and then on a monthly basis reconciled to the doré shipped to refineries including the plant tailings grade. Chip channel samples are collected along lines perpendicular to structures at 1.5 meter intervals. Based on these sample results the ore zone is painted up for the miners to follow. The shape of the painted area can be somewhat irregular and has resulted in apparent dilution of between 15 to 50 percent. Roughly ten percent of this dilution is estimated to be due to overmucking the previously placed fill.

For the purpose of estimating reserves the most proximal line of channel samples is used. The shape of the ore zone is smoothed to a mineable shape and the blasted muckpile is also sampled. Experience has shown that mill feed is 10% higher tonnage than blasted muck due to overmucking of waste fill.

Drill holes are sampled according to their mineral content. After logging the core, sample locations are indicated by geologists and the sample intervals are sawn in half. The half samples are sent to the lab for assay. If the drill hole intersects ore grade material it may be used to provide probable reserves or resources. Both standards and blanks are inserted into the sample stream by the geological department and significant samples are duplicated by either ALS Chemex in Guadalajara, or iPL/Inspectorate in Vancouver.

The mine has been awarded the Mexican Quality Award which is similar to International Standards ISO 9001 for quality control in the overall mining operations.

All of the drill and channel samples are collected under the direction of the Geological Department whom also deliver the samples to the lab tagged and bagged. In general individual samples do not exceed 1.5m in length and are generally not less than 0.2 m. All samples are prepared and assayed in the on-site assay lab. David Chiu of Inspectorate iPL laboratories in Vancouver has inspected the mine lab facilities and provided procedures, flux recipes and feedback on all laboratory equipment. The assay results are recorded by geological staff and in the case of diamond drill core samples with over 1 gram per tonne gold, duplicate pulps are sent to a commercial lab for check assays.

Samples are crushed, split and pulverized at the mine assay laboratory to produce a 30 g representative pulp sample for fire assaying with gravimetric finishing. The geologists insert occasional standards into the sample stream as well as blanks. This information as well as the commercial lab check samples provide quality control on the assay results. In general Starcore has made many minor improvements to laboratory procedures such that the lab appears to now be providing consistent quality results.

## **12. DATA VERIFICATION**

### **12.1 PENBER LABORATORY**

The on-site laboratory (PENBER Lab) has undergone numerous improvements since Starcore took over management of the operation in February 2008. Comparison of the on-site laboratory to commercial laboratories is conducted on an ongoing basis. The results of this analysis are presented in the July 1, 2009 NI43-101 report and for both gold and silver the variability of results were acceptable for a producing mine, thus supporting confidence in the results of the on-site lab.

### **12.2 GEOSTANDARDS REVIEW**

The results of this analysis are presented in the July 1, 2009 NI43-101 technical report and the reader is directed to this report for further information. The results of this review are considered acceptable for a producing mine.

### **12.3 SPECIFIC GRAVITY TESTING**

A selection of drill core from the San Martin and Guadalupe veins was tested for the July 1, 2009 reserve and resource estimate. A mean specific gravity of **2.55** was recommended and continued measurement of mineralized core intervals showed this value to be acceptable. Subsequent testing more recently has shown values between **2.6** and **2.8**. These new data have resulted in the use of **2.6** for estimates in 2014.

## **13. MINERAL PROCESSING AND METALLURGICAL TESTING**

The San Martin Mill is a conventional cyanidation mill using the Merrill-Crowe process for gold ores with a high silver content. The mill has a rated capacity of 900 tpd. The mill flowsheet employs two stage fine crushing and grinding with both ball mills and a vertical regrind mill followed by total ore cyanide leaching in a CCD circuit. Gold and silver is recovered with zinc precipitation and is refined on site to doré. In the previous fiscal year August 2012 to July 2013, throughput was at 842tpd with recoveries of 79% for gold and 54% for silver. In fiscal year August 2013 to July 2014 through put was 846tpd with recoveries of 87.1% for gold and 52.7% for silver.

During the period June and July of 2012 the mill ran into gold recovery problems that were resolved by ceasing the mining of carbonaceous ores. Recoveries were 75.2% and 60.5% of contained ROM Au grade in June and July 2012 respectively. Investigations were carried out to determine how to treat the carbonaceous ore, with two possible solutions:

1. A low temperature roast of the carbonaceous ore.
2. A conversion to Carbon in Leach processing.

The company is currently evaluating the Capital Cost requirements for either option before implementing and until that time the carbonaceous components of the reserve will not be mined. Since that period recoveries for gold and silver have met or exceeded the recovery parameters used in this estimation.

#### **14. MINERAL RESOURCE ESTIMATES**

Total Inferred Mineral Resources at the San Martin mine (excluding San Pedrito), are 898,049 tonnes at an approximate grade of 2.15 g/t Au and 24 g/t Ag. These estimates are lower than the Inferred Resources reported in 2013 (1,005,000 tonnes at 2.17 g/t Au and 20 g/t Ag). All areas were reassessed in 2013 and 2014 for accessibility and for confirmation of exploration results and geological interpretation. This affected all mine areas, but most losses were offset by the increases in new areas. In addition several areas, including the 2013 resources in the San Martin Footwall and Area 29, were converted to reserves and in some cases mined.

Inferred Mineral Resources are not known to the same degree of certainty as Mineral Reserves and do not have demonstrated economic viability. No reserves or resources have been defined north of Area 31.

In general Inferred Resources are the projection of known ore reserves, incorporating their plunge directions based on previous mining. These blocks are extended until they contact known area defining faults or up to 100 meters from known information. For these resources an average grade of past production of tronco and manto deposits within the same zone is used.

As resources are converted to reserves or determined not to exist, the Inferred Resources are decreased accordingly. As mining development is extended into Inferred Resources, the projection of these zones continues as per the procedures in the previous paragraph, and

Inferred Resources are increased accordingly. In cases where new zones are discovered by drilling or underground drifting, new blocks of Inferred resources are generated.

Table 3 below summarizes Mineral Resources by area at the San Martin mine property as of July 31, 2014.

**TABLE 3**  
**San Martin Mine Inferred Mineral Resources**  
**(as of July 31, 2014)**

<b>Inferred Resources</b>				
	<b>Tonnes</b>	<b>Au</b>	<b>Ag</b>	<b>Oz Au Eq.</b>
SAN JOSE I	73,510	2.22	7	5,501
SAN JOE II	18,900	2.31	31	1,693
SAN MARTIN	400,248	2.05	11	28,532
SAN MARTIN FOOTWALL	104,058	2.78	12	9,918
GUADALUPE	150,971	1.30	47	9,798
28 AREA	59,638	2.25	22	4,941
29 AREA	67,319	3.07	76	9,177
30 AREA	23,405	3.30	63	3,209
31 AREA	0	-	-	0
<b>TOTAL INFERRED</b>	<b>898,049</b>	<b>2.15</b>	<b>24</b>	<b>72,770</b>

Mineral Resources are additional to Mineral Reserves. Inferred Mineral Resources are not known with the same degree of certainty as Mineral Reserves and do not have demonstrated economic viability.

The Inferred Mineral Resources are estimated by projecting typical structural geometry within the confines of the various geological structures into untested areas. The thickness of the structure and the gold and silver grades assigned to these resources was previously based on the average of past production stopes within similar structures within each mine area. In 2010 a change was made to reflect grades from stopes that are proximal to the Inferred blocks. This resulted in a significant decrease in the grade of metals for the Inferred ore at that time but better reflects the reality of the structures.

In some cases, when there are various blocks below or above the block of the projected Inferred Mineral Resources, the average of their grade and thickness is used in the estimate. However, in other cases, statistics for gold and silver that have been produced through diamond drillholes and through development are applied.

## 15. MINERAL RESERVE ESTIMATES

### 15.1 GENERAL

Total Proven and Probable Mineral Reserves at the San Martin mine as of July 31, 2014 estimated by mine staff and reviewed by David R. Gunning, P. Eng., and Joseph W. Campbell, P. Geo. are **486,586 tonnes at a grade of 2.31 g Au/t and 19 g Ag/t** (Table 4). This total includes Proven reserves of 179,589 tonnes grading 2.33 g/t Au and 17 g/t Ag along with Probable reserves of 306,997 tonnes grading 2.30 g/t Au and 19 g/t Ag. In addition to this reserve is 181,546 tonnes at a grade of 2.98 g/t Au and 32 g/t Ag which is hosted in carbonaceous limestone and needs some capital investment in the mill to enable normal recovery until the costs and recoveries are better understood this material is uncategorized at the moment. There exists sufficient non- carbonaceous ore to operate for two full years, which should be enough time to enable the installation of the required metallurgical changes in the plant.

The estimation methods used Luismin/Goldcorp have been retained to some degree, but there have been SUBSTANTIAL changes to determination criteria for Proven and Probable reserves, and changes to dilution rates to account for the mining of Tronco ore zones and remnant ore (both hanging wall and strike and dip extensions) versus the dominance of Manto ore mined in the past.

Relative to the Manto ore the Tronco ore is thinner and steeper dipping which has resulted in higher dilution during mining due to the majority of the ore being mined by cut and fill methods versus the room and pillar method in the thicker flat lying Mantos. For remnant ore there is a greater dilution associated with minimal widths for mechanical equipment, which at times exceeds the remnant ore widths. There is also additional dilution associated with breaking and mucking ore next to unconsolidated fill from past mining.

Cutting of some high grade samples has been implemented to try to better predict mined grades. As well grades were lowered in some ore blocks with sufficient production history to establish the lower grades.

Modifications have also been made to the determination of Probable and Proven ore. Most notably Proven ore is only calculated for blocks above mine development, whereas in the past Proven ore was also extended below workings.



A change in 2013 to reserve estimation was the increasing of the cut-off grade to 2.00 g/t gold equivalent. This reflected the gold price of \$1300/oz used then versus a price of \$1600/oz in the 2012 estimate. In 2014 changes to a \$1250 gold price and increases in mining costs (\$74/t) have increased the cut-off to 2.2 g/t gold equivalent.

The authors believe that the Mineral Reserve and Mineral Resource estimates fairly represent the Mineral Reserve/Mineral Resource potential of the property.

The previous NI43-101 compliant estimation as of July 31, 2013 prepared by David Gunning P. Eng. reported total reserves of 705,998 tonnes at a grade of 2.53 g Au/t and 23.6 g Ag/t. This total included Proven reserves of 334,271 tonnes grading 2.40 g/t Au and 25 g/t Ag along with Probable reserves of 371,727 tonnes grading 2.61 g/t Au and 22 g/t Ag. In addition to this reserve 174,683 tonnes at a grade of 2.67 g/t Au and 27 g/t Ag was reported but not categorized as reserve as it is hosted in carbonaceous limestone and needs capital investment in the mill to enable normal metal recovery. This capital has not yet been committed.

## **15.2 RESERVE APPROACH**

Proven Reserves are estimated from blocks which are bracketed by at least two development headings that define the strike length of the ore block. Block dimensions are made by drawing the cutoff grade boundary on the most recent channel sample results. The grade, length and width are tabulated and the volume is determined by projecting to the next development heading. A specific gravity of 2.6 is used (see section 12.3) to calculate the tonnage based on the areas measured (in AutoCAD) on the vertical long sections created.

Cutting of high grade values in the Guadalupe vein blocks was done for gold values over 20 grams per tonne which were cut to 20 grams.

The San Martin minesite maintains detailed cost data for the San Martin mine operation. Based on the first half of 2014 operating year the following assumptions and parameters are made:

- A gold price of \$1250 per ounce.
- A silver price of \$19.23 per ounce.
- First half 2014 operating costs of US\$74 per metric dry tonne.
- Average metallurgical recoveries of 86% for gold and 52% for silver.

- Using the above price and cost assumptions the resultant calculated cutoff grade is approximately 2.2 g/t Au equivalent.
- Specific gravity of 2.6 has been applied to all calculated mineralized volumes.
- Mining dilution is applied to insitu mineralized zones, and recovery factors are applied to these diluted blocks using the following factors:
  - Mining dilution of 10% of zero grade in horizontal mineralized zones (Mantos) mined by room and pillar.
  - Mining dilution of 10% of zero grade in steep dipping mineralized zones mined by cut and fill. This dilution factor is modified by first applying a minimum 2 meter mining width to narrow zones. This has resulted in up to 30% dilution for narrower cut and fill vein style (Tronco) mineralized zones.
  - Grade of zones are further modified as required to reflect historical production grades.
  - Remnant pillars left in room and pillar stopes are typically 20% of the total tonnage, i.e. 80% extraction. This recovery factor has been applied to sub-horizontal mineralized zones.

In addition to these factors reserve grades are lowered to reflect mined grades in ore blocks that have sufficient historical production to establish that mined grades are lower than estimated from exploration data. The reserves and resources estimated in this report are based on data available up until July 31, 2014.

Some Probable Mineral Reserves are defined primarily by diamond drilling. In these cases a square is drawn on the vertical longitudinal section with the drill hole centered on the square. The shape and size of the block depends upon the geological interpretation with the maximum size of the block based on the thickness of the vein as follows:

<u>Vein Thickness</u>	<u>Size of Block</u>
Less than 1.0 m	25 x 25 m
1.0 to 1.5 m	35 x 35 m
Greater than 1.5 m	50 x 50 m

In cases where drill hole influences overlap for a given ore surface, or when sufficient drill holes are available to extend the ore surfaces from mine development to the drill hole intersections, then larger blocks of Probable Reserve were interpreted. Drillhole blocks, based on drill hole assays above the cutoff grade, are classified as “probable reserves”.

The terminology used at the minesite to designate Measured and Indicated Mineral Resources and Proven and Probable Mineral Reserves is in general agreement with the CIM Standards as adopted in NI 43-101.

The following criteria are used by the minesite to classify Proven and Probable Mineral Reserves. Guidelines for the distance for vertical projections for Proven and Probable Reserves above an ore heading for Tronco ore, and laterally for Mantos ore are defined as:

<b>Block Length</b>	<b>Maximum Vertical Projection for Proven Mineral Reserves</b>	<b>Maximum Vertical Projection for Probable Mineral Reserves</b>
Less than 15 m (50 ft)	4 m (12 ft) above heading	8 m (24 ft)
15 to 45 m (50 to 148 ft)	8 m (24 ft) above heading	16 m (52 ft)
45 to 85 m (148 to 279 ft)	16 m (52 ft) above heading	32 m (105 ft)
Greater than 85 m (279 ft)	20 m (65 ft) above heading	40 m (135 ft)

Blocks are adjusted to reflect faults, old workings and/or vein intersections.

At the San Martin mine, where horizontal mineralized bodies “mantos” and vertical mineralized bodies “troncos” are present, Mineral Resource/Mineral Reserves estimation parameters were designed similar to the way that estimations were carried out in the San Dimas District with the following exceptions:

- Present minimum cutoff grade is based on US\$74.00/t milled;
- Proven Mineral Reserves are those with data points at close intervals with a well defined geological character;
- Probable Mineral Reserves are those with less confidence in geological continuity;
- Probable Mineral Reserves indicated by diamond drilling are those for which the tonnage and mineral grades are estimated in part by grades of samples of diamond drillholes and reasonable geological projections.

All these changes improved the reconciliation of grade for reserves versus grade through the mill, but there were still discrepancies, with production grade generally lower than reserve grade. For 2011 and 2012 reserves the Guadalupe and San Martin veins were modified based on production grade over the past year with the addition of appropriate dilution to bring the reserve grade and tonnage more in line with the calculated mined grade and recovered tonnes from these zones. All dilution in the calculations was considered at zero grade. These dilution parameters have been continued for the 2014 reserve estimate.

**TABLE 4**  
**San Martin Mine Summary of Ore Reserves**  
**(as of July 31, 2014)**

ZONE	TONNES	Au g/t	Ag g/t	Oz Au Eq
<b>AREA SAN JOSE</b>				
MINERAL PROVEN	21,274	2.10	12	1,561
MINERAL PROBABLE	23,389	2.01	10	1,632
<b>TOTAL:</b>	<b>44,662</b>	<b>2.06</b>	<b>11</b>	<b>3,192</b>
<b>SAN JOSE II</b>				
PROVEN	1,410	2.07	10	101
PROBABLE	9,290	2.39	35	876
<b>TOTAL:</b>	<b>10,700</b>	<b>2.35</b>	<b>32</b>	<b>977</b>
<b>SAN MARTIN Hangingwall</b>				
PROVEN	56,258	2.06	26	4,431
PROBABLE	108,979	1.93	19	7,756
<b>TOTAL:</b>	<b>165,237</b>	<b>1.97</b>	<b>21</b>	<b>12,186</b>
<b>SAN MARTIN Footwall</b>				
PROVEN	57,858	2.37	9	4,670
PROBABLE	65,549	2.61	14	5,958
<b>TOTAL:</b>	<b>123,407</b>	<b>2.50</b>	<b>12</b>	<b>10,628</b>
<b>GUADALUPE</b>				
PROVEN	3,545	1.84	16	238
PROBABLE	92,952	1.65	26	6,115
<b>TOTAL: (all carbonaceous)</b>	<b>96,497</b>	<b>1.66</b>	<b>25</b>	<b>6,352</b>
<b>AREA 28</b>				
PROVEN	25,716	2.27	10	1,998
PROBABLE	66,320	2.25	20	5,435
<b>TOTAL:</b>	<b>92,036</b>	<b>2.25</b>	<b>17</b>	<b>7,434</b>
<b>AREA 29</b>				
PROVEN	26,040	3.97	89	4,474
PROBABLE	102,078	4.20	24	15,002
<b>TOTAL: (66% carbonaceous)</b>	<b>*128,118</b>	<b>4.15</b>	<b>37</b>	<b>19,476</b>
<b>MILL STOCKPILE</b>				
PROVEN (25% carbonaceous)	<b>*7,475</b>	<b>2.04</b>	<b>37</b>	<b>626</b>
<b>TOTAL</b>				
PROVEN	<b>*199,576</b>	<b>2.42</b>	<b>26</b>	<b>18,098</b>
PROBABLE	<b>*468,556</b>	<b>2.52</b>	<b>21</b>	<b>42,774</b>
<b>TOTAL:</b>	<b>*668,132</b>	<b>2.49</b>	<b>22</b>	<b>60,872</b>
<b>Total Non-carbonaceous</b>	<b>486,586</b>	<b>2.31</b>	<b>19</b>	<b>40,591</b>

\* Note that these totals include some blocks of carbonaceous mineralization. The overall totals in the text have been broken down excluding carbonaceous mineralization and the reserve blocks with

carbonaceous material are summarized in Appendix I. At this time the authors prefer to omit this material from the reserve totals until such a time as capital budgets are in place to enable successful treatment in the San Martin plant.

Longitudinal sections and plans showing the Proven and Probable Reserves and the Inferred Mineral Resources are posted on the company website [www.starcore.com](http://www.starcore.com).

For the 2011 reserve calculation (July 31, 2011), the production records for the period August 1, 2010 to July 31, 2011 were looked at in detail and production was divided between ore derived from ore reserve blocks, ore mined from dilution and overbreak, and extensions of ore blocks (both along strike and across strike), and production derived from outside of reserve blocks. This showed that 50% of production tonnage had occurred outside of Ore Reserves, and a further 14% was due to overbreak and extensions to Reserves, leaving 36% of production tonnage coming from classified reserves. It was a stated goal of the 2011 Reserve report to improve the predictability of production tonnage.

Reconciliation between the reserves of the July 31 2011 estimate at the San Martin mine with mine production during the period August 1, 2011 to July 31, 2012 showed that 62% of production came from stopes and an additional 33% from dilution and extensions. The results for reconciliation during the period August 1, 2012 to July 31, 2013 showed that 86% of production came from stopes. Results for the period ending July 31, 2014 are shown below in Table 5.

**TABLE 5**  
**Summary Comparison of 2013 Proven and Probable Reserves**  
**with Mine Production, from August 1, 2013 to July 31, 2014**

<b>Category</b>	<b>Tonnes</b>	<b>Au g/t</b>	<b>Ag g/t</b>	<b>% T</b>	<b>% Au</b>	<b>% Ag</b>
July 31 2013 Reserves	705,998	2.53	24			
August 1 2013-July 31 2014 Production	308,610	2.55	24	100%	100%	100%
Production from Ore Reserve	252,950	2.60	24	82%	84%	82%

This table shows production from reserves has reached a plateau (82% versus 86% in 2013) of production tonnage and grade occurring from inside the ore reserves. Given the fluidity of reserves in an active mine environment this rate is unlikely to improve. It should be noted that over 17% of production came from blocks that are now in the 2014 reserves, and less than 1% of production came from non reserve areas.

As with any active mining operation ore reserves are not static. Usual progression for reserves would see considerable replacement of reserves by bringing forth Inferred Resources and making new discoveries, and losing some estimated ore due to changes discovered during development and mining of the ore blocks and loss of ore due to mining conditions.

These conditions are also in place at the San Martin Mine. In a normal mine environment factoring of these variables would allow for a proper reconciliation of what was previously estimated. In the case of the San Martin Mine several complicating factors have made it more difficult to determine reconciliation from the previous resource. These include:

1. Changes to Proven and Probable Ore Parameters, including:
  - a. Dilution factors
  - b. Block parameters and confidence levels
2. Mining and milling ore without documentation of reserves. This commonly happens when blocks are found and mined between annual reporting periods
3. Insufficient previous recording of reconciliation to provide a history of ore recovery to help develop the procedures and parameters to factor reconciliation calculations

Changes made to the July 31, 2011 reserve estimate resulted in a marked improvement in the discrepancy between reserve grade and production grade, and further improvement was noted for the 2012 and 2013 reports. This year's estimate should see a continuation of the high reconciliation rate. Table 6 shows a more detailed breakdown of the production grade reconciliation inside the reserve during the August 1 2013 to July 31, 2014 period related to the reserve estimated for similar areas in 2013.

From this table it can be seen that for total yearly production grade determination of reserve blocks is improving in both gold and silver in comparison to past years. But for specific ore blocks, particularly for silver, there are still large discrepancies reserve grades and production grades.

The authors have reviewed in detail the methods used to estimate the Mineral Reserves and Resources at the San Martin mine, and are of the opinion that the estimated Mineral Reserves and Resources, stated in this report, fairly represent the tonnage and grade of the mine. Sufficient reserve and resources are indicated in this report to keep the mine in production for several years. The current reserve estimation procedures and the increase in awareness of reconciliation with proper documentation of recovery and loss factors now provide a solid foundation for mine planning to ensure the mine returns sufficient metal to remain viable

**TABLE 6**  
**Grade Reconciliation of August 1 2013 to July 31 2014 Mine Production**  
**Taken from the July 2013 Proven and Probable Reserves**  
**by Reserve Area**

RESERVE AREAS	Production from previous Reserve August 1, 2013 to July 31, 2013			Expected Reserve Grades		% of Actual Grade Mined vs Reserve Grade	
	TONS	Au	Ag	Au	Ag	Au	Ag
<b>SAN MARTIN HANGINGWALL</b>							
SMB3600-1	1,212	2.23	7	2.75	4	81%	165%
SMB1600-1	365	1.20	4	1.90	14	63%	28%
SMB2400-5	3,793	3.29	28	3.54	10	93%	268%
SMB2600-1	12,759	3.69	26	3.77	39	98%	65%
SMB2600-2	4,957	2.69	20	2.71	6	99%	307%
SMB4400-1	14,924	2.28	15	3.54	10	65%	141%
SMB4600-1	16,324	2.14	14	2.60	4	82%	335%
SMB3600-1	7,846	2.18	18	2.75	4	79%	433%
SMB2400-1	3,956	3.05	26	1.91	9	160%	289%
SMB2200-1	11,033	2.68	22	2.58	25	104%	90%
SMB2200-2	9,076	2.72	13	2.58	25	105%	51%
<b>Subtotal</b>	<b>86,245</b>	<b>2.65</b>	<b>19</b>	<b>2.96</b>	<b>16</b>	<b>90%</b>	<b>116%</b>
<b>SAN MARTIN FOOTWALL</b>							
SM3200-2	26,320	2.01	15	1.73	20	116%	76%
SM3200-1	3,469	1.81	23	1.73	20	104%	111%
SM4000-1	1,784	2.04	12	2.62	45	78%	27%
SM4000-2	5,386	2.22	18	2.04	35	109%	53%
SM4200-1	265	1.42	20	1.94	20	73%	102%
SM6200-2	16,391	3.33	46	6.26	84	53%	55%
SM6000-1	6,678	1.78	19	2.10	20	85%	91%
SM6000-2	19,559	3.89	47	4.66	82	83%	57%
SM5000-2	17,181	3.77	52	3.36	54	112%	98%
SM8200-1	27,907	2.01	15	2.02	13	100%	120%
SM8000-1	19,339	2.10	13	1.98	14	106%	90%
<b>Subtotal</b>	<b>144,279</b>	<b>2.63</b>	<b>28</b>	<b>2.96</b>	<b>39</b>	<b>89%</b>	<b>72%</b>
<b>AREA 28</b>							
283057-1	209	1.84	7	1.84	10	100%	72%
284031-1	2,255	1.74	33	2.38	32	73%	101%
283103-1	15,447	2.33	9	1.74	15	134%	62%
<b>Subtotal</b>	<b>17,911</b>	<b>2.25</b>	<b>12</b>	<b>1.82</b>	<b>17</b>	<b>124%</b>	<b>71%</b>
<b>AREA 29</b>							
295096C-1	715	2.70	21	3.37	86	80%	24%
295119C-1	863	2.07	30	4.82	336	43%	9%
296095-1	2,937	2.18	38	3.49	48	62%	79%
<b>Subtotal</b>	<b>4,515</b>	<b>2.24</b>	<b>34</b>	<b>3.72</b>	<b>109</b>	<b>60%</b>	<b>31%</b>
<b>TOTAL</b>	<b>252,950</b>	<b>2.60</b>	<b>24</b>	<b>2.90</b>	<b>31</b>	<b>90%</b>	<b>77%</b>

### **15.3 DEFINITIONS**

The classification of mineral resources and mineral reserves used in this report conforms with the definitions provided in the final version of National Instrument 43-101 (“NI 43-101”), which came into effect on February 1, 2001, and revised on December 11, 2005. We further confirm that, in arriving at our classification, we have followed the guidelines and standards adopted by the Council of the **Canadian Institute of Mining Metallurgy and Petroleum** (“CIM”). The relevant definitions for the CIM Standards/NI 43-101 are as follows:

A **Mineral Resource** is a concentration or occurrence of diamonds, natural, solid, inorganic or fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

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

An **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

A **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough to confirm both geological and grade continuity.



A **Mineral Reserve** is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

A **Probable Mineral Reserve** is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

A **Proven Mineral Reserve** is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

## **16. MINING OPERATIONS**

The San Martin operation consists of underground mining and surface milling facilities with a current daily capacity averaging 842 tpd. The San Martin Mine is economically a gold mine with enough silver content that the plant is technically a silver plant. In the period August 1 2013 to July 31, 2014 the mill processed 308,610 tonnes with a calculated head grade of 2.55 g/t gold and 24 g/t silver.

The main mine access is by tunnels and ramps with the main portal located less than 300 m from the mill site. Ventilation is provided through robins raises by surface mounted exhaust fans and aided by natural means. The mine employs mechanized cut-and-fill using waste rock from development to backfill stoping areas. During the last few years some narrow structures have been stoped using modified resuing techniques which have helped reduce dilution while providing backfill without haulage costs. The ore is transported from the stopes with load haul dump equipment to loading ramps or ore passes for loading of highway type dump trucks with capacities of 8 to 16 tonnes depending on the ramp size, for haulage to the mill. Ramps are typically 10% but in 2008 the gradient of ramps was increased to 12%.

More than 50 percent of mine development and production is by 3 single boom jumbos with the remainder by conventional jack-leg drills. Stopes use mechanized and conventional cut and fill using pivoting ramps and most blast holes are sub-horizontal. In stopes with widths greater than 5 meters pillars are left to support the ground. Pillars commonly consist of 15%

of the original reserve. The use of rockbolting has increased in recent years for rock support but shotcrete continues to be the principal method of providing additional rock support, particularly in the manto areas. The shotcrete is applied with mobile units equipped with a mixer, pump and an articulated application arm.

The San Martin mine operates with a combination of contractors and employees. Most of the hourly workers are contracted through the union or syndicate, the mine has a good relationship with the union and has seen significantly fewer labour issues than most other mines in Mexico.

## **17. RECOVERY METHODS**

The San Martin Mill is a conventional cyanidation mill using the Merrill Crowe recovery process, with a rated capacity of 900 tpd. The mill flowsheet employs two stage fine crushing, grinding is also two stage with both ball mills and a tower mill followed by total ore cyanide leaching in a CCD circuit. Gold and silver is recovered with zinc precipitation and is refined on site to doré.

In the period August 1, 2013 to July 31, 2014 the mill achieved an average throughput of 846 tpd with recoveries of 87.1% for gold and 52.7% for silver. The gold recovery has rebounded from the recovery problems with carbonaceous ore in 2012 (78% recovery) and is back to levels seen in previous years.

A tailings filtration plant to provide for dry handling and stacking of the tailings was installed in 2005 and the recommendations by AMEC have been implemented and the tailings dam is being reinforced to better standards.

The San Martin flowsheet has been shown in previous reports by WGM.

## **18. PROJECT INFRASTRUCTURE**

The infrastructure at San Martin is typical of a small mining operation and the site includes mine offices, repair shops, laboratory, warehouse and eating facilities for mine personnel (Figure 3). The mine and mill are connected to the electric grid and the mine produces more than enough water for milling operations. Electrical power is supplied by the Federal Power

Commission however the mine has a secondary electricity generating system with about 500kW capacity to supply power to the mill during a power failure and during the peak supply times when prices are higher.

## **19. MARKET STUDIES AND CONTRACTS**

Gold and silver doré in the form of bullion that is produced from the mines was shipped primarily to the Peñoles refinery in Torreon, Mexico. Recent doré shipments have been made to Johnson Matthey in Brampton, Ontario and to Valcambi refinery in Switzerland as well as refineries in Turkey and Italy to mitigate the potential impact of unrelated problems that could arise using a lone refinery such as strikes or other issues. The terms of the JM refinery contract provide for payment of 99.5% of the gold (depending on the gold content of the doré, 99.25% if <5%Au, 99.75% if >5% Au) and silver content with treatment charges of \$0.25/troy oz of doré and refining charges of US\$1.00/troy oz of gold. Payment is due 20 days following receipt of the bullion at the refinery and based on the spot price 2 days after receipt.

The San Martin doré is a clean product with few impurities. There are numerous refineries around the world available to refine the doré.

Starcore had a gold hedge in place that was scheduled to expire in January 2013. It effectively specified that 1140 ounces of gold were sold each month at a price of \$731 per ounce. This hedge was bought out by Starcore in the second quarter of 2012, and since then, all gold production is un-hedged. In addition the mine and Starcore have paid back the capital borrowed to purchase the mine.

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

### **20.1 GENERAL**

In 2002 at the time of the Wheaton River acquisition of Luismin, the San Martin tailings had a number of issues with the operation that required attention to reduce environmental risk and eliminate the impact the tailings operation was having on the area. WGM reported that at the time of their site visit in October 2004, “*considerable progress had been made to correct the*

*deficiencies with the tailings operation and at the time of the visit in 2006 the required modifications had been completed.”*

The tailings at the San Martin operation are deposited by dump truck in several locations along the berm in lifts of 30 centimetres. Roughly 5-10% of the tailings is deposited by traditional wet method within the impoundment. The tailings impoundment is located in a small valley along the flank of the hillside which enable the diversion of rainfall runoff as well as the collection of water seepage water. A new lined collection pond was completed in February 2009, the collected seepage is returned to the plant for process water. In late 2013 the practice of pumping the tailing supernatant directly to the plant avoiding the decant system has further reduced cyanide concentrations in seepage collection.

In 2011 a permit amendment was received permitting the placement of tailings for an additional 10 vertical meters of elevation. Recent estimates by AMEC indicate that the permitted impoundment has a capacity of 10 additional years of operation at current throughput.

## **20.2 TAILINGS DAM CONSTRUCTION AND SEEPAGE**

A reinforcing berm of compacted fill was built along the downstream toe of the tailings dam to increase the dam safety factor. The downstream side of the reinforcing berm has been constructed at a 2:1 slope. A trench has been excavated and a French drain system constructed on the downstream side of the dam to intercept seepage. The seepage is collected in a sump for recycle back to the mill. The French Drain trench has been backfilled and the area is being re-vegetated.

All of the tailings dam construction follows recommendations made by AMEC who visit the site periodically to ensure that construction is adequate. A diversion ditch at the north end of the pond has been completed and all final berms are being re-constructed of compacted tails with waste rock rip-rap exteriors.

## **20.3 TAILINGS FILTRATION**

A tailings filtration plant was completed and although commissioned in 2005, it has only been significantly used since 2008. It employs four drum filters on the mill tailings flow to produce a filtered tailings product for conveyance to the tailings dam. Following the

commissioning, the solution flow to tailings and the associated hydraulic heads and potential for seepage has been substantially reduced.

The tailings filtration solution is being recycled directly back to the mill circuit and reduces the reagent consumption and solution losses as well as the cost of solution pumping from the tailings dam collection ponds.

## **21. CAPITAL AND OPERATING COSTS**

Capital and operating budgets are prepared for each calendar year for the mine by mine staff. These budgets are continuously reviewed against production to ensure profitability. For the first half of 2014 operating year the average cost of production was \$US 74 per tonne milled including capital allowance. This cost includes all minesite administration.

Starcore has some additional admin costs for head office administration and these numbers are well documented in the company's financial statements which are filed quarterly on SEDAR.com.

## **22. ECONOMIC ANALYSIS**

Starcore International Mines Ltd. currently has only one operating mine and no other active exploration projects therefore the best economic analysis of the operation can be reviewed in the financials filed by Starcore. See quarterly and annual financial statements for Starcore International Mines Ltd. on SEDAR.com.

## **23. ADJACENT PROPERTIES**

There are not any other significant exploration projects or mines around the San Martin mine.

## **24. OTHER RELEVANT DATA AND INFORMATION**

There is no other relevant information or explanation necessary to complete this technical report.

## 25. INTERPRETATION AND CONCLUSIONS

The reserves and resources estimated in this report are based on data available up until July 31, 2013. Based on the previously stated assumptions the estimation process has reached the following conclusions:

- Total Proven and Probable Mineral Reserves at the San Martin mine as of July 31, 2014 estimated by mine staff and reviewed by David R. Gunning, P. Eng. are **486,586 tonnes at a grade of 2.31 g Au/t and 19 g Ag/t** (Table 5). This total includes Proven reserves of 179,589 tonnes grading 2.33 g/t Au and 17 g/t Ag along with Probable reserves of 306,997 tonnes grading 2.30 g/t Au and 19 g/t Ag;
- The total Inferred Mineral Resources estimated as of July 31, 2014 for San Martin Mine and not included in the Mineral Reserves stated above are about 898,049 tonnes at an approximate grade of 2.15 g/t Au and 24 g/t Ag;
- The procedures used at San Martin to estimate the Mineral Reserves are reasonable and fairly represent the tonnage and grade that can be expected from this operation;
- The procedures used at San Martin to estimate the Inferred Mineral Resources are reasonable and the Inferred Resource estimate represents a reasonable expectation of potential;
- Recent discoveries suggest that other new veins might be found.
- For the past 3 1/2 years production at San Martin has been at a rate of about 300,000/tonnes per year and for the previous 11 years prior to that at about 275,000 tonnes,
- Annual mine production and reserve grade appear to be stabilizing at over 2.0 g/t gold and 25 g/t silver, and can be expected to remain at these grades failing any new discoveries of higher grade zones, which remains a strong possibility.

In recent years the mine had difficulties meeting production grade forecasts. This was partly due to poor grade control practice and partly due to reserve estimation procedures that were optimistic and that better reflected past production than current reserves. In recent years careful reconciliation of the reserve blocks to production grades has been useful in redefining the parameters and assumptions for future estimations, and bringing them more in line with production. It may be discovered in 2015 that grade continues to be affected by higher dilution due to thinner ore, irregular strike direction, strike discontinuity, and faulting within Tronco and vein deposits that make up most of the estimated reserves. It may also be found

that drill indicated probable reserves do not adequately represent the true recoverable grade. As production history and the structural controls of zones are better defined the dilution and grade cutting factors must be updated to reflect this new understanding.

The development of accesses into the hangingwall stockwork zones of past producing tronco stopes has resulted in substantial tonnages of good grade ore. These stopes have the potential to contribute significant portions of monthly and yearly production.

Good potential exists for discovering new mineralized zones, as evidenced by the San Martin footwall vein, both proximal and extensional from currently known structures, and for the discovery of new unknown structures. Aggressive exploration is needed to continue to keep ore reserves ahead of mine production.

The geology department has made some gains in the use of Surpac for 3D modelling and plans are in place to utilize this software to better plan exploration drilling from surface and underground. Focus needs to be maintained to continue with these programs.

## **26. RECOMMENDATIONS**

Exploration and development at San Martin during the August 1 2013 to July 31 2014 period was not sufficient to maintain the reserve tonnage, and new ore needs to be found in the coming year to make up this shortfall. The average reserve grade appears to have stabilized, reversing a trend of a continuing drop in grade from the last six or seven years. The need to find additional above average grade reserves is still a constant concern, and the requirement to control mine dilution to maintain reserve grade is still important to mine viability. Drilling and exploration development programs are constantly evolving at the mine to try to meet the requirement of providing a 2.5 g/t Au mill feed. Production in 2014 has averaged over the 2.5 g/t gold showing that this goal is attainable.

Previous reports made various recommendations for activities by the mining and geological departments. Activities to improve operations were broken down into two main categories; exploration and grade control. The past recommendations have only been partially implemented and the testing of their validity should be addressed.

Work needs to continue to define the capital and operating costs associated with the treatment of the carbonaceous mineralization as well as the estimation of the size and grade of all the mineralized blocks of carbonaceous material.

“s\David R. Gunning\s”

David R. Gunning P. Eng.

DATED this 1<sup>st</sup> day of October, 2014

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Joseph W. Campbell

DATED this 1<sup>st</sup> day of October, 2014



## 27. REFERENCES

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Wheaton River Minerals Ltd.

- 2002 Trip Report by R. Gagnon.
- 2002 Trip Report by R.D. Bergen.
- 2002 Trip Report by Randy Smallwood.

**CERTIFICATE**  
**To Accompany the Report titled**  
**“Reserves and Resources in the San Martin Mine, Mexico as of July 31, 2014”**  
**for Starcore International Mines Ltd.**  
**dated October 1, 2014**

I, David R. Gunning, P. Eng. of 20356 42A Avenue, Langley, BC, hereby certify that:

1. I am currently employed as Chief Operating Officer, Starcore International Mines Ltd, 750-580 Hornby Street, Vancouver, BC, Canada V6C 3B6
2. I am a graduate of the University of British Columbia having obtained the degree of Bachelor of Applied Science in 1983.
3. I have been employed in the mining industry continuously since 1983. Since 1983 I have performed resource and reserve estimating in several commodities, including extensive experience in gold and silver, copper, and tungsten deposits.
4. I am a member of the Association of Professional Engineers and Geoscientists of BC and use the title of Professional Engineer (P.Eng.).
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation of my professional association and past relevant work experience, I fulfil the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I have read the definition of “Independence” set out in NI 43-101 and certify that I do not fulfil the requirements of “Independence” for the purposes of NI 43-101.
7. I have been a co-author of previous reserve reports on the San Martin Mine in 2010 and 2011.
8. Prior to writing this report I visited the San Martin Mine almost every month since 2009.
9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
10. I have read the instrument and Form 43-101F. The Technical Report titled “Reserves and Resources in the San Marin Mine, Mexico, as of July 31<sup>st</sup>, 2014”, which was prepared from information available as of July 31<sup>st</sup>, 2014, and has been prepared in compliance with the instrument and form. I am responsible for this report.
11. I consent to the filing of the Technical Report with and stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

“s\David R. Gunning\s”  
David R. Gunning, P.Eng.

**To Accompany the Report titled  
"Reserves and Resources in the San Martin Mine, Mexico as of July 31, 2014"  
for Starcore International Mines Ltd.  
dated October 1, 2014**

I, Joe Campbell, P. Geo. of #10 Barrhaven Crescent, Nepean, Ontario, hereby certify that:

12. I am currently employed as President, GeoVector Management Inc., 10 Green Street, Suite 312, Nepean, Ontario, Canada K2J 3Z6
13. I am a graduate of Acadia University having obtained the degree of Bachelor of Science – Honours in Geology in 1980.
14. I have been employed as a geologist continuously since April of 1980. Since 1980 I have performed resource and reserve estimating in several commodities, including extensive experience in gold and silver (epithermal and mesothermal), copper, zinc, nickel (sulphide and laterite) and uranium deposits.
15. I am a member of the Association of Professional Geologists of Ontario and use the title of Professional Geologist (P.Geo.).
16. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation of my professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
17. I have read the definition of “Independence” set out in National Instrument 43-101 (NI 43-101) and certify that I fulfill the requirements of “Independence” for the purposes of NI 43-101.
18. I have been a co-author of previous reserve reports on the San Martin mine in 2010, 2011 and 2012.
19. Prior to writing this report I visited the San Martin Mine from August 18<sup>th</sup> to August 22<sup>nd</sup> in 2014.
20. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
21. I have read the instrument and Form 43-101F. The Technical Report titled “*Reserves and Resources in the San Marin Mine, Mexico, as of July 31<sup>st</sup>, 2014*”, which was prepared from information available as of July 31<sup>st</sup>, 2014, and has been prepared in compliance with the instrument and form. I am fully responsible for this report.
22. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

“s\Joe Campbell \s”  
Joe Campbell, P.Geo.

**APPENDIX I**  
**RESERVE BLOCKS BY MINE AREA**

**MINA SAN MARTIN**  
**CUERPO SAN JOSE**

**NIVELES 8 - SUPERFICIE**

No.BLOCK	TONELADAS METRICAS	TONELADAS METRICAS	Au grs/ton	Ag	ANCHO mts.	AREA m2	OzAuEq
<b>MINERAL PROBADO</b>							
SJ-1	4,026		2.68	10	2.14	789	367
SJ-2	5,705		2.12	6	2.04	1,173	406
SJ-4	11,543		1.89	15	2.00	2,286.00	788
<b>Subtotal</b>	<b>21,274</b>		<b>2.10</b>	<b>11.64</b>	<b>2.04</b>	<b>1,704.24</b>	<b>1,561</b>
<b>MINERAL PROBABLE</b>							
SJ-3	12,277		2.12	6	2.04	2,524	873
SJ-5	11,112		1.89	15	2.00	2,199	759
<b>Subtotal</b>	<b>23,389</b>		<b>2.01</b>	<b>10.28</b>	<b>2.02</b>	<b>2,370</b>	<b>1,632</b>
<b>TOTAL</b>	<b>44,662</b>		<b>2.06</b>	<b>11</b>	<b>2.03</b>	<b>4,074</b>	<b>3,192</b>

**MINA SAN MARTIN**  
**CUERPO SAN JOSE II**

**NIVELES 4 - SUPERFICIE**

No.BLOCK	TONELADAS METRICAS	Au grs/ton	Ag	ANCHO mts.	AREA m2	OzAuEq
<b>MINERAL PROBADO</b>						
SJII-3	370	2.58	15	2.28	68	33
SJII-4	1,040	1.89	8	2.03	207	67
<b>Subtotal</b>	<b>1,410</b>	<b>2.07</b>	<b>9.84</b>	<b>2.10</b>	<b>275</b>	<b>101</b>
<b>MINERAL PROBABLE</b>						
SJ-01	4,450	2.70	63	3.01	620	525
SJII-9	1,119	2.58	15	2.28	206	101
SJII-6	1,394	1.89	8	2.03	288	90
SJII-8	364	2.58	15	2.28	67	33
SJII-5	1,963	1.89	8	2.03	383	127
<b>Subtotal</b>	<b>9,290</b>	<b>2.39</b>	<b>35</b>	<b>2.54</b>	<b>1,564</b>	<b>876</b>
<b>TOTAL</b>	<b>10,700</b>	<b>2.35</b>	<b>32</b>	<b>2.48</b>	<b>1,839</b>	<b>977</b>

**MINA SAN MARTIN 2014**  
**SAN MARTIN DEL ALTO**

No.BLOCK	TONELADAS METRICAS	Au grs/ton	Ag	ANCHO mts.	ANCHO DILUIDO	AREA m2	VOLUMEN	OzAuEq
<b>MINERAL PROBADO</b>								
SM3400-1	5,044	2.09	20	2.03	2.33	978	2282	390
SM4200-1	162	1.93	19	1.03	1.18	62	73	12
SM5000-1	2,560	2.94	77	2.88	3.31	350	1159	339
SM5200-1	3,848	2.37	88	3.74	4.30	405	1741	461
SM5200-2	1,775	2.68	44	2.60	2.99	269	803	192
SM7200-3	19,880	1.79	19	2.05	2.36	3816	8995	1,325
SM8000-1	22,990	2.08	15	4.10	4.72	2206	10403	1,712
<b>Subtotal</b>	<b>56,258</b>	<b>2.06</b>	<b>26</b>	<b>3.05</b>	<b>3.51</b>	<b>8,085</b>	<b>25,456</b>	<b>4,431</b>
<b>MINERAL PROBABLE</b>								
SM5200-2	11,754	2.52	66	3.81	4.38	1214	5319	1,338
SM7000-1	10,004	2.09	20	2.03	2.33	1939	4527	773
SM7200-1	8,226	2.09	20	2.03	2.33	1594	3722	635
SM7200-4	22,336	2.10	5	6.90	7.94	1274	10107	1,560
SM7400-1	23,330	1.62	11	2.16	2.48	4250	10557	1,344
SM8200-5	6,559	1.79	4	2.10	2.42	1229	2968	390
SM8400-1	21,195	1.56	11	2.25	2.59	3706	9590	1,176
SM9400-1	2,385	1.64	9	1.85	2.13	507	1079	136
SM5000-3	3,189	2.80	74	2.84	3.27	442	1443	403
<b>Subtotal</b>	<b>108,979</b>	<b>1.93</b>	<b>19</b>	<b>3.31</b>	<b>3.81</b>	<b>16,155</b>	<b>49,312</b>	<b>7,756</b>
<b>TOTAL</b>	<b>165,237</b>	<b>1.97</b>	<b>21</b>	<b>3.23</b>	<b>5.03</b>	<b>24,240</b>	<b>74,768</b>	<b>12,186</b>



**MINA SAN MARTIN 2014**  
**SAN MARTIN DEL BAJO**

No.BLOCK	TONELADAS METRICAS	Au grs/ton	Ag	ANCHO mts.	ANCHO DILUIDO	AREA m2	VOLUMEN	OzAuEq
<b>MINERAL PROBADO</b>								
SMB1600-1	1,110	1.20	14	2.41	2.77	181.2	502.20	51
SMB2200-1	1,633	2.51	5	2.19	2.52	293.4	738.93	136
SMB2200-2	3,306	2.12	18	2.63	3.02	494.6	1495.92	254
SMB2400-1	262	1.91	9	1.40	1.61	73.6	118.50	17
SMB2600-2	2,928	2.18	5	2.86	3.29	402.8	1324.81	213
SMB3600-1	3,546	2.17	4	1.46	1.68	955.6	1604.45	254
SMB4400-1	8,293	2.30	13	3.31	3.81	985.8	3752.45	665
SMB4600-1	7,011	2.05	6	1.87	2.15	1475.12	3172.25	481
SMB4600-2	3,927	1.64	5	1.18	1.36	1309.3	1776.72	217
SMB4600-3	1,440	2.30	9	1.24	1.43	456.8	651.40	112
SMB4600-5	1,024	1.65	9	1.63	1.87	247.2	463.38	59
SMB4600-6	1,225	3.47	6	2.25	2.59	214.2	554.24	140
SMB5400-1	12,586	2.83	13	3.31	3.81	1496.17	5695.17	1,226
SMB5600-1	5,495	2.48	5	1.37	1.58	1578.3	2486.61	451
SMB5600-2	2,957	2.65	9	1.63	1.87	713.9	1338.21	266
SMB5600-3	1,116	3.47	6	2.25	2.59	195.1	504.82	128
<b>Subtotal</b>	<b>57,858</b>	<b>2.37</b>	<b>9</b>	<b>2.36</b>	<b>2.72</b>	<b>11,073</b>	<b>26,180</b>	<b>4,670</b>
<b>MINERAL PROBABLE</b>								
SMB1600-3	1,029	1.20	14	2.41	2.77	168	465.61	47
SMB2400-2	695	1.90	9	1.38	1.59	198.17	314.50	46
SMB2400-3	2,001	2.30	9	1.24	1.43	634.9	905.37	156
SMB2600-3	3,796	2.18	5	2.86	3.29	522.2	1717.52	276
SMB3400-1	865	2.66	197	1.25	1.44	272.2	391.29	158
SMB4400-2	36,093	2.83	13	3.31	3.81	4290.43	16331.52	3,516
SMB4600-4	1,686	2.30	9	1.24	1.43	534.9	762.77	132
SMB5400-2	12,962	2.30	13	3.31	3.81	1540.8	5865.06	1,040
SMB5600-5	2,692	2.49	5	1.37	1.58	773.02	1217.89	222
SMB5600-6	2,520	2.65	9	1.63	1.87	608.2	1140.07	226
SMB5600-7	1,212	3.47	6	2.25	2.59	212	548.55	139
<b>Subtotal</b>	<b>65,549</b>	<b>2.61</b>	<b>14</b>	<b>2.94</b>	<b>3.38</b>	<b>9,755</b>	<b>29,660</b>	<b>5,958</b>
<b>TOTAL</b>	<b>123,407</b>	<b>2.50</b>	<b>12</b>	<b>2.67</b>	<b>3.59</b>	<b>20,828</b>	<b>55,840</b>	<b>10,628</b>

**MINA SAN MARTIN**  
**GUADALUPE**

**NIVELES 13 - 11**

No.BLOCK	TONELADAS METRICAS	Au grs/ton	Ag	ANCHO mts.	AREA m2	OzAuEq
<b>MINERAL PROBADO</b>						
GP13200-1	3,265	1.85	16	2.85	449	220
GP12200-1	280	1.71	17	2.00	61	18
<b>Subtotal</b>	<b>3,545</b>	<b>1.8</b>	<b>16</b>	<b>2.78</b>	<b>510</b>	<b>238</b>
<b>MINERAL PROBABLE</b>						
GP13200-2	312	1.88	6	2.80	41	20
GP12200-2	573	1.70	6	2.95	72	33
GP14200-1	79,199	1.54	27	2.00	13,333	4,998
GP13400-1	2,020	1.00	3	2.00	400	68
GP13400-2	6,362	2.78	6	2.52	850	588
GP13200-3	1,403	2.10	54	2.75	189	132
GP12200-3	976	1.80	50	2.74	132	81
GP12200-4	2,108	2.50	25	2.90	287	196
<b>Subtotal</b>	<b>92,952</b>	<b>1.7</b>	<b>26</b>	<b>2.08</b>	<b>15,304</b>	<b>6,115</b>
<b>TOTAL</b>	<b>96,497</b>	<b>1.7</b>	<b>25</b>	<b>2.11</b>	<b>15,814</b>	<b>6,352</b>

**MINA SAN MARTIN 2014**  
**CUERPO 28**

No.BLOCK	TONELADAS METRICAS	Au grs/ton	Ag	ANCHO mts.	ANCHO DILUIDO	AREA m2	VOLUMEN	OzAuEq
<b>MINERAL PROBADO</b>								
283103-1	21239	2.35	10	3.00	3.45	2836.36	10210.90	1,705
283057-1	4478	1.88	10	2.60	3.12	689.97	2152.71	294
<b>Subtotal</b>	<b>25,716</b>	<b>2.27</b>	<b>10</b>	<b>2.93</b>	<b>3.39</b>	<b>3,526</b>	<b>12,364</b>	<b>1,998</b>
<b>MINERAL PROBABLE</b>								
284031-1	19263	2.36	34	1.26	1.45	6391.30	9260.99	1,789
281070-1	6787	1.84	27	2.50	2.88	1134.95	3262.98	494
281070-2	3278	2.18	27	2.50	2.88	548.23	1576.16	274
283103-2	31042	2.35	10	3.00	3.45	4145.60	14924.16	2,495
283057-2	5949	1.84	10	2.60	2.99	916.70	2860.10	383
<b>Subtotal</b>	<b>66,320</b>	<b>2.25</b>	<b>20</b>	<b>2.38</b>	<b>2.74</b>	<b>13,137</b>	<b>31,884</b>	<b>5,435</b>
<b>TOTAL</b>	<b>92,036</b>	<b>2.25</b>	<b>17</b>	<b>3</b>	<b>2.92</b>	<b>16,663</b>	<b>44,248</b>	<b>7,434</b>

**MINA SAN MARTIN 2014**  
**CUERPO 29**

No.BLOCK	TONELADAS METRICAS	Au grs/ton	Ag	ANCHO mts.	ANCHO DILUIDO	AREA m2	VOLUMEN	OzAuEq
<b>MINERAL PROBADO</b>								
296095-1	3,003	2.20	56	3.03	3.48	390	1359	295
295095-2	6,595	5.87	19	3.43	3.94	757	2984	1,305
295119C-2	3,622	2.85	78	2.48	2.85	575	1639	471
295096C-1	9,191	4.21	73	3.90	4.49	927	4159	1,577
295119C-1	3,629	2.50	297	3.39	3.90	421	1642	825
<b>Subtotal</b>	<b>26,040</b>	<b>3.97</b>	<b>89</b>	<b>3.41</b>	<b>3.92</b>	<b>3,070</b>	<b>11,783</b>	<b>4,474</b>
<b>MINERAL PROBABLE</b>								
297096-2	5,408	2.12	15	1.60	1.84	1330	2447	408
295095-3	10,385	3.26	13	4.06	4.67	1006	4699	1,158
296096-1	2,473	2.95	7	2.40	2.76	405	1119	243
295096C-3	4,707	2.13	13	1.00	1.15	1852	2130	353
295096C-4	9,199	3.73	9	2.74	3.15	1321	4162	1,143
295119C-3	18,643	6.34	29	2.40	2.76	3056	8436	4,068
294095C-2	7,794	2.13	10	4.63	5.32	662	3527	569
294095C-1	20,190	5.87	19	3.43	3.94	2316	9136	3,995
295095C-1	8,073	3.24	22	2.30	2.65	1381	3653	926
29P3-1	5,083	6.19	120	3.20	3.84	625	2300	1,314
29P1-1	10,123	2.07	30	3.00	3.60	1,327.70	4,580.57	825
<b>Subtotal</b>	<b>102,078</b>	<b>4.20</b>	<b>24</b>	<b>2.96</b>	<b>3.42</b>	<b>15,284</b>	<b>46,189</b>	<b>15,002</b>
<b>TOTAL</b>	<b>128,118</b>	<b>4.15</b>	<b>37</b>	<b>3.05</b>	<b>3.53</b>	<b>18,353</b>	<b>57,972</b>	<b>19,476</b>

**MINA SAN MARTIN 2014**  
**CARBONACEOUS MATERIAL CUERPO 29**

No.BLOCK	TONELADAS METRICAS	Au grs/ton	Ag	ANCHO mts.	ANCHO DILUIDO	AREA m2	VOLUMEN	OzAuEq
<b>MINERAL PROBADO</b>								
295119C-2	3,622	2.85	78	2.48	2.85	575	1639	471
295096C-1	9,191	4.21	73	3.90	4.49	927	4159	1,577
295119C-1	3,629	2.50	297	3.39	3.90	421	1642	825
<b>Subtotal</b>	<b>16,443</b>	<b>3.53</b>	<b>124</b>	<b>3.47</b>	<b>4.00</b>	<b>1,923</b>	<b>7,440</b>	<b>2,874</b>
<b>MINERAL PROBABLE</b>								
295096C-3	4,707	2.13	13	1.00	1.15	1852	2130	353
295096C-4	9,199	3.73	9	2.74	3.15	1321	4162	1,143
295119C-3	18,643	6.34	29	2.40	2.76	3056	8436	4,068
294095C-2	7,794	2.13	10	4.63	5.32	662	3527	569
294095C-1	20,190	5.87	19	3.43	3.94	2316	9136	3,995
295095C-1	8,073	3.24	22	2.30	2.65	1381	3653	926
<b>Subtotal</b>	<b>68,606</b>	<b>4.72</b>	<b>19</b>	<b>2.89</b>	<b>3.33</b>	<b>10,589</b>	<b>31,043</b>	<b>11,055</b>
<b>TOTAL- 29</b>	<b>85,049</b>	<b>4.49</b>	<b>39</b>	<b>3.01</b>	<b>3.46</b>	<b>12,512</b>	<b>38,484</b>	<b>13,929</b>
<b>Guadalupe</b>	<b>96497</b>	<b>1.66</b>	<b>25</b>	<b>2.11</b>		<b>15814</b>		<b>6,352</b>
<b>TOTAL carbonaceous</b>	<b>181,546</b>	<b>2.98</b>	<b>32</b>	<b>2.53</b>	<b>1.62</b>	<b>28,327</b>	<b>38,484</b>	<b>20,281</b>