NI 43-101 Technical Report on the Cozamin Mine, Zacatecas, Mexico

January 24, 2019

Effective Date: October 24, 2018

Prepared by: Capstone Mining Corp.

Authors:
Gregg Bush, P.Eng.
Jenna Hardy, P.Geo., Nimbus Management Ltd.
Tucker Jensen, P.Eng., Capstone Mining Corp.
Darren Kennard, P.Eng., Golder Associates Ltd.
Garth Kirkham, P.Geo., FGC, Kirkham Geosystems Ltd.
Chris Martin, CEng MIMMM, Blue Coast Metallurgy Ltd.
Vivienne McLennan, P.Geo., Capstone Mining Corp.
Humberto Preciado, PhD, P.E., Wood Environment & Infrastructure Solutions, Inc.

Table of Contents

Table of Tables

Table of Figures

Date and Signature Page

The effective date of the Cozamin Mine 2018 Technical Report on the Cozamin Mine, Zacatecas, Mexico, is October 24, 2018.

Signed and Sealed January 24, 2019

Gregg Bush, P.Eng.

Signed and Sealed January 24, 2019

Jenna Hardy, P.Geo., Nimbus Management Ltd.

Signed and Sealed January 24, 2019

Tucker Jensen, P.Eng., Capstone Mining Corp.

Signed and Sealed January 24, 2019

Darren Kennard, P.Eng., Golder Associates Ltd.

Signed and Sealed January 24, 2019

Garth Kirkham, P.Geo., FGC, Kirkham Geosystems Ltd.

Signed and Sealed January 24, 2019

Chris Martin, CEng MIMMM, Blue Coast Metallurgy Ltd.

Signed and Sealed January 24, 2019

Vivienne McLennan, P.Geo., Capstone Mining Corp.

Signed and Sealed January 24, 2019

Humberto Preciado, PhD, PE, Wood plc

1 Summary

1.1 Property Description and Location

The Cozamin Mine is located in the Morelos Municipality of the Zacatecas Mining District, near the south-eastern boundary of the Sierra Madre Occidental Physiographic Province in north-central Mexico. The mine and processing facilities are located near coordinates 22º 48' N latitude and 102º 35' W longitude on the 1:250,000 Zacatecas topographic map sheet F13-6.

1.2 Ownership

Cozamin mine is 100% owned by Capstone Gold S.A de C.V., a subsidiary of Capstone Mining Corp., ("Capstone" or the "Company") and is subject to a 3% net smelter royalty ("NSR") payable to Minas Bacis S.A. de C.V. ("Bacis"), a Mexican mining company that was one of Mexico's primary silver producers during the 1980s and 1990s, and a 1% NSR to Endeavour Silver Corp. ("EDR"), based on the concessions where mining occurs.

1.3 Mineral Concessions, Surface Rights and Land Ownership

The Cozamin mine comprises 90 mining concessions covering 4,202 hectares. Capstone is the registered holder of 45 mining concessions covering approximately 3,427 hectares of land and Mining Opco, S.A. de C.V. is the registered holder of 45 mining concessions covering approximately 775 hectares of land. These mining concessions are listed in the Public Registry of Mining and are not subject to any limitations of property, claim or legal proceedings. The mining rights, with respect to each of the concessions, have been paid to date.

In 2017, Capstone entered a mineral-rights sharing agreement with EDR. on abutting mining concessions at the southern boundary of Capstone's Cozamin mine property. The agreement provides Capstone with exploration and exploitation rights on seven Endeavour concessions below 2,000 metres above sea level ("masl"), a depth where copper-rich mineralization has been historically found and mined by Capstone, and provides EDR with exploration and exploitation rights on 10 Capstone concessions above 2,000 masl.

1.4 Geology and Exploration

The Zacatecas Mining District covers a belt of epithermal and mesothermal vein deposits that contain silver, gold and base metals (copper, lead and zinc). The district is in the Southern Sierra Madre Occidental Physiographic Province near the boundary with the Mesa Central Physiographic Province in north-central Mexico. The dominant structural features that localize mineralization are of Tertiary age, and are interpreted to be related to the development of a volcanic centre and to northerly trending basin-and-range structures.

In 2004, Capstone scout drilled the Mala Noche vein ("MNV") beneath the down dip extent of the historic mine workings of the San Roberto mine. The initial three drill sections, comprising two drillholes each, all intersected economic mineralization over true widths varying from 3.2 m to 14.9 m. These three drill sections were distributed over 550 m of strike extent beneath the historic workings. At that point, Capstone decided to drill single drillholes beneath the San Roberto workings on cross-sections spaced every 100 m along strike. These holes targeted the MNV at approximately 2,150 masl, or approximately 65 m below the historic workings. This strategy resulted in the first 20 exploration holes being distributed over a strike length of 1.4 km. Of these first 20 drillholes, 17 intersected significant mineralization that averaged 6.64 m in true width and had weighted grade averages of 2.61% Cu, 91.3 g/t Ag and 1.38% Zn.

These higher copper grades and economic silver grades are associated with significant amounts of pyrrhotite. This reinforced the Company's belief that the historic workings at San Roberto are located just above the upper reaches of a large copper-silver mineralized system of mesothermal character. Subsequent exploration drilling showed that the copper-silver dominant phase of mineralization extends below 1,865 masl which is 350 m below the historic workings.

In late 2006, Cozamin commenced commercial production at 1,000 tonnes per day ("tpd") with a three-year mine life in reserve, while at the same time continuing exploration.

From 2004 until late 2009, the Company focused exploration on the MNV system, where underground drilling targeted various zones within the San Roberto mine to increase confidence for resource classification. A similar approach was taken with surface drilling that focused on the San Rafael area of the MNV system, situated to the east of the San Roberto mine. Additional surface or underground step-out and infill drilling targeting copper mineralization was conducted at the MNV in 2010-2013 and 2015-2017. In 2016 and 2017, step-out and infill drilling tested the grade and continuity of zinc mineralization at the San Roberto Zinc and San Rafael areas of the MNV.

In 2010, the Company discovered a new zone of high grade copper-silver mineralization localized in a structure in the footwall of the MNV, splaying approximately 30° to the southeast. It is referred to as the Mala Noche Footwall zone ("MNFWZ"). The zone currently measures more than 2,000 m along strike and between 200 m and 600 m down dip. Additional exploration and infill drilling at the MNFWZ was executed in 2011-2013, 2015-2017 and continues during the 2018 program. Drilling in 2017 and 2018 identified a significant extension to the zone along strike, and mineralization remains open locally up-dip, down-dip, and along strike. The MNFWZ merges to the west with the MNV and is considered closed to the north in that area. Mining commenced in the MNFWZ in November 2010.

Since 2014, additional exploration drilling has been periodically executed at Cozamin testing for mineralization in fault splays off the main zone analogous to the MNFWZ and in other parallel to sub-parallel structures.

1.5 Mineral Resources Estimates

At the Cozamin mine, mineral resources are estimated within the MNFWZ and MNV, including the San Roberto ("SROB"), San Roberto Zinc ("SROB-Zn") and San Rafael zones. Production commenced from SROB in 2006, San Rafael during 2006-2009 then restarted in February 2018, MNFWZ in 2010 and from SROB-Zn since early 2018.

Mineral resources are not mineral reserves until they demonstrate economic viability. Even though mining has been undertaken in areas of the MNV and MNFWZ with Proven and Probable class mineral reserves, there is no certainty that Inferred mineral resources will be converted to Measured and Indicated categories through further drilling, or into Mineral Reserves once economic considerations are applied.

The MNFWZ mineral resource estimate was updated with drilling up to October 24, 2018 using commercially-available MineSight® software after mineralization domains were developed in Leapfrog®.

The MNV mineral resource estimate was updated with the same formula used to estimate the NSR value for MNFWZ and depleted for mining activities until October 24, 2018. The MNV mineral resource model, comprising the SROB, SROB-Zn and San Rafael zones, was previously updated internally in July 2017 to include infill drilling completed since Capstone's 2009 NI 43-101 Technical Report (SRK, 2009). Drilling included a 2017 campaign targeting zinc-rich mineralization with 49 infill drillholes at San Rafael and SROB-Zn (upper, eastern limits of the San Roberto zone). The SROB was updated with underground infill drilling from mid-2016 to July-2017 (60 drillholes). Domains separating the copper-rich SROB and zinc-rich SROB-Zn and San Rafael were generated in Leapfrog® and the mineral resource estimate was completed in Maptek™ Vulcan.

Table 1-1: Cozamin October 24, 2018 Mineral Resources Estimate above a US$50/t NSR cut-off

Classification	Tonnes (kt)	Grade				Contained Metal			
		Cu (%)	Ag (g/t)	Zn (%)	Pb (%)	Cu (kt)	Ag (Koz)	Zn (kt)	Pb (kt)
Copper Zones (SROB and MNFWZ)									
Measured	407	1.24	53	1.23	0.40	5	694	5	2
Indicated	14,639	1.69	44	0.88	0.23	247	20,917	128	34
Measured + Indicated	**15,046**	**1.68**	**45**	**0.89**	**0.23**	**252**	**21,611**	**133**	**35**
Inferred	13,323	1.35	46	1.20	0.27	180	19,832	160	36
Zinc Zones (SROB-Zn and San Rafael)									
Measured	-	-	-	-	-	-	-	-	-
Indicated	2,242	0.29	45	3.67	0.57	6	3,244	82	13
Measured + Indicated	**2,242**	**0.29**	**45**	**3.67**	**0.57**	**6**	**3,244**	**82**	**13**
Inferred	3,628	0.22	35	3.29	0.36	8	4,107	119	13
Total Mineral Resources									
Measured	407	1.24	53	1.23	0.40	5	694	5	2
Indicated	16,881	1.50	45	1.25	0.28	254	24,162	210	46
Measured + Indicated	**17,288**	**1.50**	**45**	**1.25**	**0.28**	**259**	**24,855**	**215**	**48**
Inferred	16,951	1.11	44	1.65	0.29	188	23,939	279	49

Table 1-1 notes:
1. Garth Kirkham, P.Geo., FGC, is the independent Qualified Person responsible for the disclosure of Cozamin Mineral Resources. Mineral resources are reported at a cut-off of NSR US$50 using the NSR350 formula: Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981 based on metal price assumptions (in US$) of Cu = $3.50/lb, Ag = $18.00/oz, Zn = $1.20/lb, Pb = $1.00/lb and metal recoveries of 95% Cu, 78% Ag, 58% Zn, 40% Pb. All contained metals are reported at 100%. Totals may not sum exactly due to rounding.
2. The cut-off date for mining activities and drillhole sample data is October 24, 2018.
3. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
4. Mineral resources are reported inclusive of the mineral reserves.

1.6 Mineral Reserves Estimate

The Cozamin Mine Mineral Reserves estimate is based on the mineral resource block models developed by Jeremy Vincent, P.Geo., formerly of Capstone Mining Corp for the San Roberto/San Rafael zone, and by Garth Kirkham, P.Geo., FGC, Kirkham Geosystems Ltd., for the Mala Noche Footwall Zone. Tucker Jensen, P.Eng., Senior Mining Engineer at Capstone Mining Corp., is the Qualified Person for the Cozamin Mineral Reserve Estimate.

The Cozamin Mineral Reserve estimate effective as of October 24, 2018, is summarized in Table 1-2: Cozamin Mineral Reserves Estimate at October 24, 2018 above a US$50/t NSR cut-off. The Mineral Reserves are estimated based on a longhole open-stoping mining method and tabulated from the interrogations of development and stope triangulations generated in Maptek Stope Optimizer software ("MSO"). These triangulations were applied to both Mineral Resource block models listed above after the models had been depleted of past mining production and areas of geotechnical sterilization. Also factored for in the Mineral Reserve estimate are production losses and dilution. Mineral reserves were classified as Proven and Probable in accordance with CIM Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2014) and are summarized in Table 1-2.

Table 1-2: Cozamin Mineral Reserves Estimate at October 24, 2018 above a US$50/t NSR cut-off

Classification	Tonnes (kt)	Grade				Contained Metal			
		Cu (%)	Ag (g/t)	Zn (%)	Pb (%)	Cu (kt)	Ag (koz)	Zn (kt)	Pb (kt)
Proven	-	-	-	-	-	-	-	-	-
Probable	6,195	1.60	43	0.71	0.14	99	8,543	44	8
Proven + Probable	**6,195**	**1.60**	**43**	**0.71**	**0.14**	**99**	**8,543**	**44**	**8**

Table 1-2 Notes:
1. Tucker Jensen, P.Eng., Senior Mining Engineer at Capstone Mining Corp., is the Qualified Person for this Cozamin Mineral Reserve update. Disclosure of the Cozamin Mine Mineral Reserves as of October 24, 2018 was completed using fully diluted mineable stope shapes generated by the Maptek Vulcan Mine Stope Optimizer software and estimated using the 2016 MNV resource block model created by J. Vincent, P.Geo., formerly of Capstone Mining Corp and the 2018 MNFWZ resource block model created by Garth Kirkham, P.Geo., FGC.
2. Mineral Reserves are reported at a US$50/t net smelter return ("NSR") cut-off using the NSR275 formula: ($50.707*%Cu + 0.366*Ag ppm + 7.276*Zn%)*(1-NSRRoyalty%) based on metal price assumptions (in US$) of Cu = $2.75/lb, Ag = $16.00/oz, Zn = $1.10/lb and metal recoveries of 96.5% Cu, 81% Ag, 44% Zn. Note that zero value was attributed to Pb due to low concentrations. Tonnage and grade estimates include dilution and recovery allowances. The NSR royalty rate applied varies between 1% and 3% depending on the mining concession. All metals are reported as contained.

1.7 Life of Mine Operating Plan

The life of mine operating ("LOM") plan was completed by Tucker Jensen, P.Eng. in December 2018. The LOM plan forecasts mining 6.2 Mt from October 24, 2018 until early 2024. Only material identified as Mineral Reserves was included in the LOM plan.

Access to underground workings is obtained from two service and haulage ramps and a hoisting shaft. Ramps are 5 m wide and 5 m high. The mining method longitudinal longhole open stoping with loose waste rock backfill will be used exclusively for the extraction of the remaining current Cozamin ore reserves. Sublevels are 4 m wide by 4.5 m high and are usually mined to the extent of the ore. The mining width can vary between 2 m and 15 m, depending on the vein thickness. The average mill production is currently 2,500 to 3,000 tpd but is expected to rise to 3,780 tpd upon successful completion of the Crucero de San Rafael haulage strategy.

Ground conditions in the mine are usually favourable with wide spans observed to be generally stable with ground support at the current depth and extraction ratio. Geotechnical considerations include cross-cutting fault zones perpendicular or orthogonal to veins, sub-vertical slip planes across veins, faults parallel to MNV contacts and lower intact rocks strengths in metamorphic phyllite or shale rock types. Vertical rib pillars are designed to be placed in regular intervals according to local geotechnical conditions or left in place where cross-cutting faults intersect the veins. Ground support practices are modified in areas at depth where horizons of metamorphic rock increase in waste rock.

1.8 Economic Analysis

An economic analysis is not required in this Technical Report because Cozamin is a producing mine and no material expansion of current production is proposed.

1.9 Conclusions and Recommendations

The Cozamin Mine has been successfully developed into a viable mining operation with 12 years of continuous operation history by Capstone. Based on the findings of this technical report, the QPs believe the Cozamin Mine and milling operation is capable of sustaining production through the depletion of the current mineral reserve. Relevant geological, geotechnical, mining, metallurgical and environmental data from the Cozamin Mine has been reviewed by the QPs to obtain an acceptable level of understanding in assessing the current state of the operation. The mineral resource and reserve estimates have been performed to industry best practices (CIM, 2003) and conform to the requirements of CIM Definition Standards (CIM, 2014).

Capstone holds all required mining concessions, surface rights, and rights of way to support mining operations for the life-of-mine plan developed using the October 24, 2018 Mineral Reserves estimates. Permits held by Capstone are sufficient to ensure that mining activities within the Cozamin Mine are carried out within the regulatory framework required by the Mexican Government. No risk associated with permit extensions is anticipated. Annual and periodic land use and compliance reports have been filed as required.

The understanding of the regional geology, lithological, structural, and alternation controls of the mineralization at Cozamin are sufficient to support estimation of mineral resources and mineral reserves. The mineral resources and mineral reserve estimates, NSR cut-off strategy, and operating and capital cost estimates have been generated using industry-accepted methodologies and actual Cozamin performance standards and operating costs. Metallurgical expectations are reasonable, based on stable metallurgical results generated from actual production data and recently completed studies. Reviews of the environmental, permitting, legal, title, taxation, socio-economic, marketing and political factors for the Cozamin Mine support the declaration of mineral reserves.

Cozamin water sources include purchase of additional water rights from the municipal authority in 2014, authorization to use treated water, water from underground mines held by various other parties, and new water supply wells constructed downstream from the mine and processing facilities in 2011 and 2012. Cozamin Mine is projected to have access to sufficient water resources to support a 4,000 tpd operation.

At present, there is sufficient capacity within the TSF to store all of the mineral reserves assuming proper tailings management continues and allows for construction of competent coarse tailings beaches for subsequent upstream raises. Alternative tailings management solutions are being studied and compared to mitigate the risk of long-term use of the current TSF. This Technical Report considers the timing and cost of the permitting, land acquisition, engineering, and construction of a secondary TSF.

Based on current regulations and laws, Capstone has addressed the environmental impact of the operation, in addition to certain impacts from historical mining. Closure provisions are appropriately considered in the mine plan. There are no known significant environmental, social or permitting issues that are expected to prevent the continued mining of the deposits at Cozamin Mine.

The Qualified Persons conclude that the Cozamin mine remains a viable mining operation, however the recommendations in Table 1-3 should be completed.

Table 1-3: Summary of Recommendations

Recommendations
Dilution and mining recovery factors need to be continuously validated through annual reconciliations and adjusted as required, especially in lithologies where historical mining experience is low. [1]
Continue to increase the blasted mineral inventory to allow for unknown geotechnical conditions at depth or in new and challenging lithologies.[1]
On-going studies to evaluate possible improvements regarding: • Geotechnical conditions (modelling and continued rock mass characterization). [4] • Data gaps in site hydrology and hydrogeology.[2] • Characterization of waste, tailings and historic waste rock/tailings over the mine property. [2] • Physical inventories of areas of historic liabilities within Capstone's mining concessions (both where surface rights are held by Capstone and by third parties) with priority given to areas of potential for future tailings storage to better inform high level feasibility and trade off studies.[2] • Mineralogical studies to better characterize the zinc ore mineralogy to guide further Metallurgical study.[3] • Continue evaluating other tailings management solutions to allow for continued reserve expansion, a refinement and potential reduction of closing, rehabilitation and remediation costs, and risk management. [5]
Continue community and regulatory engagement. [2]
Review operational recommendations listed in this Technical Report with regulators to determine whether new or amended authorizations are required. [2]

Table 1-3 Notes:
1. QP Tucker Jensen, P.Eng.
2. QP Jenna Hardy, P.Geo.
3. QP Chris Martin, CEng MIMMM
4. QP Darren Kennard, P.Eng.
5. QP Humberto Preciado, PhD, PE

Opportunities identified for the Cozamin mine are presented in Table 1-4.

Table 1-4: Summary of Opportunities

Opportunities
A 40,400 m drilling exploration program testing MNFWZ and additional near-MNV structures is underway for 2019. Future exploration targets may be identified. [4]
Refine the water balance to determine needs and potential long-term sources.[2]
Hydrogeological and hydrological studies, as well as supporting geochemical modelling, to understand potential aquifer vulnerability over the long term into closure. [2]
Improve the characterization of metal leaching/acid rock drainage (“ML/ARD”) of tailings and waste rock with further sampling and testing to support storage option decisions and improve closure planning/costing. [2]
Continue to investigate opportunities to reclassify more of the San Rafael zinc deposit from mineral resource to mineral reserve[1], especially through increasing the metallurgical recovery of zinc and developing strategies for mining the upper zinc lens.[3]
Conduct additional mineralogical evaluation of San Rafael ores in aid of ongoing metallurgical investigation to enhance zinc metallurgical recoveries.[3]
Pursue novel procedures, methods and/or technologies to increase the economics of mining ultra-narrow (<2m) veins to incorporate into reserves.[1]

Table 1-4 Notes:
1. QP Tucker Jensen, P.Eng.
2. QP Jenna Hardy, P.Geo.
3. QP Chris Martin, CEng MIMMM
4. QP Garth Kirkham, P.Geo., FGC

The authors are of the opinion that the current geological, mining and metallurgical data from the Cozamin mine are of sufficient quality to support the mineral resources, mineral reserves and life-of-mine plan as presented in this Technical Report.

Risks identified to the Cozamin mine are summarized in Table 1-5.

Table 1-5: Summary of Risks

Risks
Exchange rates, off-site costs and, in particular, base metal prices all have the potential to affect the economic results of the mine. Negative variances to assumptions made in the budget forecasts would reduce the profitability of the mine, thereby impacting the mine plan.[1]
Mexican regulatory expectations for environmental and social responsibility continue to evolve. Since the first environmental impact assessment, Capstone's property ownership has increased beyond the area of active mining and processing operations to encompass additional areas of historic mining and processing operations, particularly in the Chiripa-La Gloria arroyo area. The regulatory path forward for remediating these types of environmental liabilities is not yet certain and may result in increased expectations and regulatory requirements. This has the potential to increase costs for final closure and/or post closure monitoring which cannot be quantified at this time.[2]
The construction method for the upstream tailings dam raise is highly dependent on tailings management to keep the reclaim pond as small and as far as possible from the dam crest for proper tailings beach construction. This dependency has the potential to jeopardize the feasibility of subsequent upstream raises and limit the future total waste storage capacity. These risks are currently mitigated with continuous tailings management, monitoring performance of the tailings storage facility, frequent site characterizations to monitor the progression of tailings beach strength and audits from independent consultants.[3]

Table 1-5 Notes:
1. QP Tucker Jensen, P.Eng.
2. QP Jenna Hardy, P.Geo.
3. QP Humberto Preciado, PhD, PE

2 Introduction

2.1 Description of the Issuer

This Technical Report was prepared by Capstone Mining Corp. ("Capstone") to disclose updated mineral resources and reserves at the Cozamin mine in Zacatecas, Mexico. It was prepared by following National Instrument 43-101, Standards of Disclosure for Mineral Projects ("NI 43-101") and is written in accordance with Form 43-101F1. Estimations of mineral resources and mineral reserves follow industry best practices as defined by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM, 2003). Classification of mineral resources and mineral reserves conform to CIM Definition Standards (CIM, 2014). The effective date of this Technical Report is October 24, 2018.

2.2 Qualified Persons

This Technical Report was authored by several Qualified Persons ("QP") as defined in NI 43-101, Standards for Disclosure for Mineral Projects, and in compliance with Form 43-101F. QPs for this Technical Report are listed in Table 2-1 and the summary of QP responsibilities of this Technical Report are listed in Table 2-2.

Table 2-1: Qualified Persons for this Technical Report

Qualified Persons
Gregg Bush, P.Eng., former COO of Capstone Mining Corp., not Independent within the meaning of NI 43-101.
Jenna Hardy, P.Geo., Principal, Nimbus Management Ltd
Tucker Jensen, P.Eng., Senior Mining Engineer, Capstone Mining Corp., not Independent within the meaning of NI 43-101.
Darren Kennard, P.Eng., Principal, Senior Mining Geotechnical Engineer, Golder Associates Ltd.
Garth Kirkham, P.Geo., FGC, Kirkham Geosystems Ltd.
Chris Martin, CEng MIMMM, President and Principal Metallurgist, Blue Coast Metallurgy Ltd.
Vivienne McLennan, P.Geo., Manager, Resource Governance, Capstone Mining Corp., not Independent within the meaning of NI 43-101.
Humberto Preciado, PhD, PE, Associate Geotechnical Engineer, Wood

Table 2-2: Summary of Qualified Person Responsibilities

Section	QP (Sub section)
1.1: Summary of Property Description and Location	Garth Kirkham, P.Geo., FGC
1.2: Summary of Ownership	
1.3: Summary of Mineral Concessions, Surface Rights and Land Ownership	
1.4: Summary of Geology and Exploration	

Section	QP (Sub section)
1.5: Summary of Mineral Resource Estimates	
1.6: Summary of Mineral Reserves Estimate 1.7: Summary of Life of Mine Operating Plan 1.8: Summary of Economic Analysis	Tucker Jensen, P.Eng.
1.9: Summary Conclusions and Recommendations	Garth Kirkham, P.Geo., FGC
2: Introduction 3: Reliance on Other Experts 4: Property Description and Location 5: Physiography, Climate, Access, Local Resources, and Infrastructure 6: History 7: Geological Setting and Mineralization 8: Deposit Types 9: Exploration 10: Drilling	Garth Kirkham, P.Geo., FGC
11: Sample Preparation, Analysis and Security	Vivienne McLennan, P.Geo.
12: Data Verification	Garth Kirkham, P.Geo., FGC
13: Mineral Processing and Metallurgical Testing	Chris Martin, CEng MIMMM
14: Mineral Resources Estimate	Garth Kirkham, P.Geo., FGC
15: Mineral Reserves Estimate	Tucker Jensen, P.Eng.
16: Mining Methods	Tucker Jensen, P.Eng. (16.1,16.3-16.7) Darren Kennard, P.Eng. (16.2)
17: Recovery Methods	Gregg Bush, P.Eng.
18: Project Infrastructure	Tucker Jensen, P.Eng. (18.1, 18.2) Humberto Preciado (18.3)
19: Markets and Contracts	Tucker Jensen, P.Eng.
20: Environmental Studies, Permitting and Social or Community Impact	Jenna Hardy, P. Geo.
21: Capital and Operating Costs	Tucker Jensen, P.Eng.
22: Economic Analysis	Tucker Jensen, P.Eng.
23: Adjacent Properties 24: Other Relevant Data and Information 25: Interpretations and Conclusions	Garth Kirkham, P.Geo., FGC
26.1 Recommendation Related to Mineral Processing and Metallurgical Testing (Section 13)	Chris Martin, CEng MIMMM

Section	QP (Sub section)
26.2 Recommendations Related to Mining Methods (Section 16.1,16.3-16.7)	Tucker Jensen, P.Eng.
26.3 Recommendations Related to Geotechnical Considerations (Section 16.2)	Darren Kennard, P.Eng.
26.4 Recommendations Related to Recovery Methods (Section 17)	Gregg Bush, P.Eng.
26.5 Recommendations Related to Tailings Storage Facility (Section 18.3)	Humberto Preciado, PhD, PE
26.6 Recommendations Related to Environmental Studies, Permitting and Social or Community Impacts (Section 20)	Jenna Hardy, P. Geo.
27: References	Garth Kirkham, P.Geo., FGC

2.3 Qualified Person Site Visits

Site inspections have been undertaken by each of the Technical Report authors as outlined in Table 2-3: Site Inspection Details of Qualified PersonsTable 2-3. Dates listed do not include travel time to and from the Cozamin mine.

Table 2-3: Site Inspection Details of Qualified Persons

Qualified Person	Date (Excluding Travel)	Scope of Site Inspection
Gregg Bush	June 25-29, 2018	Review of historical mill operating data, process circuits, and equipment.
Jenna Hardy	October 16-20, 2017 September 3-7, 2018	Environmental and regulatory review with site personnel, historic mines and tailings inspection as well as closure and reclamation planning.
Tucker Jensen	April 17-20, 2018 May 15-24, 2018 June 12-14, 2018 August 14-16, 2018 Nov 5-15, 2018	Mineral reserve estimation. Review mining methods, mine planning and schedule, mining operations performance, mining costs (both operating and capital), dilution and ore loss, and reconciliation.
Darren Kennard	April 16-18, 2018	Geotechnical assessment.
Garth Kirkham	April 9-10, 2018	Estimation of mineral resources, review of sample collection, preparation and analysis, QAQC, bulk density measurements and mineralization in situ.
Chris Martin	January 24, 2018	Metallurgical testwork.
Vivienne McLennan	January 18-Feb 1, 2017 March 27-April 1, 2017 February 14-24, 2018 April 9-20, 2018 August 6-11, 2018 Oct 22- Nov 2, 2018	Review of data handling for drilling and exploration information including mineral tenures, drillcore, QAQC, and database verification.
Humberto Preciado	April 30, 2018 August 28- 29, 2018	Tailings storage facility, proposed waste dump location and associated infrastructure inspection.

2.4 Information Sources and References

Sources of data include diamond drilling, downhole surveys, geotechnical information and historical production. In addition, other reports, opinions and statements of lawyers and other experts are discussed in Section 3.

The sample information used to develop the mineral resources and mineral reserves estimates and metallurgical test work was collected over a number of years, dating back to 2004. All sample information has been acquired by Capstone personnel.

2.5 Terms of Reference

All units in this report are based on the metric SI system (Système International d'Unités - International System of Units), except for some units which are deemed industry standards, such as troy ounces (oz) for precious metals and pounds (lb) for base metals. All currency values are in US dollars ("$") unless otherwise noted.

The following defined terms have been used in this Technical Report.

Table 2-4: Acronyms

Acronym	Expanded Form
Acme	Acme Analytical Laboratories Ltd.
Actlabs	Activation Laboratories Ltd.
AIF	Annual Information Form
ALS	ALS Geochemistry
Assayers Canada	Mineral Environments Laboratories Ltd
Bacis	Minas Bacis S.A. de C.V.
Base Metals	Copper, lead, zinc
C&F	Cut and Fill
CAPEX	Capital costs
Capstone	Capstone Mining Corp.
CCS	Chip-channel sample
CEMEFI	Mexican Centre for Philanthropy
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CML	Cozamin Mine Laboratory
COG	Cut-off Grade
Copper Zone	San Roberto and Mala Noche Footwall zones
CoV	Coefficient of Variation
Cozamin	Capstone Gold, S.A. de C.V.
CRIP	Complex Resistivity Induced Polarization
CRM	Certified Reference Material
CSAMT	Controlled Source Audio Magnetotellurics
CuEq	Copper Equivalent

Acronym	Expanded Form
CUSTF	Cambio de Uso de Suelos en Terrenos Forestales
DDH	Diamond drillhole
DTU	Documento Tecnico Unificado
Eco Tech	Eco Tech Laboratories Ltd.
EDA	Exploratory Data Analysis
EDR	Endeavour Silver Corp.
ER	Estudio Riesgo
ETJ	Estudio Tecnico Justificativo de Cambio de Uso de Suelos
G&A	General and Administrative
GCOS	Global Change of Support
GPS	Global Positioning System
HARD	Half Absolute Relative Difference
HDPE	High-density polyethylene
ICP	Inductively coupled plasma method of ionizing sample material
ID^2	Inverse Distance, squared estimation method
INEGI	Instituto Nacional de Estadística y Geografía
Inspectorate	Bureau Veritas Inspectorate
IRR	Internal Rate of Return
IVA	Value Added Tax (Mexican)
LAU	Licencia Única Ambiental
LGEEPA	Ley General de Equilibrio Ecológico y la Protección al Ambiente
LGGC	Lions Gate Geological Consulting Inc.
LH	Long Hole
LHD	Load-haul-dump mining equipment
LME	London Metal Exchange
LOM	Life of mine
LOMP	Life of mine plan
M&I	Measured and Indicated Mineral Resources
MEX or MX$	Mexican Peso
MHS	Material Handling Study
MIA	Manifestación de Impacto Ambiental
Minzone	Mineralized Zone
ML/ARD	Metal leaching/acid rock drainage
MNFWZ	Mala Noche Footwall Zone
MNV	Mala Noche Vein
MSO	Maptek Stope Optimizer software
NSAMT	Natural Source Audio Magnetotellurics
NE	Northeast
NI 43-101	National Instrument 43-101
NN	Nearest Neighbour estimation method

Acronym	Expanded Form
NNE	North-North-West
NSR	Net Smelter Return
OK	Ordinary Kriging estimation method
OPEX	Operating costs
PAG	Potentially acid generating
Peñoles	Industrias Peñoles S.A. de C.V.
PFS	Preliminary Feasibility Study
Precious Metals	Gold, silver, platinum
PROFEPA	Procuraduría Federal de Protección al Ambiente en el Estado de Zacatecas
Q	Q value for rock mass classification using Q-system
QAQC	Quality Assurance/Quality Control
RM	Reference Material
RMR	Rock Mass Rating
ROM	Run of Mine
RQD	Rock Quality Designation
SE	Southeast
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales
SGS	SGS Canada Inc.
SMU	Selective Mining Unit
SRK	SRK Mining Consultants
SROB	San Roberto zone (Copper)
SROB-Zn	San Roberto Zinc zone
Supervisor	Snowden Technologies Pty Ltd *Supervisor* software
SVOL	Search volume, numbered by pass in a multi-pass search strategy
TDIP	Time domain induced polarization
TSF	Tailings Storage Facility
UCS	Uniaxial compressive strength
US$	United States Dollar
WNW	West-North-West
X, Y, Z	Cartesian Coordinates, also “Easting”, “Northing”, and “Elevation”
Zinc Zone	San Rafael and San Roberto Zinc zone

Table 2-5: Abbreviations

Abbreviation	Unit or Term	Abbreviation	Unit or Term
Distance		**Mass**	
µm	micron (micrometre)	kg	kilogram
mm	millimetre	g	gram
cm	centimetre	t	metric tonne
m	metre	kt	kilotonne
km	kilometre	lb	pound
" or in	inch	Mt	megatonne
' or ft	foot	oz	troy ounce
Power		wmt	wet metric tonne
MW	megawatt	dmt	dry metric tonne
HP	horsepower	tpd	tonnes per day
		tph	tonnes per hour
Area		**Pressure**	
m^2	square metre	psi	pounds per square inch
km^2	square kilometre	Pa	Pascal
ac	acre	kPa	kilopascal
ha	hectare	MPa	megapascal
Volume		**Elements and Compounds**	
L	litre	Au	gold
m^3	cubic metre	Ag	silver
ft^3	cubic foot	Cu	copper
USg	US gallon	Pb	lead
LCM	loose cubic metre	Zn	zinc
MLCM	million lcm	$CaCO_3$	calcium carbonate
BCM	bank cubic metre	ANFO	ammonium nitrate/fuel oil
MBCM	million bcm	**Bulk Density and Specific Gravity**	
CFM	Cubic feet per minute	BD/SG	g/cm^3

Table 2-6: Conversion Factors

Conversion Factors	
1 tonne	2204.62 lb
1 oz (troy)	31.1035 g

3 Reliance on Other Experts

In preparing this Technical Report, the authors have relied upon certain work, opinions and statements of lawyers and other experts. The authors consider the reliance on other experts, as described in this section, as being reasonable based on their knowledge, experience and qualifications.

- Lic. Maria del Rosario Torres Aldana, Jefa de Medio Ambiente of Capstone Gold S.A. for environmental and regulatory considerations detailed in Section 20.
- Rafael Cereceres Ronquillo, LL.B, for a legal opinion pertaining to the ownership of mining concessions by Capstone Gold S.A. de C.V. and Mining Opco, S.A. de C.V. in Section 4.5.

The results and opinions expressed in this Technical Report are conditional upon the information provided by the experts listed in this section as being current, accurate and complete as of the date of this Technical Report.

4 Property Description and Location

The Cozamin mine is located in the Morelos Municipality of the Zacatecas Mining District near the southeastern boundary of the Sierra Madre Occidental Physiographic Province in north-central Mexico (Figure 4-1). The mine and processing facilities are located near coordinates 22º 48’ N latitude and 102º 35’ W longitude on 1:250,000 Zacatecas topographic map sheet F13-6.

Figure 4-1: Cozamin Mine Location Map

4.1 Mining Concessions

The Cozamin mine comprises 90 mining concessions covering approximately 4,202 ha (Figure 4-3 and Figure 4-4). Capstone Gold S.A. de C.V. is the registered holder of 45 mining concessions covering approximately 3,427 ha with an additional pending mining concession of approximately 9 ha and Mining Opco, S.A. de C.V. is the registered holder of 45 mining concessions covering approximately 775 ha. These mining concessions are listed in the Public Registry of Mining and are not subject to any limitations of property, claim or legal proceedings. The mining rights, with respect to each of the concessions, have been paid to date. The mine is 100% owned by Capstone subject to a 3% net smelter royalty payable to Minas Bacis S.A. de C.V. ("Bacis"), a Mexican resource company, and a 1% NSR payable to Endeavour Silver Corp. ("EDR"), based on the concessions where mining occurs.

Table 4-1: Cozamin Mining Concessions Summary – held by Capstone Gold S.A. de C.V.

Description / Name	Title Number	Claim Classification	Validity		Claim Area (ha)
			From	To	
001 Plateros	188806	Exploitation	1990-11-29	2040-11-28	9
002 Santa Lucia	195187	Exploitation	1992-08-25	2042-08-24	18.7267
003 San Nicolás	200150	Exploitation	1994-07-15	2044-07-14	5.3697
004 San Jacinto Fracc. 1	202437	Exploitation	1995-11-24	2045-11-23	78.7955
005 San Jacinto Fracc. 2	202438	Exploitation	1995-11-24	2045-11-23	17.7846
006 Santa Bárbara Fracc. 4	202628	Exploitation	1995-12-08	2045-12-07	0.4585
007 Santa Bárbara Fracc. 2	235867	Exploitation	2010-03-24	2060-03-23	16.5589
008 Gabriela II	203364	Exploitation	1996-07-19	2046-07-18	18.9438
009 Plateros Dos	208838	Exploitation	1998-12-15	2048-12-14	50
010 La Liga	217237	Exploitation	2002-07-02	2052-07-01	20.1817
011 San Bonifacio	217858	Exploitation	2002-08-27	2052-07-26	40.8518
012 Santa Bárbara Fracc. 1	218259	Exploitation	2002-10-17	2052-10-16	82.9691
013 La Secadora	219630	Exploitation	2003-03-26	2053-03-25	9
014 La Providencia	223954	Exploitation	2005-03-15	2055-03-14	60
015 Unificación Carlos	235574	Exploitation	2010-01-20	2060-01-19	542.5265
016 Orlando	225620	Exploitation	2005-09-23	2055-09-22	11.7899
017 San Luis I	223325	Exploitation	2004-12-02	2054-12-01	290.6121
018 San Luis II	224466	Exploitation	2005-05-13	2055-05-12	133.8409
019 San Luis II Fracc. I	224467	Exploitation	2005-05-13	2055-05-12	2.1713
020 San Luis II Fracc. II	224468	Exploitation	2005-05-13	2055-05-12	2.4654
021 Acueducto	224469	Exploitation	2005-05-13	2055-05-12	13.559
022 Acueducto Fracc. 1	224470	Exploitation	2005-05-13	2055-05-12	9.598
023 La Parroquia	224471	Exploitation	2005-05-13	2055-05-12	1.2601
024 La Gloria	224474	Exploitation	2005-05-13	2055-05-12	4.1372
025 La Sierpe	224503	Exploitation	2005-05-13	2055-05-12	4.2638
026 La Sierpe Fracc. 1	224504	Exploitation	2005-05-13	2055-05-12	0.0108
027 San Judas	226699	Exploitation	2006-02-17	2056-02-16	14.5989

Description / Name	Title	Claim	Validity		Claim
028 El Lucero	*226834*	-	*2006-03-10*	*2056-03-09*	*145.3505*
029 Lorena	227712	Exploitation	2006-07-28	2056-07-27	318.5825
030 Sara	228086	Exploitation	2006-09-29	2056-09-28	231.9436
031 El Ranchito	228343	Exploitation	2006-11-08	2056-11-07	11.2997
032 El Ranchito Fracc 1	228344	Exploitation	2006-11-08	2056-11-07	0.6189
033 La Veta	228345	Exploitation	2006-11-08	2056-11-07	1.4533
034 Anabel	229238	Exploitation	2007-03-27	2057-03-26	310.771
035 Cecilia	230921	Exploitation	2007-11-09	2057-11-08	425.6022
036 Ximena	234713	Exploitation	2009-08-04	2059-08-03	400.5854
037 Los Amigos	223270	Exploitation	2004-11-18	2054-11-17	30
038 San Francisco	203270	Exploitation	1996-06-28	2046-06-27	17.2735
039 Santa Rita	183882	Exploitation	1988-11-23	2038-11-22	12.3809
040 La Esperanza	214768	Exploitation	2001-11-29	2051-11-28	29.5678
041 San Benito	239550	Exploitation	2011-12-16	2061-12-15	9
042 Sandra	238171	Exploitation	2011-08-09	2061-08-08	127.3809
043 La Capilla	240517	Exploitation	2012-06-12	2062-06-11	2.198
044 La Fortuna	*Pending*	*Exploitation*	-	-	*Approx. (9.0000)*
045 Unificación El Cobre	170677	Exploitation	1982-06-11	2032-06-10	31.4914
046 Parroquia Dos	165880	Exploitation	1979-12-13	2029-12-12	1
047 Parroquia Tres	175518	Exploitation	1985-07-31	2035-07-30	6.0063
				Total (excl. 028, 044) [1,2]	3,580.9801 ha

Table 4-1 Notes:
1. Capstone S.A. de C.V. is the owner of claim El Lucero (title number, 226834), registered in the Municipality of Concordia, Sinaloa.
2. La Fortuna (044) was solicited in 2010 and is pending approval.

Table 4-2: Cozamin Mining Concessions Summary – held by Mining Opco, S.A. de C.V.

Description / Name	Title Number	Claim Classification	Validity		Claim Area (ha)
			From	To	
048 Diez de Mayo	151926	Exploitation	1969-10-06	2019-10-05	26.5725
049 Aries	194829	Exploitation	1992-07-30	2042-07-29	59.6032
050 Adriana	196151	Exploitation	1993-07-16	2043-07-15	15.0000
051 11 de Mayo	211770	Exploitation	2000-07-28	2050-07-27	29.1756
052 Largo III Fracción III	219050	Exploitation	2003-02-04	2053-02-03	4.3593
053 Largo III Fracción I	219196	Exploitation	2003-02-18	2053-02-17	28.2972
054 Largo III Fracción II	219197	Exploitation	2003-02-18	2053-02-17	1.3226
055 Eureka	116153	Exploitation	1961-12-05	2061-12-04	13.9232
056 Segunda A. al Patrocinio	156645	Exploitation	1972-04-12	2022-04-11	7.6662
057 Cuarta A. al Patrocinio	156646	Exploitation	1972-04-12	2022-04-11	8.0840
058 Lucia Numero Tres	169353	Exploitation	1981-11-11	2031-11-10	31.0000
059 Lucia Numero Dos	185481	Exploitation	1989-12-14	2039-12-13	5.9975

Description / Name	Title Number	Claim Classification	Validity		Claim Area (ha)
			From	To	
060 Santa Lucia	210729	Exploitation	1999-11-26	2049-11-25	51.4051
061 Los Clarines	210800	Exploitation	1999-11-26	2049-11-25	74.0235
062 Santa Clara	217768	Exploitation	2002-08-13	2052-08-12	4.2124
063 Manuelito	211809	Exploitation	2000-07-28	2050-07-27	22.7023
064 Mexicapan	212562	Exploitation	2000-11-07	2050-11-06	40.9755
065 Nueva Santa Clara	213110	Exploitation	2001-03-16	2051-03-15	0.6141
066 Chicosantos	215669	Exploitation	2002-03-05	2052-03-04	24.4870
067 Santa Fe	216458	Exploitation	2002-05-17	2052-05-16	10.5408
068 Santo Tomas	217327	Exploitation	2002-07-02	2052-07-01	4.9781
069 La Azteca II	211768	Exploitation	2000-07-28	2050-07-27	9.3218
070 La Fe 2	218080	Exploitation	2002-10-03	2052-10-02	68.0829
071 Largo V	219199	Exploitation	2003-02-18	2053-02-17	10.8878
072 Emma	220995	Exploitation	2003-11-11	2053-11-10	11.1661
073 Angustias II	222293	Exploitation	2004-06-22	2054-06-21	14.7323
074 Libra	223407	Exploitation	2004-12-10	2054-12-09	11.9969
075 El Descuido	223408	Exploitation	2004-12-10	2054-12-09	4.9761
076 Angustias I	223409	Exploitation	2004-12-10	2054-12-09	7.4914
077 Largo VI Fracción IX	224327	Exploitation	2005-04-22	2055-04-21	1.2270
078 Providencia	227729	Exploitation	2006-08-10	2056-08-09	0.7511
079 La Esperanza 3	238676	Exploitation	2011-10-11	2061-10-10	0.4848
080 La Esperanza 3 Fracc. 1	238677	Exploitation	2011-10-11	2061-10-10	0.0097
081 La Bonanza	178542	Exploitation	1986-08-11	2036-08-10	26.9273
082 La Escondida	179318	Exploitation	1986-12-08	2036-12-07	14.0000
083 San Felipe	190210	Exploitation	1990-12-06	2040-12-05	11.2822
084 San Jorge	196316	Exploitation	1993-07-16	2043-07-15	14.9090
085 El Cristo No. 2	213216	Exploitation	2001-04-06	2051-04-05	11.5746
086 Patrocinio	214120	Exploitation	2001-08-10	2051-08-09	9.0000
087 San Pedro De Hercules	214190	Exploitation	2001-08-10	2051-08-09	18.1049
088 La Chiquita	219104	Exploitation	2003-02-04	2053-02-03	1.1148
089 Largo I	219194	Exploitation	2003-02-18	2053-02-17	3.1148
090 Leo	220455	Exploitation	2003-07-29	2053-07-28	52.3500
091 Ana	220992	Exploitation	2003-11-11	2053-11-10	2.3929
092 San Lazaro 2	235676	Exploitation	2010-02-12	2060-02-11	3.7536
				Total	774.5921 ha

Three mineral claims acquired in September 2009 from Minera Largo S de RL de CV, a wholly owned subsidiary of Golden Minerals Company ("Golden Minerals"), are subject to future cash payments of a NSR of 1.5% on the first one million tonnes of production and cash payments equivalent to a 3.0% NSR on production in excess of one million tonnes from the acquired claims. The NSR on production over one million tonnes also escalates by 0.5% for each $0.50 increment in copper price above $3.00 per pound of copper.

In 2014, Capstone acquired 45 additional concessions from Golden Minerals totalling 775 ha that surround the Cozamin mine's existing concessions. 17 of the claims are subject to a finder's fee to be paid as a 1.0% NSR, or Gross Proceeds Royalty, to International Mineral Development and Exploration Inc., pursuant to existing agreements on the concessions dating back to October 1994 and August 2000.

In 2017, Capstone purchased three concessions on the south side of the property and also entered into a mineral-rights sharing agreement with EDR for concessions that abut on the southern boundary of the Cozamin mine property. The mineral-rights sharing agreement provides Capstone with exploration and exploitation rights on seven EDR concessions below 2,000 meters above sea level ("masl"), a depth where copper-rich mineralization has been historically found and mined by Capstone, and provides EDR with exploration and exploitation rights on 10 Capstone concessions above 2,000 masl. Exceptions to these rights are as follows:

- If Capstone's exploration suggests possible continuation of a mineralized domain where base metals contribute more than 60% of the estimated NSR value above 2,000 masl, Capstone will be entitled to conduct exploration above 2,000 masl upon a minimum 30 days notice to EDR, provided the exploration does not interfere with EDR's current or future mining activities;
- If EDR's exploration suggests possible continuation of a mineralized domain where precious metals contribute more than 60% of the estimated NSR value below 2,000 masl, Capstone will be entitled to conduct exploration above 2,000 masl upon a minimum 30 days notice to EDR, provided the exploration does not interfere with Capstone's current or future mining activities.

Capstone granted EDR a 1% NSR on its base metal production on EDR property, and EDR granted Capstone a 1% NSR on EDR precious metal production on Capstone property.

4.2 Surface Rights

Capstone has acquired surface rights to the lands required for mining operations and exploration activities (Figure 4-2 and Figure 4-4).

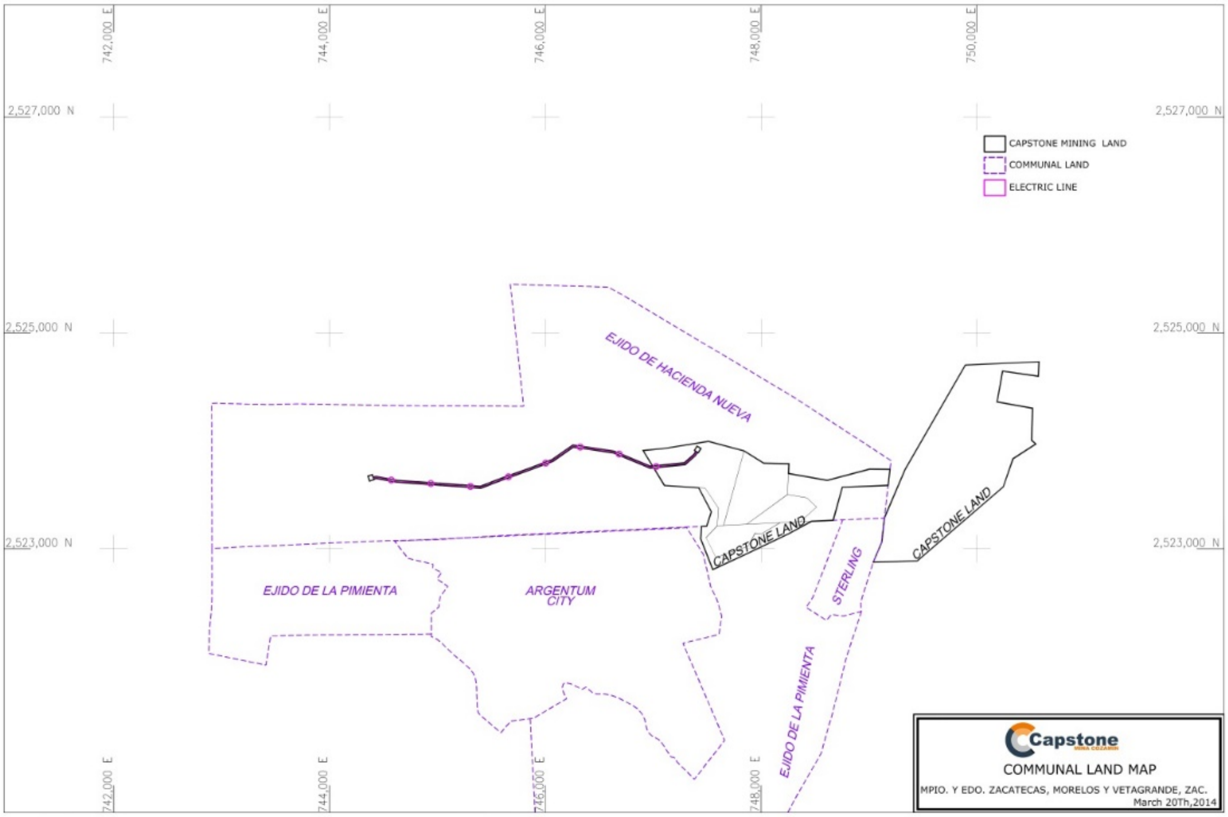


Figure 4-2: Cozamin Surface Rights and Surrounding Ejido Boundaries

4.3 Environmental Liabilities

As of the effective date of this Technical Report, environmental liabilities and issues of environmental concern are limited to those that are expected to be associated with an underground base metal mining operation with mineral processing by flotation. Facilities include an underground mine and associated infrastructure, access roads and surface infrastructure, including the process plant and waste and tailings disposal facilities situated within an area of extensive disturbance due to historic mining and processing activities. The mine environmental setting, environmental considerations and current environmental liabilities are discussed in Section 18 and Section 20.

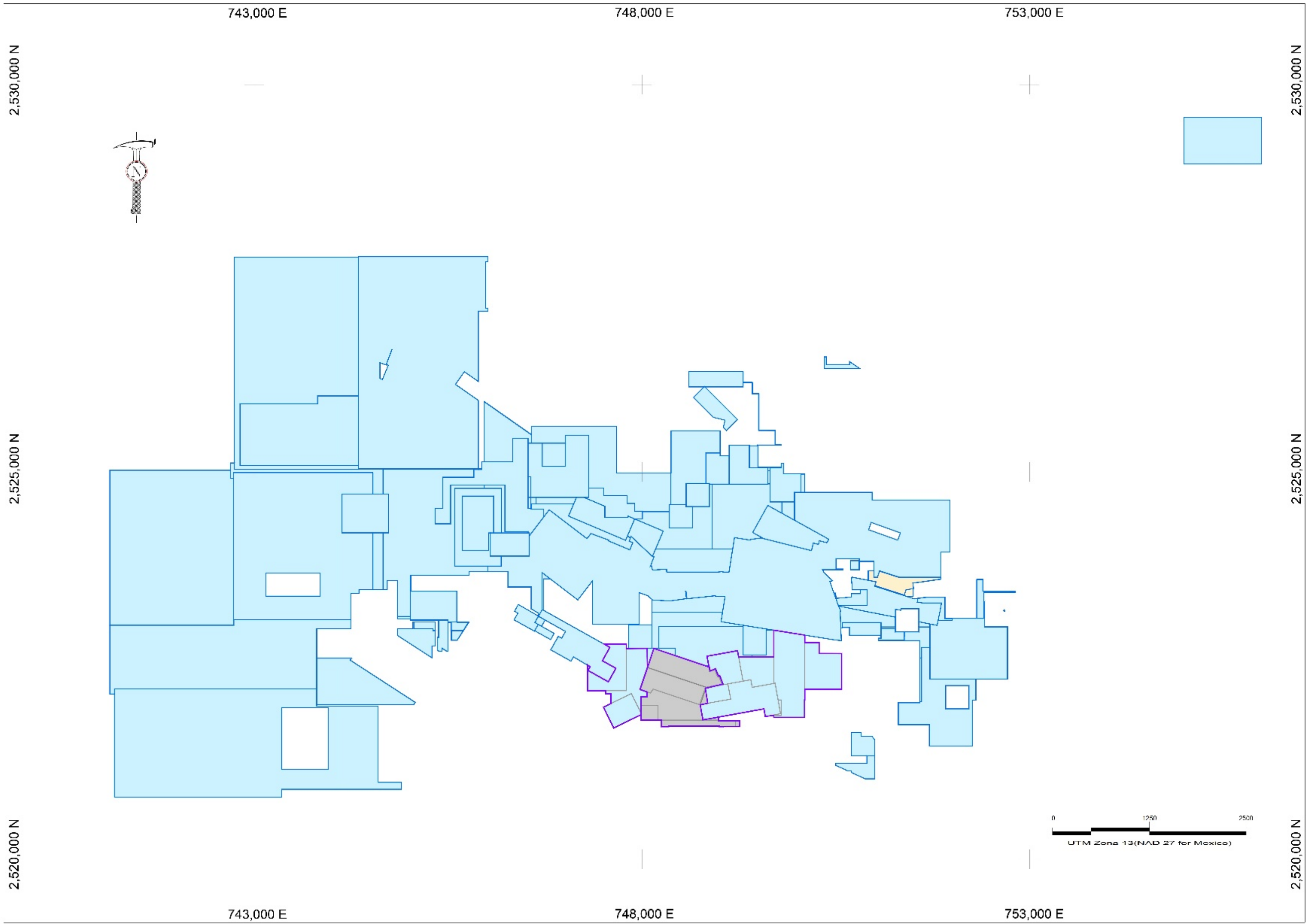


Figure 4-3: Cozamin Mining Concessions Map; Capstone Gold and Mining OpCo (blue), Endeavour agreement claims (purple outline with Endeavour concessions in grey), withdrawn concession in processing (yellow)

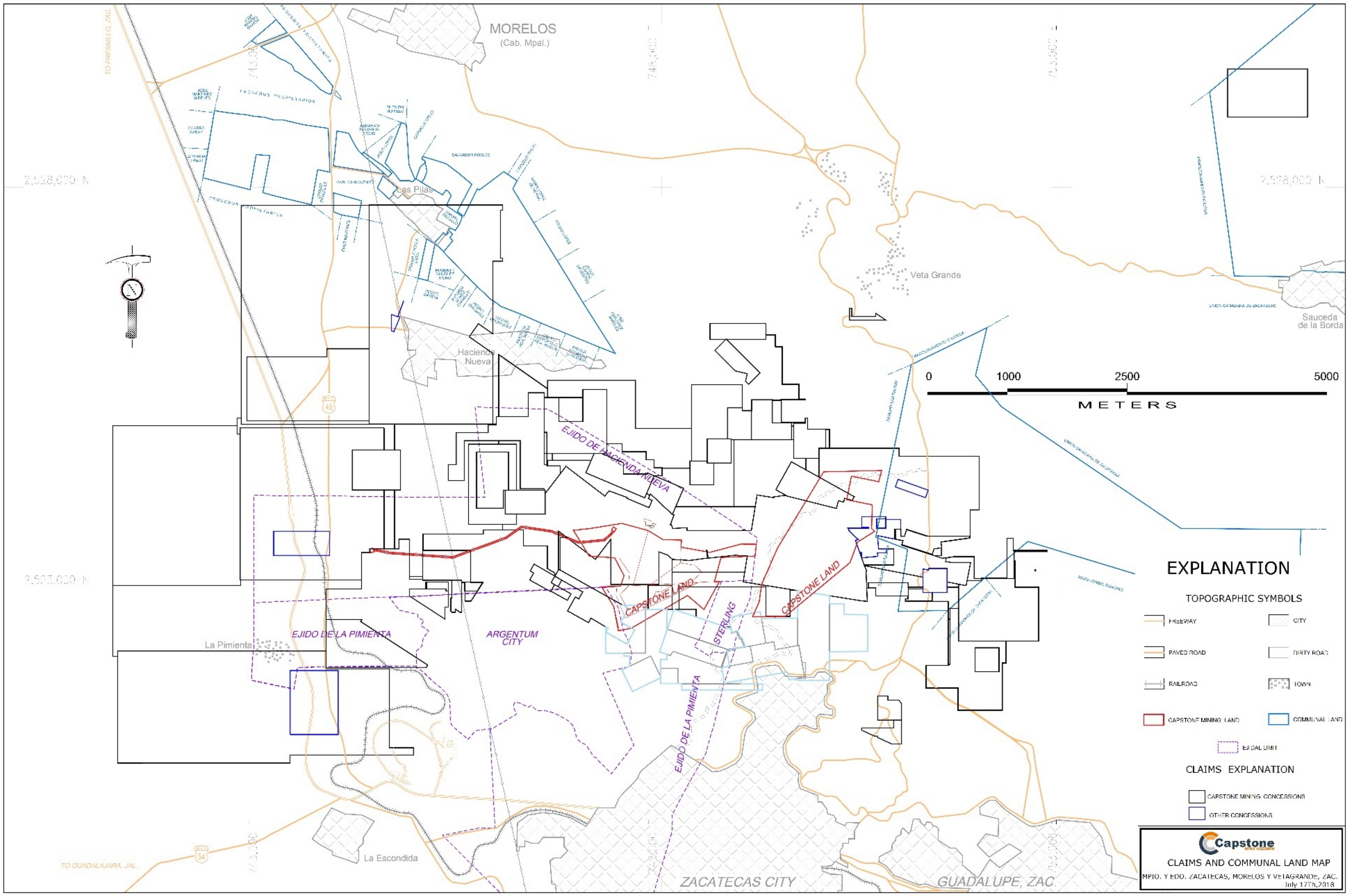


Figure 4-4: Cozamin Mining Concessions Including, Surface Rights, Ejido Land, Roads and Infrastructure, and City Limits

4.4 Obligations to Retain the Property

Several obligations must be met to maintain a mining concession in good standing, including the following:

- Carrying out the exploitation of minerals expressly subject to the applicability of the mining law;
- Performance and filing of evidence of assessment work; and
- Payment of mining duties (taxes).

The regulations establish minimum amounts that must be invested in the concessions. Minimum expenditures may be satisfied through sales of minerals from the mine for an equivalent amount. A report must be filed each year that details the work undertaken during the previous calendar year.

Mining duties must be paid in advance in January and July of each year, and are determined on an annual basis under the Mexican Federal Rights Law. Duties are based on the surface area of the concession, and the number of years that have lapsed since the mining concession was issued. In July 2017 and January 2018, the taxes totaled US$33,781 and US$35,043, respectively.

All necessary permits to conduct mining work on the property have been obtained. There are no known factors or risks that affect access, title or the ability to conduct mining. Specific exploration activities are authorized until 2019, with new authorizations pending at the time of this Technical Report.

4.5 Legal Title

Capstone obtained a legal opinion on the mining concession titles from Rafael Cereceres Ronquillo, Abogado, with a business address of C. Centro Ejecutivo 5500 5°Piso Fracc. Desarrollo el Saucito C.P., 31125, Chihuahua, Chihuahua, dated October 27, 2017, which confirmed the mining concessions are registered in the *Public Registry of Mining* naming Capstone Gold, S.A. de C.V and Mining Opco, S.A. de C.V. as titleholders, the mining concessions are valid and should remain in effect provided the titleholders continue to comply with the required obligations.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Cozamin mine is located in the Sierra Madre Occidental physiographic province near the boundary with the Mesa Central province (Mexican Plateau). The Zacatecas area is characterized by rounded NW trending mountains with the Sierra Veta Grande to the north and the Sierra de Zacatecas to the south. Elevations on the property vary from 2,400 masl to 2,600 masl.

Maximum temperatures reach approximately 30°C during the summer season and minimum temperatures in the winter season produce freezing conditions and occasional snow. The rainy season extends from June until September, with average annual precipitation totaling approximately 500 mm. The Zacatecas area is located between forested and sub-tropical regions to the southwest, and desert conditions to the northeast. The climate in the region is semi-arid. Vegetation consists of natural grasses, mesquite or huizache and crasicaule bushes. Standing bodies of water are dammed as most streams are intermittent.

The Cozamin mine is located 3.5 km to the north-northeast of the city of Zacatecas, the Zacatecas state capital, and operates year-round. The municipality of Zacatecas has a population of approximately 138,000 people. Other communities in the immediate vicinity of the mine include the following: Hacienda Nueva (3 km west), Morelos (5 km northwest) and Veta Grande (5 km north). The mine area falls within the Hacienda Nueva and La Pimienta Ejidos. Staff and operators are sourced from Zacatecas and other nearby communities. There is minimal presence of foreign staff at the mine.

Cozamin is accessible via paved roads to the mine area boundary. All-weather roads in good condition continue thereafter to provide access to the mine and most of the surrounding area. Excellent surrounding infrastructure includes schools, hospitals, railroads and electrical power.

The Cozamin mine is connected to the national power grid with current approval to draw 7.5 megawatts (“MW”). A permit is in the approval process to raise this to 9.5 MW. Generators, both operating and back-up, on site have a capacity of 1.0 MW. Figure 5-1 depicts the mine site layout and building infrastructure.

The dam at the Cozamin Tailings Storage Facility (“TSF”) is located on the south side of the property. The current Stage 7 lift, completed in February 2018, added approximately 900,000 cubic metres of storage volume, which will provide sufficient storage for 1.5 additional years of mining. Although additional lifts have the design capacity to store the remainder of the reserves, Cozamin has engaged with consultants to study future tailings storage options in the case of continued exploration success and reserve growth. See Section 18.3 for more detail.

The mine sources its process mill and mine water supply from seasonal rainfall, permitted wells, groundwater inflow from abandoned mines and a local municipal water treatment plant. The existing baseline information suggests current water sources and water conservation/management strategy will provide sufficient water for the current life of mine plan (“LOMP”).

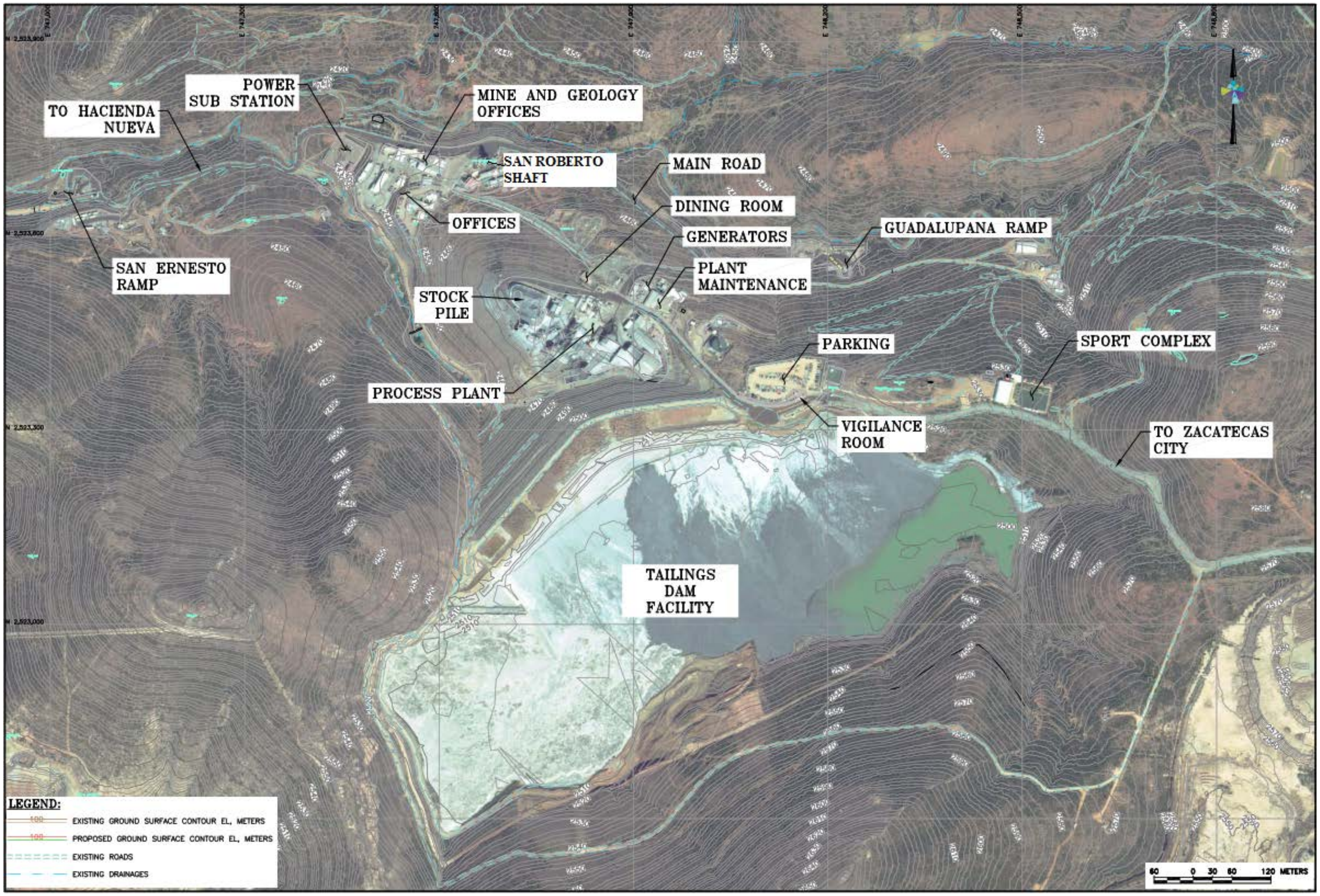


Figure 5-1: Surface Layout of the Cozamin Mine Facilities (Wood, 2019).

6 History

In pre-Hispanic times, the area was inhabited by the Huichol people, who mined native silver from the oxidized zone of argentiferous vein deposits in the Zacatecas Mining District. In 1546, Juan de Tolosa, guided by a local Huichol person, arrived in Zacatecas (then Lomas de Bracho) to examine argentiferous occurrences. In 1548, production commenced at three mines: the Albarrada mine on the Veta Grande system, and the San Bernabe mine and Los Tajos del Panuco on the Mala Noche Vein ("MNV") system. The initial operations worked only the oxides for silver and some gold, and later the sulphide zones were worked for base and precious metals.

During the Mexican Revolution (1910-1917), mining was essentially halted by numerous flooding and cave-ins, limiting access for some time after that. Foreign companies worked mines in the district for base metals from 1936 to 1948, but the lack of electric power, labour problems and low metal prices resulted in closure of unprofitable mines. From 1972, Consejo de Recursos Minerales worked mines in the El Bote, La Purisima and La Valencia zones.

A number of old workings are located throughout the mine area, but accurate records of early production are not available. Historic production from the Zacatecas district is estimated by Consejo de Recursos Minerales (Cardenas et al 1992) to be 750 million ounces of silver from 20 million tonnes grading over 900 g/t silver and approximately 2.5 g/t gold. Lead, zinc and copper have also been recovered but neither metal production nor ore grades were estimated.

Minera Cozamin was established in 1982 by Jack Zaniewicki, who consolidated concession holdings over much of the MNV and operated the San Roberto mine and plant at 250 tonnes per day ("tpd") until October 1996. During this period, Industrias Peñoles S.A. de C.V. ("Peñoles") undertook exploration in the district but did not purchase any significant concessions. In all, it is estimated that 1.2 million tonnes of ore were mined and processed at Cozamin prior to October 1996.

In October 1996, Zaniewicki sold the Cozamin Mine for US$6.8 million to Minera Argenta, a subsidiary of Bacis. In 1997, Bacis expanded the mill to a 750 tpd flotation plant, and processed 250,000 tonnes of ore grading approximately 1.2% copper, 90 g/t silver, 0.5 g/t gold, 1.8% zinc and 0.6% lead from 1997 to the end of 1999, mainly from shallow, oxide zone workings. Bacis developed resources principally by drifting along and then raising up on the MNV within the San Roberto (Cozamin) mine.

Diamond drilling was only used as an exploration tool to identify areas with mineralization peripheral to the developed mine workings (Table 6-1). These results influenced the location of Capstone's 2004 drillhole locations. The sample collection, preparation and analysis procedures followed for these drillholes are unknown and Capstone has not used any data from these holes in its October 2018 mineral resources estimate.

Table 6-1: Historical Drillholes completed by Bacis and Peñoles

Hole-ID	Length (m)	Vein Intersection (m)	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)
Bacis Drillholes							
CZM-#1	229.50	4.2	-	-	-	0.26	-
CZM-#2	389.45	3.1	2.90	1.13	4.48	0.20	53
CZM-#3	331.37	5.4	2.47	0.53	2.32	0.25	123
CZM-#4	210.45	NA	0.48	0.17	9.56	0.10	21
CZM-#6	200.00	8.02	3.32	1.36	2.57	NA	NA
CZM-#8	359.65	NA	1.34	0.03	0.67	NA	27.6
Peñoles Drillholes							
SR-1	231.6	1.1	2.54	0.16	0.02	0.17	20
SR-2	330.84	14.2	1.40	NA	1.29	0.40	118
SR-3	257.12	14.75	1.49	0.22	0.39	0.40	109
SR-4	251.16	3.5	0.48	0.17	9.56	0.01	21
SR-5	420.20	NA	3.37	0.08	0.25	0.40	103

Table 6-1 Notes:
1. NA = Not available

Near the end of 1998, Bacis closed the Cozamin mine due to low metal prices and under-capitalization of the asset. Poor grade control in the mine and poor recovery in the plant were also contributing factors to the closure. Diamond drillholes completed by Peñoles and Bacis suggested that the average grade of copper in the mine might increase with depth, but these were not followed up by further exploration.

In a press release dated October 27, 2003, Capstone Gold Corp. ("Capstone Gold") announced it had entered into a Letter of Intent with Bacis to option five advanced exploration projects in Mexico, including Cozamin (Capstone Gold, 2003). Historical mineral resources for Cozamin are summarized in Table 6-2. The assumptions, parameters or methods used to prepare this historical estimate were not disclosed. Capstone does not use or rely on this estimate to any extent or treat this estimate as current. A QP has not done sufficient work to classify the historical estimate as current mineral resources.

Table 6-2: Cozamin Historical Mineral Resources as Reported by Minas Bacis S.A. de C.V.

Classification	Tonnes (000s)	Ag (g/t)	Au (g/t)	Cu (%)	Zn (%)	Pb (%)
Measured + Indicated	2,795	85	0.5	0.95	3.16	0.88
Inferred	3,131	103	0.49	1.41	3.21	0.85

Table 6-2 Notes:
1. The mineral resources estimate was prepared by Minas Bacis S.A. de C.V.
2. Capstone is not treating the historical estimate as current and it must not be relied upon.

On December 1, 2005, Capstone Gold earned a 90% interest in Cozamin wherein Bacis held a 1.5% NSR and 10% carried interest. On June 30, 2006, Bacis converted its 10% interest in Cozamin to an additional 1.5% NSR, thus leaving Bacis with a 3% NSR regarding Cozamin (Capstone Gold, 2005).

Cozamin mine declared commercial production as of August 31, 2006 (Capstone, 2006).

7 Geological Setting and Mineralization

7.1 Geological Setting

The Zacatecas Mining District covers a belt of epithermal and mesothermal vein deposits that contain silver, gold and base metals (copper, lead and zinc). The district is in the Southern Sierra Madre Occidental Physiographic Province near the boundary with the Mesa Central Physiographic Province in north-central Mexico. The dominant structural features that localize mineralization are of Tertiary age, and are interpreted to be related to the development of a volcanic centre and to northerly trending basin-and-range structures.

The Zacatecas Mining District occurs in a structurally complex setting, associated with siliceous subvolcanic and volcanic rocks underlain by sedimentary and meta-sedimentary rocks. The geologic units of the Zacatecas area include Triassic metamorphic rocks of the Zacatecas Formation and overlying basic volcanic rocks of the Upper Jurassic or Lower Cretaceous Chilitos Formation. The Tertiary rocks consists mainly of a red conglomerate unit deposited in Paleocene and/or Eocene times and overlying rhyolitic tuff and intercalated flows that were deposited from Eocene to Oligocene times. Some Tertiary rhyolite bodies cut the Mesozoic and Tertiary units and have the appearance of flow domes.

7.1.1 Zacatecas Formation

The Zacatecas Formation represents the oldest rocks in the district and appears to be equivalent to the Pimienta Metasediments of Ponce and Clark (1988). It is an Upper Triassic marine unit, comprising pelitic sediments and carbonate rock that have been metamorphosed to sericite schists, phyllites, slates, quartzites, metasandstone, flint, metaconglomerate and recrystallized limestone. The unit hosts the El Bote and Pimienta vein systems to the west of the city of Zacatecas.

7.1.2 Chilitos Formation

The Upper Jurassic to Lower Cretaceous Chilitos Formation is composed of andesitic to basaltic volcanic rocks with pillow structures and some limestone lenses. The units are referred to as greenstone of the Zacatecas area and as the Zacatecas microdiorite by Ponce and Clark (1988).

7.1.3 Zacatecas Red Conglomerate

The red conglomerate contains fragments of Chilitos and Zacatecas Formation rocks and is probably of Early Tertiary (Paleocene-Eocene) age. The unit is deposited south of the La Cantera fault in the structural zone situated in the city of Zacatecas.

7.1.4 Tertiary Volcanic and Volcaniclastic Rocks

Tertiary volcanic rocks are generally associated with and deposited south of the Zacatecas caldera. They are described by Consejo de Recursos Minerales (Cardenas et al 1992) as rhyolitic tuffs with flow intercalations of rhyolite composition that were extruded during the Oligocene to Eocene. The rhyolitic rocks are reported to have moderate to high silica content and high potassium content.

A very small group of epiclastic deposits occur in a road cut near the Bufa flow dome and small areas of chemical sediments are present in the western flank of the Zacatecas caldera (Ponce and Clark, 1988).

7.1.5 Rhyolitic Subvolcanic Bodies

Ponce and Clark (1988) suggest that subvolcanic intrusive phases include silicic subvolcanic bodies, lava-flow domes, intrusive tuffs, ignimbrite bodies, pipes and autoclastic breccias. The rhyolitic subvolcanic bodies, generally dikes and subvolcanic bodies, are structurally controlled by radial or concentric faults and fractures of the caldera structure. The subvolcanic rhyolitic bodies are concentrated in the central part of the Zacatecas district in a northwest-southeast trending zone.

Rhyolite flows and dikes are spatially associated with the San Roberto mine. Cerro La Sierpe (500 m north-northwest of the San Roberto shaft), Cerro San Gil (1.5 km west-northwest of the San Roberto shaft) and Cerro El Grillo (750 m south-southwest of the San Roberto shaft) are all rhyolite flow domes that, together, surround the western third of the MNV. To date, economically significant copper mineralization has only been found within this sector of the MNV system. Rhyolite dikes are difficult to distinguish from massive rhyolite flows, however some of the best quartz stockworks at Cozamin occur within massive rhyolite bodies that do not display the fluidal textures and polymictic inclusions common in most of the other rhyolite bodies.

The host rocks for the MNV are intercalated carbonaceous meta-sedimentary rocks and andesitic volcanic rocks ranging in age from Triassic to Cretaceous, and Tertiary rhyolite intrusive rocks and flows (Figure 7-1). Mineralization in the MNV appears to have been episodic. A copper-silver dominant phase is interpreted as the first stage of mineralization and is considered to be the most important phase of mineralization at Cozamin. In general, this copper-silver phase was emplaced then enveloped, overprinted or brecciated by moderate to strong zinc-lead-silver mineralization. Thus, the host lithology to the vein does not appear to have influenced the strength of the copper-silver phase of mineralization which is typically enveloped by younger vein material. Local rheology contrasts between rock units may have some control on vein emplacement, as well as metal content. For example, the Mala Noche Footwall Zone (“MNFWZ”) is intimately associated with several rhyolitic dikes where mineralized veins often crosscut or follow dike contacts with the country rock.

The close association of the western third of the MNV and the entire MNFWZ with rhyolite flow domes and the strength of contained copper mineralization in this sector of the vein support the hypothesis that the copper mineralization in the San Roberto mine at Cozamin is relatively close to volcanic to sub-volcanic magmatic centre(s). Figure 7-2 shows the spatial association of the San Roberto mine with the significant complex of rhyolite flow domes mapped in the area.

Alternatively, other rheology contrasts may localize faulting along the contact of the phyllites with the more competent andesites and lutites. One kilometre to the south of the MNV, mineralization in the Parroquia mine is hosted by gneissic rocks that are mapped by the Consejo de Recursos Minerales as Upper Jurassic, Zacatecas Formation.

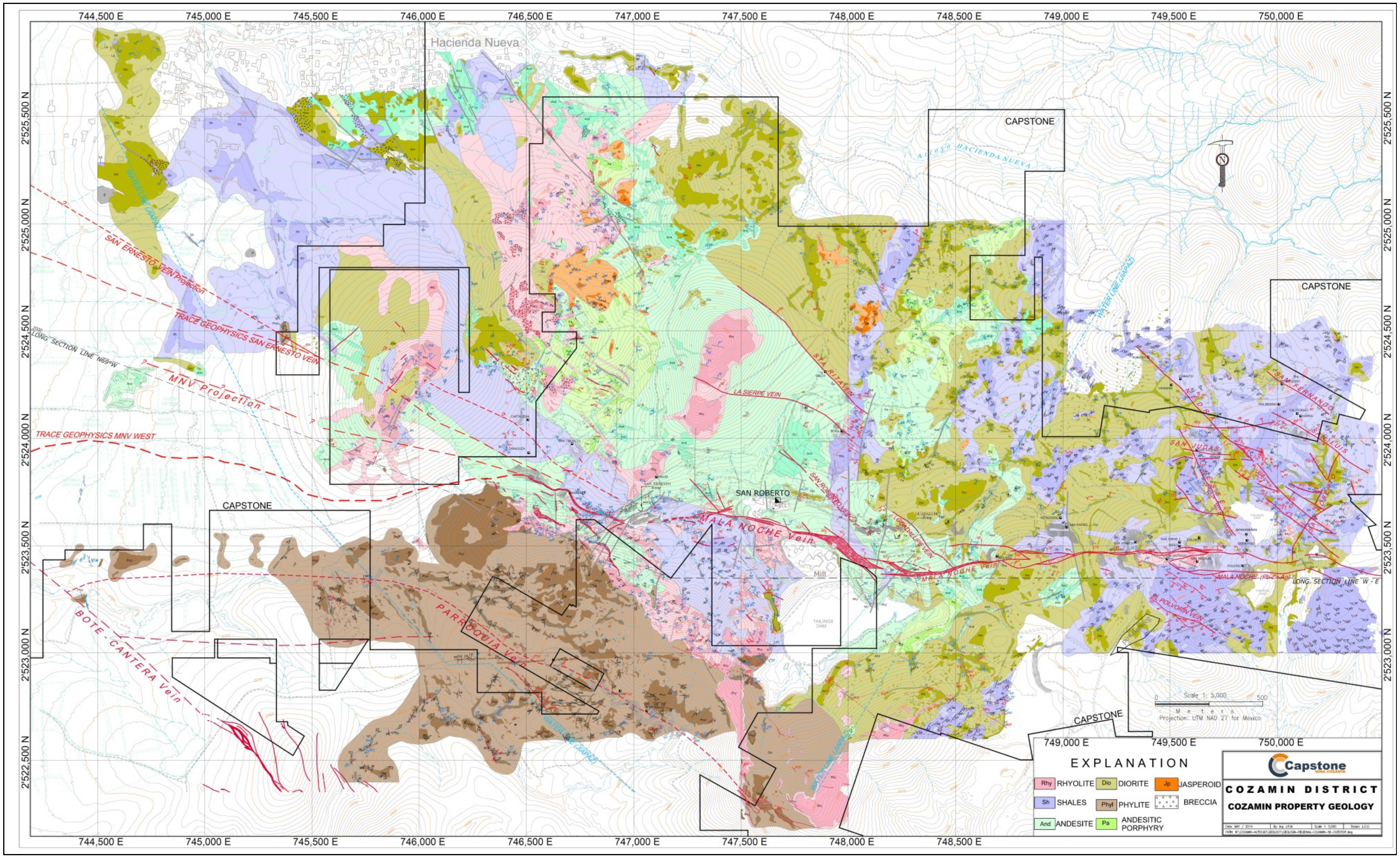


Figure 7-1: Mapped Geology of the Cozamin Property

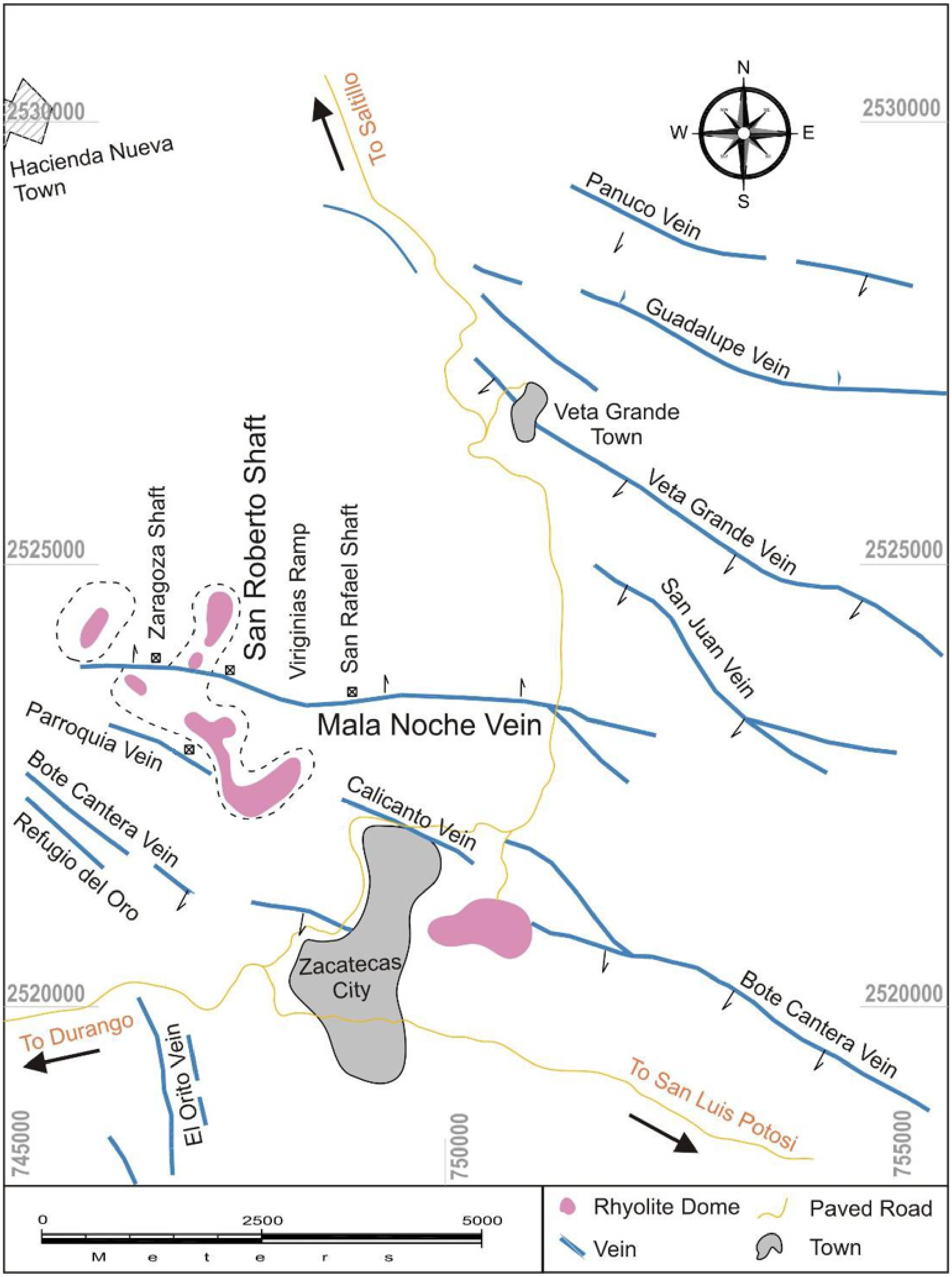


Figure 7-2: Plan Showing the Distribution of Mineralized Veins near Zacatecas

7.2 Faulting

Rock textures suggest the MNV is infilling open spaces controlled by brittle faulting along the Mala Noche Fault System. This system of faults is named for the principal fault associated with mineralization at Cozamin but other subsets of faults also host mineralization, including El Abra, Rosita, San Ernesto and the MNFWZ.

In the San Roberto Mine, the MNV strikes west-northwest ("WNW") (N70-80W) and the dip varies from 38° to 90° to the north. There is a clear association of higher copper grades with steeper dips of the Mala Noche fault. Where the MNV is weakly copper mineralized, it appears that the principal style of alteration in the fault is mostly quartz-pyrite.

The El Abra fault is closely associated with the Mala Noche fault with which it forms an anastomosing set in both strike and dip directions. Grades in the San Roberto mine are strongest where the two faults coalesce. The dominant alteration associated with the El Abra fault is silica-calcite-pyrite. On Level 8 immediately east of the shaft, the drift roof had to be stabilized where the El Abra fault meets the Mala Noche fault/vein.

The MNFWZ is located in a fault-splay off the Mala Noche Fault System, striking approximately 30° oblique to the MNV at ~145° with an average dip of 54°. Mineralized veins and rhyolite dikes both exploit and closely follow the structure.

The Rosita fault is also sub-parallel to the Mala Noche but mostly lies in the hangingwall. The principal alteration associated with the Rosita fault is coarse crystalline calcite suggesting that this fault is possibly post mineralization and quite open.

The San Ernesto fault is best known in the San Ernesto shaft which was sunk 60 m on the fault in the hangingwall to the Mala Noche at the west end of the San Roberto Mine. The fault strikes WNW and dips at about 60° to the north-northeast ("NNE"). Mineralization encountered in the fault to date has been zinc and lead dominant. This fault and associated mineralization may be related to lenses of hangingwall zinc found in the western sector of the San Roberto mine.

The Margarita Fault is located about 100 m west of the shaft on Level 8. The fault strikes NNE and dips at 70° to the WSW. Movement on the fault appears to be minimal as indicated by the mapping to date. Minor argillic alteration is associated with the fault.

The Josefina fault is found on Level 8 about 50 m west of the shaft. The fault strikes southeast ("SE") and dips at about 55° degrees to the northeast ("NE"). Movement on the fault appears to be dextral with a displacement of about 5 m. Minor argillic alteration is found in the fault zone.

The Lorena fault is located about 25 m west of the shaft on Level 8. This fault strikes NE and dips at about 70° to the SE. Post mineralization movement on the Lorena fault appears to be less than 2 m and only weak argillic alteration is found within the fault. The intersection of the Lorena and Josefina faults on Level 8 resulted in poor roof stability in the area of a prior electrical substation 35 m west of the shaft.

On Level 8, the Anabel Fault is found 155 m east of the shaft. The fault strikes NNE and dips east at about 60°. Movement on the fault appears to be dextral strike slip with possibly some normal dip slip displacement. The projection of the MNV is offset about 10 m horizontally along this fault. However, there has been significant drag on the west side of the fault resulting in minimal displacement of the vein across the fault plane. Mineralization west of this fault is strongly diminished. Alteration in the Anabel fault is principally silicification.

The Lupita fault is located 255 m east of the shaft on Level 8. The fault strikes NE and dips at about 65° to the SE. Displacement on the fault appears to be minimal and only minor silicification is associated with the fault.

The Karla fault is located 465 m east of the shaft on Level 8. This fault has been mapped only on Level 8. Its strike is NE and the fault dips 65 SE. Apparent horizontal offset on the fault is about 3 m as a result of normal dip slip or possible dextral strike slip displacement. There is no significant drag or alteration associated with this fault. The principal cross faults in the San Roberto mine area displayed on Level 8 and are presented in Figure 7-3.

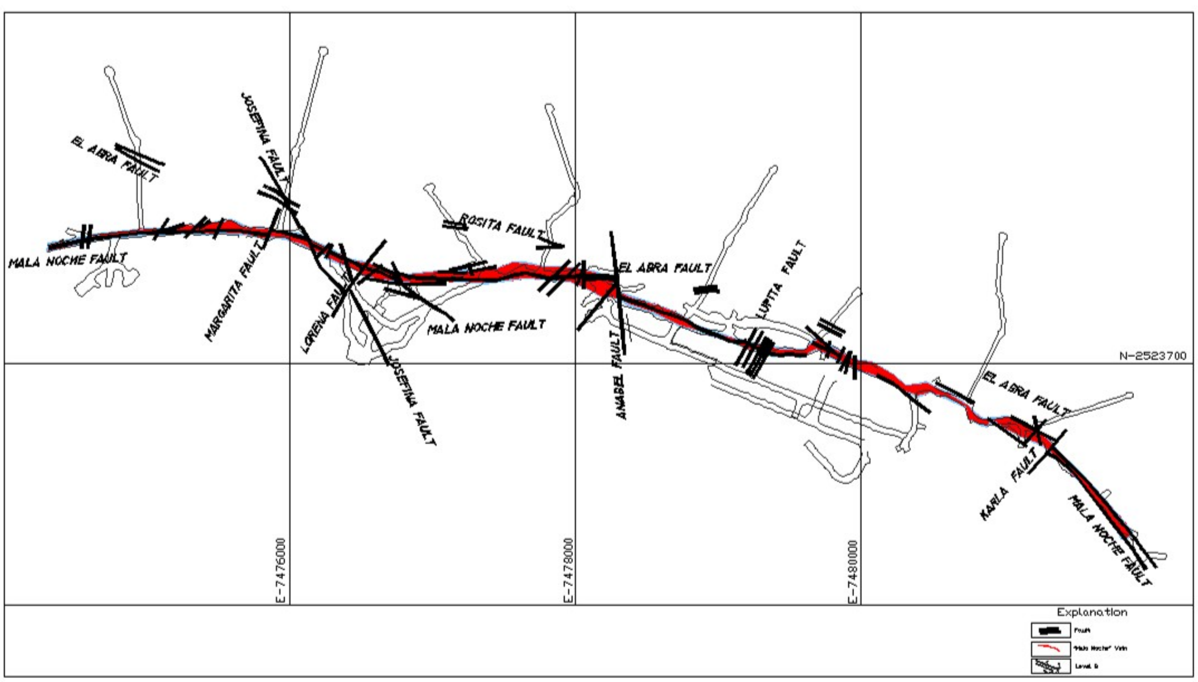


Figure 7-3: Cross Faults, Level 8 Cozamin Mine

7.3 Mineralization

Cozamin mine's dominant mineralized vein is the MNV. On surface, MNV was mapped for 5.5 km across the property. It strikes approximately east-west and dips on average at 60° to the north. There are several shafts that provide access to the historical workings at Cozamin. The largest mined area is the San Roberto mine which has a strike length of 1.4 km. Mineralization peripheral to these workings was the principal target of Capstone's exploration at Cozamin. The MNFWZ is not exposed at surface, however based on underground drilling it strikes ~145° over a length of more than 2.0 km and dips on average 54° to the northeast. The MNFWZ comprises multiple veins in close spatial association with rhyolite dikes and locally cross-cut the intrusions themselves. The relative age of the copper mineralization ranges from contemporaneous with to perhaps slightly post the rhyolite magmatism.

The MNV system occupies a system of anastomosing faults. The mineralized bodies within the Mala Noche Fault System appear to be strongest where the individual faults coalesce into a single fault zone. Results from the exploration and mine development to date indicate that some of the strongest mineralization in the San Roberto mine plunges to the west at approximately -50° within the vein. Post mineralization offsets of the MNV are minimal and occur along high angle, normal faults that strike northeast.

Moderate propylitic wall rock alteration is generally limited to 3 m into the hangingwall and footwall. The main gangue minerals in the MNV are quartz and calcite, and in some cases rhodochrosite, gypsum, or barite. The quartz occurs as coarse-grained druse crystalline masses, and a stockwork of quartz veinlets. Mineralization in the MNV at the Cozamin mine appears to have been episodic. Intermediate sulphidation pyrite-pyrrhotite-chalcopyrite dominant mineralization is enveloped, overprinted or brecciated by younger sphalerite dominant intermediate sulphidation epithermal alteration and mineralization in a telescoped, intrusive related hydrothermal system. Well-banded quartz, or quartz-carbonate veins, best classified as low sulphidation are also observed. These veins have open space filling textures with quartz druse vug linings. The MNV in the San Roberto mine workings shows contained sulphides to occur as disseminations, bands and masses. Conclusions about mineralization styles are based on observations in drill core and the exposure of the copper-silver phase of mineralization in mine workings, however a large portion of the upper parts of the mine are not accessible.

Pyrite is the dominant vein sulphide and typically comprises approximately 15% of the MNV in the San Roberto mine. It occurs as fine disseminations and veinlets, coarse crystalline replacements, and pseudomorphs of epithermal textured carbonate minerals and possible barite. Arsenopyrite typically occurs as minor, microscopic inclusions in pyrite.

Pyrrhotite is the second most common sulphide mineral but is present only in the intermediate and deeper levels of the San Roberto mine. It occurs as replacement masses, pseudomorphs of platy masses and acicular replacements probably after amphibole. Pyrrhotite commonly occurs as an envelope to, or intermixed with, strong chalcopyrite mineralization. Pyrrhotite ranges from monoclinic to hexagonal, or a combination of these polytypes.

Chalcopyrite is the only copper sulphide recognized visually at the Cozamin Mine. Like pyrrhotite, it is more common at the intermediate and deeper levels of the mine. It occurs as disseminations, veinlets and replacement masses. These masses appear to be fractured and brecciated at intermediate levels in the mine. Mineralization at the MNFWZ is chalcopyrite dominant in contrast to the polymetallic nature of the main MNV.

Sphalerite is the dominant economic sulphide in the upper levels in the San Roberto mine. Most of the sphalerite is marmatitic. It occurs as disseminations and coarse crystalline masses and is commonly marginal to the chalcopyrite-dominant portion of the vein.

Galena is less common than sphalerite but is generally associated with it. Where it is abundant, it occurs as coarse crystalline replacement masses. Both coarse and fine crystalline masses of galena are argentiferous. Argentite is the most common silver mineral. It has been identified microscopically occurring as inclusions in chalcopyrite and pyrite. Assays indicate that silver is also probably present in sphalerite and galena. Bismuth and silver selenides occur as inclusions predominantly in chalcopyrite and pyrite.

8 Deposit Types

All mineralization at the Cozamin mine occurs in veins, and stockworks of veinlets. Currently mined mineralization at Cozamin is best described as intermediate sulphidation. The copper-rich intermediate sulphidation mineralization is an early phase that is enveloped, overprinted or brecciated by zinc-rich intermediate sulphidation mineralization. The copper veins are inferred to be higher temperature, have significantly fewer vugs and can be massive pyrrhotite-pyrite-chalcopyrite with little gangue. Zinc-rich veins also tend to be sulphide rich, like the copper-rich ones, but with slightly more gangue. Well-banded quartz, or quartz-carbonate veins are inferred to be lower temperature and best classified as low sulphidation. They often have open space filling textures with quartz druse vug linings and typically gold and silver rich with lesser base metals and are generally not being mined, but were historically important.

This transition from intermediate sulphidation copper-dominant mineralization to intermediate sulphidation zinc-dominant mineralization is thought to be the result of an evolving, telescoped hydrothermal system. Blocks or fragments of massive chalcopyrite-pyrite-pyrrhotite mineralization enveloped by zinc-dominant mineralization are observed in drill core and in mine workings. This telescoping system is closely associated with the district's largest center of rhyolite flow domes which may be the shallow expression of a hidden, inferred buried felsic stock.

9 Exploration

9.1 Geological Mapping

Cozamin exploration geologists have systematically mapped a total of 1,694 ha throughout the Cozamin property at scales of 1:1,000 or 1:2,000 since 2004. Mapped Cozamin geology is illustrated in Section 7.1 (Figure 7-1).

9.2 Surface Channel Samples and Chip Specimens

Regular exploration along the strike of the MNV system has occurred through channel sampling. Channel samples total approximately 2 kg in mass and have approximate dimensions of 50-150 cm in length, 5 cm in width and 3 cm in depth. Capstone considers these surface channel samples to be fully representative of the vein material.

The surface chips, by definition, are specimens not samples, and thus are not representative of the material from which they have been extracted. The goal of the surface chip sampling is to quickly ascertain the presence or absence of anomalous geochemical values, which would support the decision to conduct additional exploration. Capstone has collected chip specimens from outcrops on a 25 m by 25 m grid from several areas on the property (Table 9-1). Chipped material is collected on a blanket and split into smaller pieces. The specimen is then split into four parts, with approximately 2 kg placed into the sample bag as the specimen for analysis. The remaining material is left at the sample site.

All surface channel sample and chip specimen locations were obtained using GPS and are stored in Capstone's database. All material is photographed and logged for lithology, alteration and mineralization. Quality control samples including certified reference material, sample blank, or duplicate samples were not inserted into the sample stream. Preparation and analysis procedures for channel samples and chip specimens follow the same procedures described in Section 11 pertaining to the analysis of drill core samples. Details of Cozamin's surface channel and chip sampling programs since 2004 are summarized in Table 9-1. Cozamin has used the assay results from these programs to assist with exploration drillhole planning, but they are not included in resource estimation.

Table 9-1: Cozamin Surface Channel and Chip Program details

Year	Surface Channel Samples	Surface Chip Specimens
2004	2,250 from 66 sample lines spaced 15 m apart along 1,000 m of the Mala Noche vein system.	None
2005	1,350 from 40 sample lines spaced 20 m apart along 800 m of the Mala Noche vein system.	None
2006	1,200 from 40 sample lines spaced 25 m apart along 1,000 m of the Mala Noche vein system.	None
2007	1,200 from 40 sample lines spaced 25 m apart along 1,000 m of the Mala Noche vein system.	None
2008	None	300 from outcrops where veinlets, quartz stockwork, and alteration were observed. Specific area was not defined.
2009	No exploration conducted.	
2010	708 from 20 sample lines spaced 50 m apart along 1,000 of the Mala Noche vein system.	1,118 from Rondaneras covering an area of 700 m by 800 m.
2011	135 from 27 sample lines spaced 10 m apart along 300 m of the El Polvorín vein.	276 from El Polvorín, covering an area of 300 m X 400 m.
2012	None	None
2013	185 from 37 sample lines spaced 10 m apart along 400 m of the Parroquia vein. 235 from 15 sample lines spaced 20 m apart along the Manto San Eduardo system.	359 from La Parroquia, covering an area of 500 m X 400 m.

9.3 Geophysical Surveys

9.3.1 Ground Magnetic Survey

In the summer of 2004, Zonge Engineering and Research Organization, conducted a ground magnetics survey over the MNV system including 24 north oriented lines, 25 m station spacing, for a total of 24.3 line-km. The field data was processed to produce only total magnetic field, however this was sufficient to map the linear east-west orientation of the MNV system as well as other intrusive features.

9.3.2 Aeromagnetic Survey

In the summer of 2009, New Sense Geophysics Limited conducted an aeromagnetic survey at Cozamin including a main survey block covering the entire property and an extension block to the northeast. The main block was flown at 50 m line separation with the magnetic sensor draped at 30 m above the terrain at an azimuth of N30°E. This orientation allowed the survey to cross the east-west vein trends as well as the northerly trending basin and range faults. Physical obstructions such as power and telephone lines and small villages required the terrain clearance to be increased locally. Control lines were flown east-west at 1 km spacing. The extension block was flown with the same parameters as the main block but with 600 m line spacing; the extension block was added to the survey to determine the extent of a broad northwest trending magnetic high identified while flying the main block. A total of 1,733 line-km were flown in the main block and 90 line-km in the extension block. New Sense delivered the final leveled magnetic data, while EGC Inc. was responsible for project quality control, development of the processed grids and images (total magnetic field only), and interpretation.

In 2013, the 2009 aeromagnetic survey data was reprocessed in-house to generate first vertical derivative (total field and reduced to pole), analytical signal and magnetic tilt products, as well as a 3D inversion using UBC code. The interpretation of the reprocessed data has been useful for tracking infrastructure such as power lines and pipelines, the general structural and vein trends of the MNV system, and in some cases has been used as a secondary tool to help guide exploration drill planning in new target areas.

9.3.3 Resistivity Study and Ground Induced Polarization Surveys

Zonge Engineering and Research Organization was contracted by Capstone in 2004 to undertake a resistivity study through measurement of magnetic response using CSAMT (Controlled Source Audio Magnetotellurics) over 8 line-kilometres and NSAMT (Natural Source Audio Magnetotellurics) (Zonge, 2004) over 16 line-kilometres. The survey indicated the presence of sulphide mineralization at depth along the MNV structure below known mineralized extents. These were used to assist with exploration drillhole planning.

From October 2009 until January 2010, Zonge conducted a dipole-dipole complex resistivity induced polarization (“CRIP”) survey on 13 lines and 391 stations covering a total of 58.7 line-km (Zonge, 2010). In comparison to conventional IP data, CRIP penetrates deeper into the ground, is able to better discriminate between certain minerals (e.g., sulphide bearing versus barren rock), and provides a higher quality dataset with contaminated data and the effects of coupling removed. Zonge noted the quality of the data to be good despite the proximity of the study to the city of Zacatecas and radiofrequency interference sources (power lines, metal pipelines, metal fences and buildings, etc.). The results from the study however, proved inconclusive with respect to identifying further exploration targets.

In 2010, a pole-dipole time domain induced polarization (“TDIP-resistivity”) geophysical survey was carried out at Cozamin on 39 lines covering a total of 70.3 line-km by in-house staff. The survey was conducted using rental equipment including a TSQ-3 Scintrex transmitter and IPR-12 Scintrex receiver.

Interpex and Geosoft software were used to process and evaluate the field data which was then displayed in AutoCAD. The program focused on four specific areas including MNV West, Hacienda Nueva South, MNV North and MNV East. Identified resultant chargeability (± coincident resistivity and/or magnetics) anomalies were tested by diamond drilling spanning from 2010 to 2012 in a total of four surface drillholes (CG-10-153, CG-11-S156, GC-11-S162, CG-11-S183). These exploration holes returned overwhelmingly negative results intercepting predominantly pyrite-bearing, black shale units. These highly pyritic and graphitic rocks are thought to be the source of the anomalies.

10 Drilling

Capstone commenced exploration drill planning at Cozamin in 2003, along with engineering examinations. Two rock chip samples were collected from the Virginias mine decline and 24 splits of half core from mineralized intervals in diamond drillholes previously drilled by Bacis. These samples were submitted to Acme in Vancouver for copper, lead, zinc, gold and silver assays, and multi-element analysis by ICP (inductively coupled plasma). The assay results confirmed Bacis' records and the Phase I drilling program commenced in March 2004 under the supervision of Capstone. Preliminary underground sampling was not completed because most of the mineralized underground workings were flooded.

Drilling has been carried out by Capstone almost continuously since March 2004 on the MNV system (San Roberto and San Rafael mines) and related splays such as the MNFWZ. In all, 834 surface and underground exploration drillholes have been completed. Drillholes are located by Capstone staff using total station TRIMBLE model S6 or LEICA instruments. Downhole survey readings were recorded using Eastman Single Shot, FLEXIT SensIT or Reflex EZ-Shot instruments (Table 10-1).

The Cozamin mine has been actively producing from the San Roberto and San Rafael zones since 2006 and from the MNFW zone since 2010. Additionally, as previously stated, drilling has been carried out almost continuously since March 2004 on the MNV system (San Roberto and San Rafael zones) and the MNFWZ. For the most part, drilling has been directed toward resource definition, delineation and increasing confidence for classification. It is significant but not unexpected that the success rate for the drilling campaigns is high given that the location of the veins is known and they tend to be continuous.

10.1 Drilling Programs

Capstone's surface and underground drilling programs from 2004 to October 2018 are summarised in Table 10-1. Longitudinal sections of drilling pierce points from surface and underground drilling for the MNV and MNFWZ, from all exploration drilling as of October 2018, are presented in Figure 10-1, Figure 10-2 and Figure 10-3. Historical diamond drillhole recovery has generally been very good. Recovery from 2017 to October 2018 averages 96%. No obvious drilling, sampling or recovery factors materially affect the reliability of the samples.

Table 10-1: Capstone Drilling Program Details from 2004 to October 2018

Phase	Date	Hole ID	Total (m)	Core Size	Target	Total Program Budget ($US Millions)
I	Apr 2004 to Aug 2004	Surface: CG-04-01 to CG-04-20	7,849	NQ	MNV	1.0
II	Sep 2004 to Mar 2005	Surface: CG-04-21 to CG-04-37	10,119	NQ	MNV at 1,900-2,050 masl	2.5
III	Mar 2005 to Mar 2006	Underground: CG-U01 to CG-U114	17,750	NQ	MNV	4.5
IV/V	Sep 2006 to Jul 2007	Surface: CG-06-38 to CG-06-39, CG-07-40 to CG-07-42	4,825	NQ/HQ /PQ	MNV at 600 to 700 m below surface	6.0
		Underground: CG-06-U115 to CG-06-U124, CG-07-U125 to CG-07-U177	20,061	NQ	MNV infill and extension of previous holes	
VI	Aug 2007 to Oct 2008	Surface: CG-08-43 to CG-08-150	30,391	HQ/NQ	San Rafael and east San Roberto	5.0
		Underground: CG-07-U178 to CG-08-U217	14,435	NQ	Increase confidence in classification and add resources at depth	
VII	May 2010 to Dec 2010	Surface: CG-10-S151 to CG-10-S158	4,467	HQ/NQ	San Rafael deep exploration and MNV west	3.5
		Underground: CG-10-U218 to CG-10-U253	11,752	NQ	Avoca Extension and MNFWZ	
VIII	Jan 2011 to Dec 2011	Surface: CG-11-S159 to CG-11-S180	20,329	HQ/NQ	MNV infill and MNFWZ	7.3
		Underground: CG-11-U254 to CG-11-U294	21,340	NQ	MNFWZ infill and extension	

Phase	Date	Hole ID	Total (m)	Core Size	Target	Total Program Budget ($US Millions)
IX	Jan 2012 to Nov 2012	Surface: CG-12-S181 to CG-12-S185	5,061	HQ/NQ	Exploration targets along main MNV structure	6.5
		Underground: CG-12-U295 to CG-12-U340	26,825	HQ/NQ	MNFWZ	
X	Jan 2013 to Dec 2013	Underground: CG-13-U341 to CG-13-U373	19,836	HQ/NQ	MNV and MNFWZ infill and extension	4.9
XI	Jan 2014 to Dec 2014	Surface: CG-14-S186 to CG-14-S206	10,422	HQ/NQ	Exploration targets along main MNV splays or other sub-parallel targets	3.0
XII	Jan 2015 to Dec 2015	Surface: CG-15-S207 to CG-15-S214	4,117	HQ/NQ	MNV infill and extension	5.7
		Underground: CG-15-U374 to CG-5-U415	17,733	HQ	MNFWZ infill and extension	
XIII	Jan 2016 to Dec 2016	Surface: CG-16-S215 to CG-16-S238 and 240	8,601	HQ/NQ	MNV infill and extension	2.9
		Underground: CG-16-U416 to CG-16-U432 and CG-16-UGIN146 to CG-16-UGIN185	12,659	HQ/BQ	MNV and MNFWZ infill and extension	
XIV	Jan 2017 to Dec 2017	Surface: CG-17-S239 and CG-17-S241 to CG-17-S304	29,937	HQ/NQ	MNV and MNFWZ infill and extension	5.9
		Underground: CG-17-U433 to CG-17-U459 and CG-17-	19,072	HQ/BQ	MNFWZ infill and extension	

Phase	Date	Hole ID	Total (m)	Core Size	Target	Total Program Budget ($US Millions)
		UGIN186 to CG-17-UGIN204				
XV	Jan 2018 to Mar 2018	Surface: CG-18-S305 to CG-18-S313	7,544	HQ	MNV and MNFWZ infill and extension	1.3
		Underground: CG-18-U460 to CG-18-U463	2,668	HQ	MNFWZ infill and extension	
XVI	Apr 2018 to Oct 2018	Surface: CG-18-S314 to CG-18-S366 and CG-18-S368 to CG-18-S369	39,288	HQ	MNFWZ infill and extension	7.4
		Underground: CG-18-U464 to CG-18-U481 and CG-18-UGIN205 to CG-18-UGIN224	14,855	HQ/BQ	MNFWZ infill and extension	

Table 10-1 notes:
Core sizes describe the diameter of rock extracted by diamond drilling. PQ core has a diameter of 85mm, HQ core has a diameter of 63.5mm, NQ core has a diameter of 47.6mm and BQ core has a diameter of 36.5mm.

Table 10-2: Drilling History from 2004 to October 2018

Contractor/Company	Phase	Year	Holes Drilled	Metres Drilled	Downhole Survey Instrument
Surface					
Britton Brothers Diamond Drilling, Ltd. (“Britton Brothers”)	I/II	2004-2005	37	17,967	Eastman Single Shot
Major Drilling Group International Inc. (“Major Drilling”)	V	2006-2007	5	4,825	FLEXIT SensIT
Major Drilling	VI	2008	108	30,391	Reflex EZ-Shot
Landrill International Mexico, S.A. de C.V. (“Landrill”)	VII	2010	8	4,467	Reflex EZ-Shot

Contractor/Company	Phase	Year	Holes Drilled	Metres Drilled	Downhole Survey Instrument
Driftwood Diamond Drilling Mexico S.A. de C.V. ("Driftwood")	VIII	2011	22	20,329	Reflex EZ Shot
Driftwood	IX	2012	5	5,061	Reflex EZ Shot
Driftwood	XI	2014	21	10,422	Reflex EZ Shot
Patpa Distribuciones S. de R.L. de C.V. ("Patpa")	XII	2015	8	4,117	Reflex EZ Shot
Patpa	XIII	2016	24	8,601	Reflex EZ Shot
Patpa	XIV	2017	65	29,937	Reflex EZ Shot
Patpa	XV/XVI	2018	64	46,832	Reflex EZ Shot
Underground					
Canrock Drilling Services S.A. de C.V. ("Canrock")	III	2005-2006	77	9,812	Reflex EZ-Shot
Globexplore Drilling S.A. de C.V.	III	2005	1	306	Reflex EZ-Shot
Tecmin Servicios S.A. de C.V. ("Tecmin")	III	2005-2006	36	7,632	Reflex EZ-Shot
Tecmin	IV	2006-2007	80	25,516	Reflex EZ-Shot
Tecmin	VI	2008	20	7,888	Reflex EZ-Shot
Britton Brothers	VI	2008	2	1,092	Eastman Single Shot
Tecmin	VII	2010	25	8,272	Reflex EZ-Shot
Landrill	VII	2010	11	3,481	Reflex EZ-Shot
Tecmin	VIII	2011	5	2,569	Reflex EZ-Shot
Landrill	VIII	2011	3	1,593	Reflex EZ-Shot
Driftwood	VIII	2011	33	17,178	Reflex EZ-Shot
Driftwood	IX	2012	46	26,825	Reflex EZ-Shot
Driftwood	X	2013	34	19,836	Reflex EZ-Shot
Patpa	XII	2015	42	17,733	Reflex EZ-Shot
Patpa	XIII	2016	17	8,397	Reflex EZ-Shot
Capstone Gold S.A. de C.V.	XIII	2016	40	4,262	Reflex EZ-Shot
Patpa	XIV	2017	27	17,076	Reflex EZ-Shot
Capstone Gold S.A. de C.V.	XIV	2017	19	1,996	Reflex EZ-Shot
Patpa	XV/XVI	2018	42	17,523	Reflex EZ-Shot

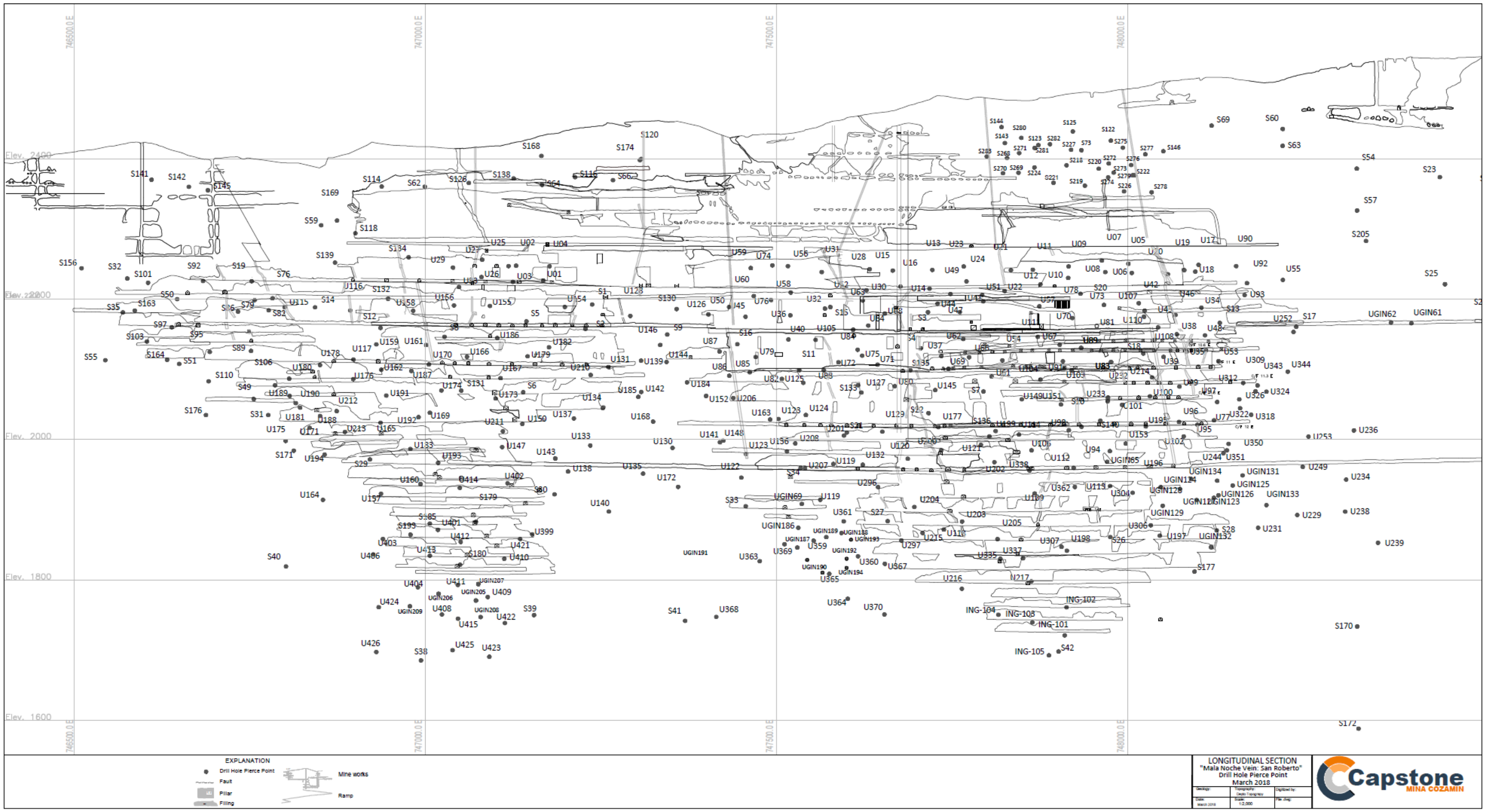


Figure 10-1: Longitudinal Section of Drilling Pierce Points in San Roberto zone of the Mala Noche Vein

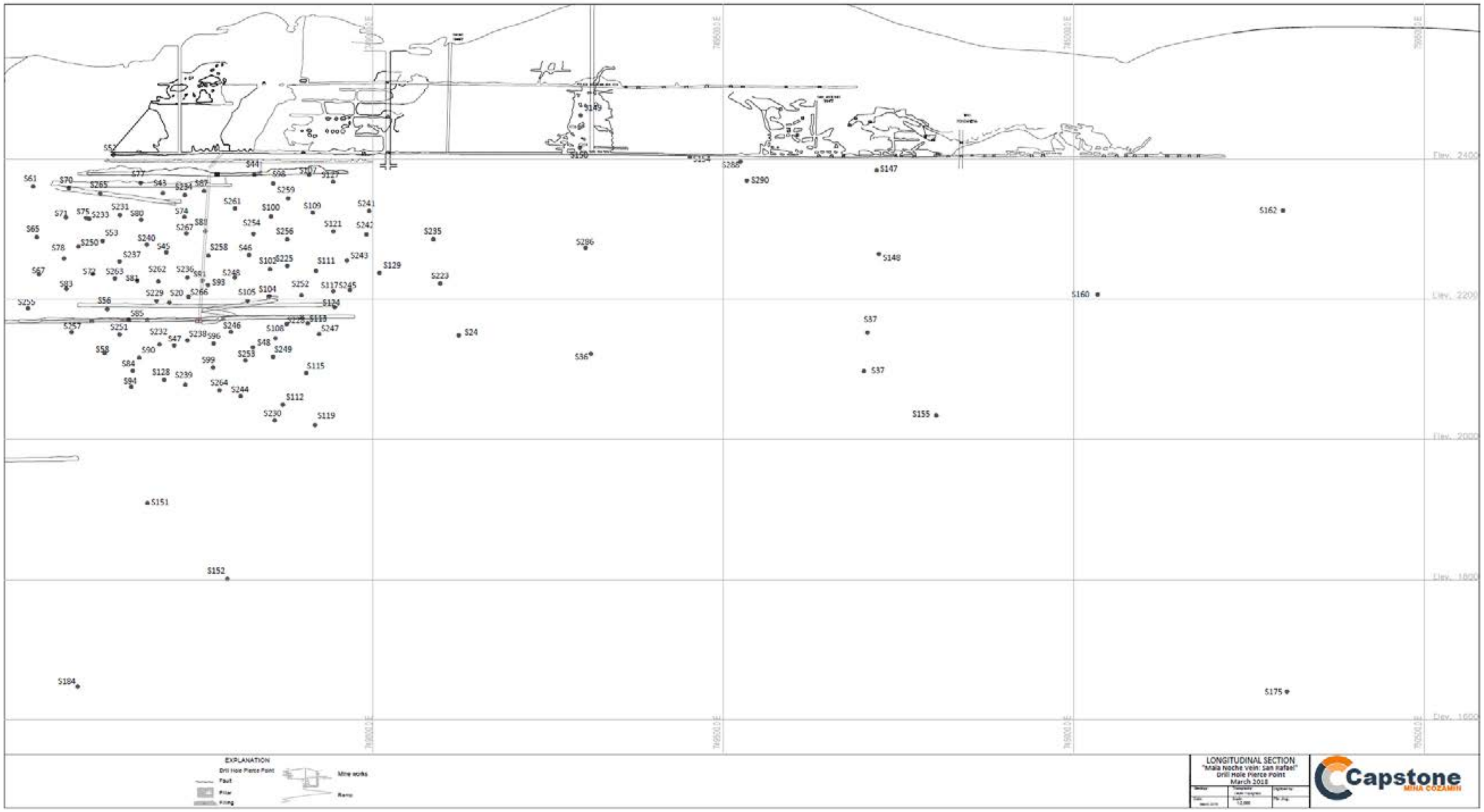


Figure 10-2: Longitudinal Section of Drilling Pierce Points in San Rafael zone of the Mala Noche Vein

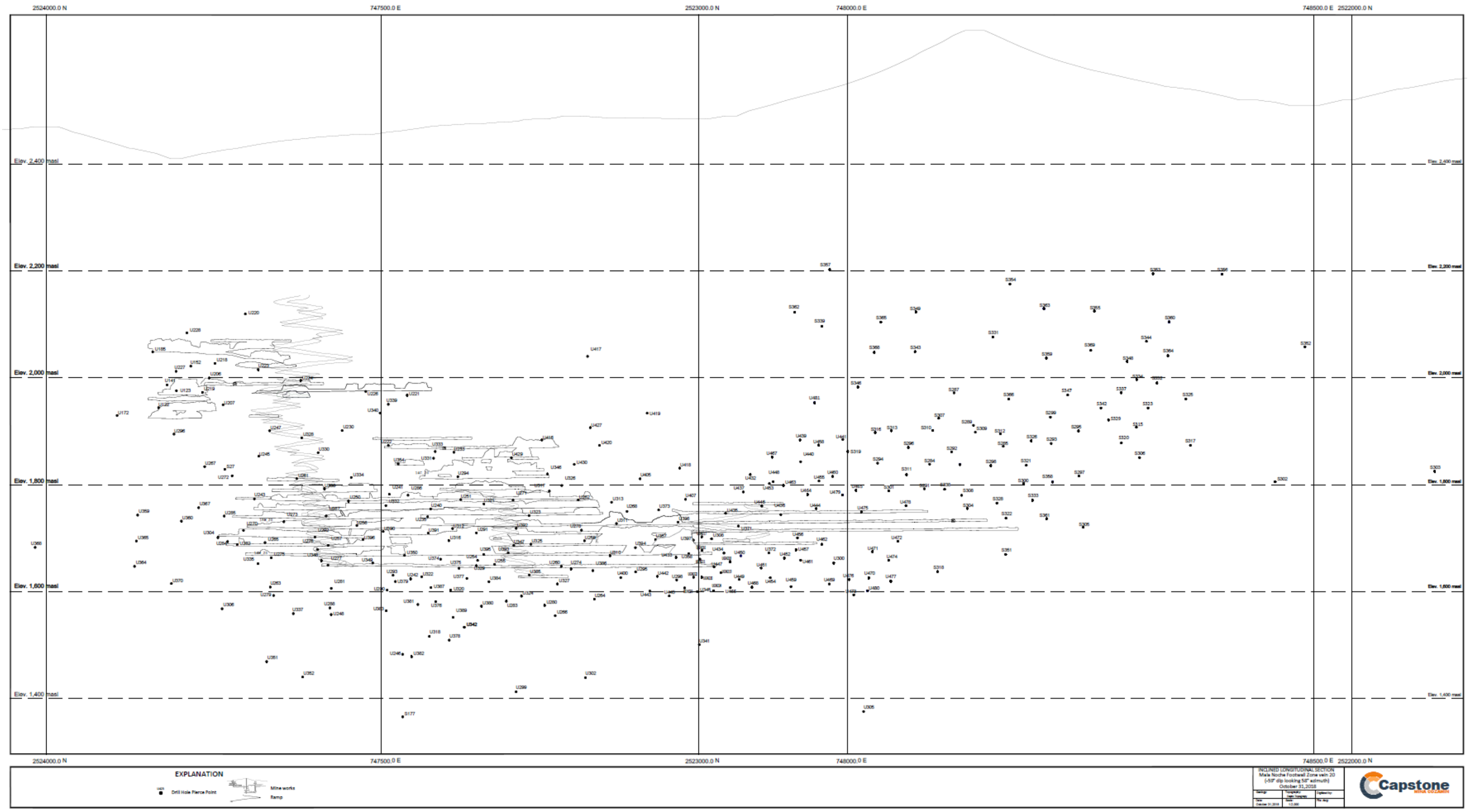


Figure 10-3: Longitudinal Section of Drilling Pierce Points in Mala Noche Footwall Zone

11 Sample Preparation, Analyses and Security

11.1 Drill Core Samples

11.1.1 Drill Site Control

Clean core boxes are delivered to the drill site by the drilling contractor. The driller clearly marks the drillhole number on each box. The driller then places a wood block or a plastic ticket in the core box at the end of each core interval. Intervals are marked in feet and inches which the driller converts from metres. The box is covered by the lid and secured using either rubber straps or nylon cord prior to transportation from the drill site. Either Capstone employees or the drillers transport the core from the drill site to the core shack.

11.1.2 Survey Control

In 2009, Capstone contracted PhotoSat Information Ltd. to reference INEGI control points around the Cozamin mine (UTM 13N, NAD 27) and to create other survey reference points, such as the San Roberto headframe. The locations and orientations of the drillholes are checked by a Capstone surveyor after the completion of each drillhole. The driller identifies each drillhole with a wood plug showing the drillhole number labelled with permanent black marker. Drillhole locations are surveyed using either total station TRIMBLE or LEICA instruments.

Downhole surveys are undertaken after completion of each drillhole. Survey points are taken approximately every 50-75 m using a downhole survey instrument (Table 10-2). Survey readings are generally taken every 50-150 m for surface holes and every 50-100 m for underground holes. Survey results were corrected for magnetic declination. The magnetic mineral pyrrhotite is present in deeper levels in the mine and occasionally causes downhole survey anomalies. These are identified by the geologist during the survey measurement process and corrected by taking another survey measurement above or below the point giving the faulty reading. Dip variations in surface drillholes are not more than 19.5°, with an average value of 3.1°. The maximum downhole dip variation in the underground holes is 21.6° with an average variation of 3.0°.

11.1.3 Drill Core Logging, Photography, Sampling and Security

When the drill core arrives at the core shack, the geologist checks the order of the core. If required, the core assistant cleans the core of any contaminants. Boxes are checked for labelled start and end depths. Next, the core is placed three boxes at a time on the ground in natural light for photography along with a scale bar using a digital camera. The core is then logged for recovery, rock quality, lithology, structure, alteration and mineralization prior to marking out sample intervals by the geologist. Cozamin records geological information using an acQuire database data entry object since late 2014; prior to acQuire implementation, geological information was collected in Microsoft Excel spreadsheets.

Only Capstone employees are permitted in the core shack when unsampled core is ready to be cut. The geologist marks the saw line along the centre of the core, with each side containing roughly equivalent apparent grade. After the core is cut, one half is placed in a sample bag. The sampler returns the remaining core to the box in its original orientation, which is checked by the geologist. The same side of the core is always taken for sampling.

The drillhole number and sample interval are entered into the sample book. One ticket stub is stapled in the corresponding interval in the core box by the geologist and the other two ticket stubs are placed in the sample bag by the sampler. The sample books are archived in the core shack. A minimum of 10 samples are placed in a large sack and secured by a tamper proof seal. The sample number series within the sack are marked on the outside. A transmittal form is then completed, which identifies the batch number, the serial numbers of the seals and the corresponding sample number series, and delivered to the preparation laboratory by a Cozamin representative (Table 11-1).

Drill core containing intercepts of the MNV and MNFWZ structure is stored in a secured warehouse near the core shack and other core is stored in a second storage building and laydown on the mine property. Some pre-2014 waste hangingwall and footwall drill core is stored within the mine on Level 8. Access to the warehouse and storage building is controlled by the Geology department.

11.1.4 Drill Core Sample Preparation and Analysis

Since 2005, Cozamin has sent diamond drillhole samples to multiple accredited laboratories for sample preparation and analysis, as well as for participation in round-robin analysis of samples for use as reference material standards (Table 11-1). These laboratories include Bureau Veritas Inspectorate ("Inspectorate", known previously as BSI Inspectorate), ALS Geochemistry ("ALS"), SGS Canada Inc. ("SGS"), Mineral Environments Laboratories Ltd (commonly known as "Assayers Canada", which was acquired by SGS in 2010), Activation Laboratories Ltd. ("Actlabs"), and Acme Analytical Laboratories Ltd. ("Acme", acquired by Bureau Veritas in 2012). In 2010, Cozamin sent samples from one drillhole (CG-10-S151) to Eco Tech Laboratory Ltd. ("Eco Tech", which was acquired by ALS in 2012).

Until December 2013, Capstone analyzed field and pulp duplicate samples at a second laboratory. Capstone now analyzes the duplicate samples at the same laboratory as the original sample to better represent sampling precision, without additional inter-laboratory variability between the samples.

Table 11-1: Primary and Secondary Laboratories Used for Cozamin Diamond Drillhole Samples

Principal Laboratory	Secondary Laboratory	Drilling Phase	No. Samples
Inspectorate	ALS	I	1,515
ALS	Inspectorate	II	903
SGS	ALS	III	5,854
ALS	SGS	IV and V	2,581
ALS	SGS	VI	6,774
ALS	SGS	VII	6,842
ALS / Eco Tech[1]	SGS	VIII	14,843
ALS	ALS	IX	6,100

Principal Laboratory	Secondary Laboratory	Drilling Phase	No. Samples
ALS	Actlabs	X	1,301
ALS	Actlabs	XI	898
ALS	-	XII	3,462
ALS	-	XIII	2,422
Cozamin Mine Laboratory	-	XIII	1,007
ALS	-	XIV	4,403
Cozamin Mine Laboratory	-	XIV	438
ALS	-	XV	991
Cozamin Mine Laboratory	-	XVI	292
ALS	-	XVI	6,072

Table 11-1 Notes:

1. Eco Tech used only for drillhole GC-10-S151

ALS sample preparation facilities in Hermosillo, Mexico were used until 2009, when ALS opened a new preparation facility in Zacatecas, Mexico in time for the Phase VII 2010 drilling campaign. After preparation, all ALS samples were sent to the Vancouver, Canada laboratory for analysis. The SGS sample preparation facility is located in Durango, Mexico. Samples were then analysed in the SGS Lakefield laboratory located in Toronto, Canada. The Inspectorate facility in Durango, Mexico conducted the sample preparation before analysis at the Inspectorate laboratory in Sparks, Nevada, USA. The Actlabs sample preparation and analysis facility is located in Zacatecas, Mexico. The Eco Tech laboratory facility was located in Kamloops, Canada. Samples remained in the custody of the respective laboratories from arrival at the preparation facility through analysis. Sample preparation and analysis procedures at each of the laboratories utilized by Cozamin are detailed in Table 11-2 and

Table 11-3.

Table 11-2: Sample Preparation Details at Laboratories Utilized by Cozamin

Laboratory	Accreditation	Crushing	Pulverizing
Inspectorate	ISO 9002, certificate 37925	Dried, weighed, then crushed to 75% passing 2 mm	250 g subsample split pulverized to 90% passing 75 microns
ALS	ISO 9001:2001 and ISO 17025		
SGS	ISO 9002 and ISO 17025 accredited for Specific Tests SCC No. 456.		
Actlabs	ISO 9001:2008, No. MX-11-182, No. Mx11-183	Dried, weighed, then crushed to 90% passing 2 mm	250 g subsample split pulverized to 95% passing 105 microns
Eco Tech	ISO 9001:2008 by KIWA International (TGA-ZM-13-96-00)	Dried, weighed, then crushed to 70% passing 1.8 mm	250 g subsample split pulverized to 95% passing 104 microns
Cozamin Laboratory	ISO 17025 accredited for specific tests, certificate Q-0383-064/12	Dried, weighed, then crushed to 95% passing 6.4 mm	200 g subsample split pulverized to 100% passing 75 microns

Table 11-3: Sample Digestion and Analysis at Laboratories Utilized by Cozamin

<table>
<tr><th>Laboratory</th><th>Cu</th><th>Zn</th><th>Pb</th><th>Ag</th></tr>
<tr><td>Inspectorate</td><td colspan="4">Aqua regia digest with AAS finish.

Overlimit samples follow the same procedure with the instrument calibrated for ore grades.</td></tr>
<tr><td>ALS</td><td colspan="3">Four acid digest with ICP-AES finish.

Overlimit Pb samples use a four acid digestion followed by titration (CON02 method).</td><td>Four acid digest with ICP-AES finish, and fire assay (50 g charge) with a gravimetric finish.</td></tr>
<tr><td>SGS</td><td colspan="3">Four acid digest with ICP-OES finish.

Overlimit samples follow the same procedure but with sodium peroxide fusion.</td><td>Multi acid digest (2 g charge), with AAS finish.

Overlimit samples analyzed using fire assay (50 g charge) with an AA finish.</td></tr>
<tr><td>Actlabs</td><td colspan="3">Four acid digest with ICP-OES finish.

Overlimit samples use an aqua regia digest with ICP-AAS finish.</td><td>Four acid digest with ICP-OES finish.

Overlimit samples are analyzed using fire assay (30 g charge) with a gravimetric finish.</td></tr>
<tr><td>Eco Tech</td><td colspan="4">Aqua regia digest with ICP-AES finish.

Overlimit samples undergo an oxidizing digestion in 200 ml phosphoric flasks with final solution in aqua regia solution and an AA finish.</td></tr>
<tr><td>Cozamin Laboratory</td><td colspan="4">Three acid digest, with ICP-OES finish

Overlimit samples follow the same sample digestion procedure, but with an AAS finish.</td></tr>
</table>

11.1.5 Drill Core Quality Assurance and Quality Control (QAQC)

11.1.5.1 Phase I and II Drilling Programs, 2004

In 2004, splits of 24 previously assayed intervals from five drillholes were sent for independent analysis at the Acme laboratory in Vancouver. The analyses from these check samples agreed well with the previously analysed results. No other QAQC samples were submitted during this drilling program.

11.1.5.2 Phase III Drilling Program, 2005

Capstone implemented a formal QAQC program for the 2005 Phase III drilling campaign. Cozamin staff obtained large samples from the dewatered underground workings and made three in-house reference material ("RM") standards (not certified) that had undergone round robin testing at SGS, ALS, Acme, Assayers Canada and Inspectorate laboratories to determine mean and performance thresholds at two and three standard deviations (Table 11-4).

Table 11-4: Cozamin Reference Materials used in the Phase II and III Drilling Campaigns, 2005-2006

RM	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (ppb)
4759	3.45 ± 0.07	2.78 ± 0.065	0.17 ± 0.01	212.46 ± 47.17	109.4 ± 8.3
4757	1.31 ± 0.03	0.86 ± 0.030	0.03 ± 0.01	60.04 ± 3.73	70.2 ± 4.6
4787	0.55 ± 0.03	0.68 ± 0.015	0.01 ± 0.007	24.42 ± 1.37	200.3 ± 5.4

Most RM values plotted within two standard deviations of the mean value. There were seven failed samples that were attributed to sample switching. Overall assay accuracy was acceptable, with no signs of bias.

Duplicate samples comprised a second split of the pulp reject being sent to the SGS laboratory for reanalysis at a rate of approximately 1 in 10 samples. A total of 432 samples for copper, zinc and lead, 388 samples for gold, and 422 samples for silver were analysed over the Phase III campaign. No evidence of bias was detected for silver or lead, but there was a weak positive bias observed in copper at higher grades and a weak negative bias for zinc and gold at higher grades. The magnitudes of the biases were not considered to be significant.

Samples of cement were submitted on a regular basis within the sample stream to identify evidence of cross contamination in the laboratory. A total of 144 blanks were submitted. A few samples had anomalous values of zinc, gold, and silver. In these instances, SGS was instructed to reanalyze the samples.

ALS was used as a check laboratory for analysis of 262 pulp samples. No bias between the results of the two laboratories was observed, but significantly lower levels of precision were noted with the ALS results. This was attributed to different analytical procedures followed at the two laboratories.

11.1.5.3 Phase IV and V Drilling Programs, 2006-2007

The QAQC program initiated in 2005 for the Phase III drilling program continued through the Phase IV and V drilling programs (Table 11-5).

Table 11-5: QAQC Program Summary Phase IV and V Drilling Programs, 2006-2007

Control	No. Samples	Insertion Rate (%)	Comments
RM	103	4.0	Acceptable performance for Cu, Ag, Pb and Zn; most sample values plot within 2 standard deviations from the certified mean. Medium grade RM 4757 shows low bias.
Blank	112	4.3	Acceptable performance for Ag, Au, Cu, Pb and Zn. 4 failures for Ag, 1 failure for Cu, 1 failure Au.
Core Duplicate	106	4.1	Good correlation between original sample and core duplicate for Cu, Ag Pb and Zn. Low correlation between original sample and core duplicate for Au.
Pulp Duplicate	106	4.1	Pulp duplicates show very good correlation for Cu, Ag, Pb, Zn and Au.

11.1.5.4 Phase VI Drilling Program, 2008

QAQC continued through 2008 using the same protocols developed in 2005 for Phase III program. Commercially available certified reference materials ("CRM") and Cozamin sourced RMs were used during the program. Supplies of the Cozamin sourced material created in 2005 were depleted by the end of 2008 (Table 11-6). In 2006 and 2007, Cozamin created new RM using the remainder of the large samples collected from underground in 2005. The certification process was poorly documented and only partial details of the certification process are available. The performance summary of the Phase VI drilling program QC samples is in Table 11-6.

Table 11-6: Reference Materials used in the Phase VI Drilling Program, 2008

Control	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (ppb)	# In UG DDH	# In Surface DDH	Insertion Rate (%)
06-4787	0.68 ± 0.003	0.65 ± 0.062	0.176 ± 0.003	35.38 ± 0.310	-	4	23	0.4
4757	1.31 ± 0.03	0.86 ± 0.030	0.03 ± 0.01	60.04 ± 3.73	70.2 ± 4.6	-	30	0.4
06-4759	1.94 ± 0.003	0.74 ± 0.004	0.144 ± 0.002	115.14 ± 0.32	200.3 ± 5.4	3	9	0.2
4787-a	9.49 ± 0.13	1.05 ± 0.07	0.172 ± 0.002	427.6 ± 3.06	-	-	48	0.7
4757-a	1.18 ± 0.03	3.58 ±0.086	10.6 ±0.086	138.8 ± 3.75	-	-	34	0.5
4759-a	1.27 ±0.05	0.14 ± 0.002	0.04 ±0.006	42.95 ± 2.90	-	-	13	0.2

Control	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (ppb)	# In UG DDH	# In Surface DDH	Insertion Rate (%)
HLLC[1]	1.49 ± 0.06	3.01 ± 0.17	0.29 ± 0.03	65.1 ± 6.7	830 ± 120	5	113	1.7
HLHC[1]	5.07 ± 0.27	2.35 ± 0.11	0.17 ± 0.01	111.0 ± 8.6	1970 ± 220	18	-	0.3
FCM-2[1]	0.756 ± 0.046	1.739 ± 0.104	0.479 ± 0.038	73.9 ± 7.3	1370 ± 120	8	-	0.1
BLANK	0.01% warning limit	0.011% warning limit	0.01% warning limit	5 g/t warning limit	50 ppb warning limit	66	211	4.1

Table 11-6 Notes:

1. CRM purchased from CDN Resource Laboratories Ltd., Delta, Canada. HLLC and HLHC are High Lake volcanogenic massive sulphide deposit material. FCM is Campo Morado volcanogenic massive sulphide deposit material.

The results of the Phase VI drilling program QAQC results were summarized by Bruce Davis in a memorandum to Capstone (Davis, 2009). He concluded that copper results from certified and in-house RM standards were under proper analytical control. Results from the CRMs for silver, zinc and lead were under analytical control, but were limited in number. The in-house RMs had not been subjected to homogeneity testing through a proper round robin procedure and were deemed insufficient to serve as controls for gold or silver. In addition, comparisons to ALS results showed there could be significant differences in mean grades determined for silver, zinc and lead, and therefore may not adequately serve as controls for these elements either. Davis (2009) concluded that the in-house RMs were sufficient for laboratory control of copper grades.

Blank results suggested no contamination in the sample preparation process. No coarse reject duplicates were available to validate the sample preparation process. No pulp duplicates were available to further validate the accuracy of the assays.

From the certified standard control information, Davis (2009) concluded the copper, lead, zinc and silver assay processes were producing results that could be used for public reporting, resource estimation and grade control purposes.

11.1.5.5 Phase VII-X Drilling Programs, 2010-2013

Three new RM standards were created in 2010 using MNV material sourced during active mining operations, CGLG2010, CGMG2010 and CGHG2010. Round robin testing at SGS, ALS, Acme and Assayers Canada was used to determine performance thresholds. In 2012, a new low grade RM, CGLG2012, was created using material from MNV. Performance thresholds were determined after round robin analysis at three laboratories (Cozamin, ALS and SGS). Typically, RM and blank samples were placed at the start and finish of the mineralized interval within a hole. Approximately two sample intervals per hole were selected to have pulp duplicates prepared and another two intervals per hole were selected for preparation of core duplicates. Additional quality control samples were inserted into the sequence as deemed necessary, e.g. a blank inserted in the sample sequence after a sample expected to have very high grade to monitor the quality of the sample preparation.

Analytical performance for copper was generally good (Table 11-8). Silver, zinc and lead results were more inconsistent, with periods of high failure rates. Results are summarized respectively in Table 11-9, Table 11-10 and Table 11-11. Graphical results for copper, silver, zinc and lead are in Figure 11-1, Figure 11-2, Figure 11-3 and Figure 11-4, respectively. Less consistent results for silver, zinc and lead suggest the RM standards were not sufficiently homogenized. Sample failures were defined as values greater than three standard deviations from the mean or two (or more) consecutive samples greater than two standard deviations from the mean. Blank performance was mixed, but failed samples were not sufficient in grade to suggest significant cross contamination within samples.

Standards covering low, medium and high grade ranges were not consistently inserted into the sample stream. The use of LG2012 as the only RM standard between June 2012 and December 2013 did not provide accuracy control in the middle to upper grade ranges for the drillholes completed within this timeframe. Following Lions Gate Geological Consulting Inc.'s ("LGGC") recommendation to provide additional accuracy control on the 2010-2013 diamond drillhole ("DDH") data, Capstone initiated a resampling program of pulps and drillcore samples from mineralized intercepts of the San Roberto zone and MNFWZ. These were submitted to ALS with purchased CRM standards and blank material.

Table 11-7 summarizes the DDH duplicate results for copper, silver and zinc; no bias was observed. Bias in lead values could not be determined; most values were very low grade. Values for copper exceeded the target of 80% or more of the pairs with duplicate values within 20% of the original value. Silver values were very close to the target. Zinc and lead values are below the target threshold, with 67% and 68% of the paired values within 20% of each other, respectively.

Pulp duplicate values for copper, silver and zinc did not show bias. Lead was biased high for values under 0.4% (5-10%) and low for values over 0.4% (5-17%). Values for copper met the target of 90% or more of the pairs with duplicate values within 20% of the original value. Silver, zinc and lead values are below the target threshold, with approximately 80% of the paired values within 20% of each other.

The use of a secondary laboratory to analyze the duplicate samples introduced an additional source of uncertainty due to inter-laboratory variability. This practice was changed in December 2013 and now duplicate samples are submitted to the same laboratory. Cozamin found better precision between original and duplicate samples when duplicate samples are submitted to the original laboratory.

Table 11-7: 2010-2013 Diamond Drillhole Sample Duplicate Performance

Duplicate Type (Years)	Element	Correlation Coefficient	Ranked HARD	Comments
Field (2012-2013)	Copper	0.973	87% within 20%	No bias observed.
	Silver	0.991	78% within 20%	No bias observed.
	Zinc	0.906	67% within 20%	No bias observed.
	Lead	0.922	68% within 20%	Predominately very low grade; cannot determine bias.
Pulp (2012-2013)	Copper	0.987	92% within 20%	No bias observed.
	Silver	0.974	80% within 20%	No bias observed.
	Zinc	0.981	82% within 20%	No bias observed.
	Lead	0.986	81% within 20%	Weak high bias (5-10%) under 0.4% Pb, low bias of values over 0.4% (5-17%).

Table 11-7 Notes:
1. Ranked HARD = Ranked Half-Absolute Relative Difference. Target values for field duplicates are 80% or more of duplicate values within 20% of original value. Target value for pulp duplicates is 90% or more of duplicate values within 20% of original value.

Table 11-8: 2010 – 2013 DDH Reference Material Standards and Blanks Data - Copper

Laboratory	SRM	Reference Value (%)	Mean (%)	No Samples	Total Failures	Failure Rate (%)
ALS	CGHG2010	6.16	6.22	84	7	7
CML			5.92	9	1	11
Eco Tech			5.81	3	3	100
ALS	CGMG2010	2.36	2.33	304	5	2
CML			2.31	154	12	16
Eco Tech			2.20	4	4	100
ALS	CGLG2010	0.12	0.12	268	1	0
CML			-	0	-	-
Eco Tech			3	0	0	0
ALS	CGLG2012	0.079	0.077	258	1	0
CML			0.079	279	60	22
ALS	Blank	0.001	0.007	942	138	15
CML			0.012	316	129	41
Eco Tech			0.006	10	-	

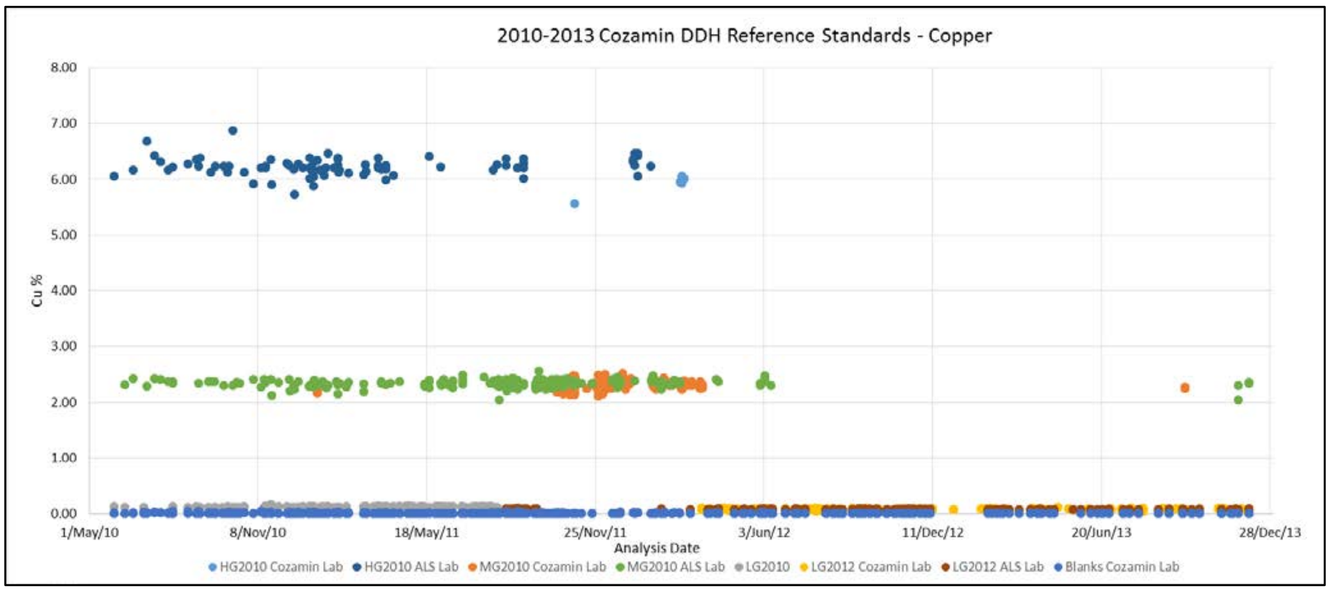


Figure 11-1: 2010 - 2013 DDH Reference Material Standards and Blanks Chart – Copper

Table 11-9: 2010 - 2013 DDH Reference Material Standards and Blanks Data – Silver

Laboratory	SRM	Reference Value (g/t)	Mean (g/t)	No Samples	Total Failures	Failure Rate (%)
ALS	CGHG2010	109	107	85	15	18
CML			108	7	0	0
Eco Tech			114	3	0	0
ALS	CGMG2010	92	88	296	78	26
CML			95	162	34	21
Eco Tech			95	4	0	0
ALS	CGLG2010	4	3	324	11	3
CML			-	-	-	-
Eco Tech			3	3	0	0
ALS	CGLG2012	2	3	201	18	9
CML			2	282	58	21
ALS	Blank	1	2	974	17	2
CML			2	320	13	4
Eco Tech			2	10	1	0

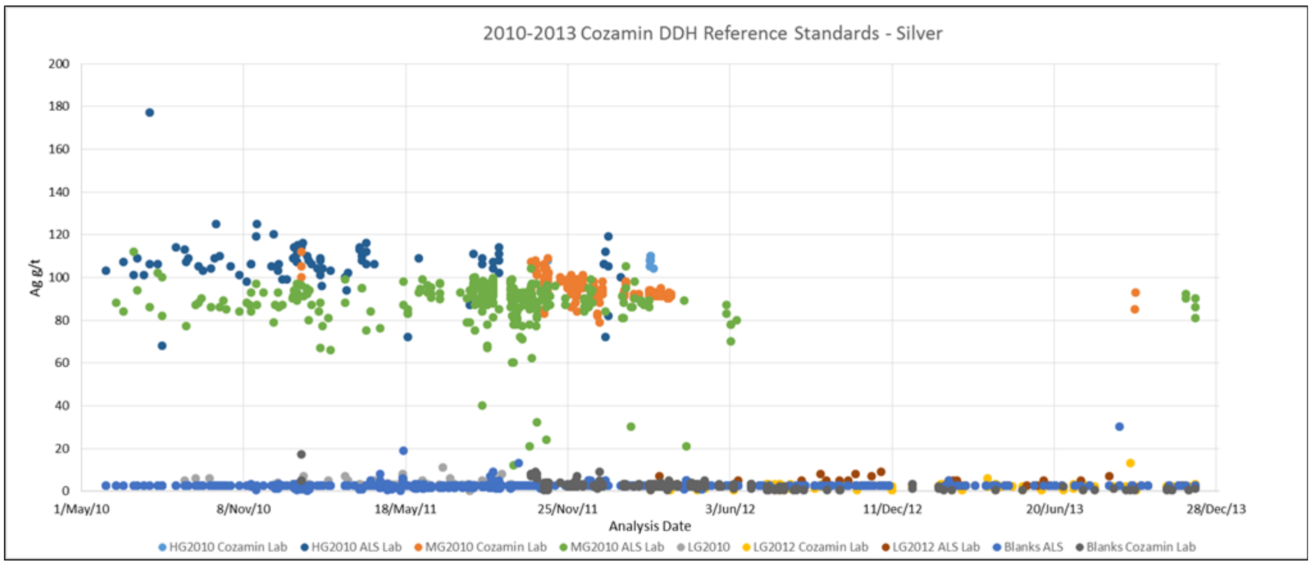


Figure 11-2: 2010 – 2013 DDH Reference Material Standards and Blanks Chart – Silver

Table 11-10: 2010 – 2013 DDH Reference Material Standards and Blanks Data – Zinc

Laboratory	SRM	Reference Value (%)	Mean (%)	No Samples	Total Failures	Failure Rate (%)
ALS			0.17	37	9	24
CML	CGHG2010	0.17	0.15	9	5	36
Eco Tech			0.17	3	0	0
ALS			1.59	256	0	0
CML	CGMG2010	1.54	1.55	162	0	0
Eco Tech			1.85	3	0	0
ALS			0.11	258	76	29
CML	CGLG2010	0.13	-	-	-	-
Eco Tech			0.48	3	1	33
ALS	CGLG2012	0.07	0.07	193	0	0
CML			0.07	278	0	0
ALS			0.05	976	584	60
CML	Blank	0.05	0.05	320	145	45
Eco Tech			0.04	10	2	20

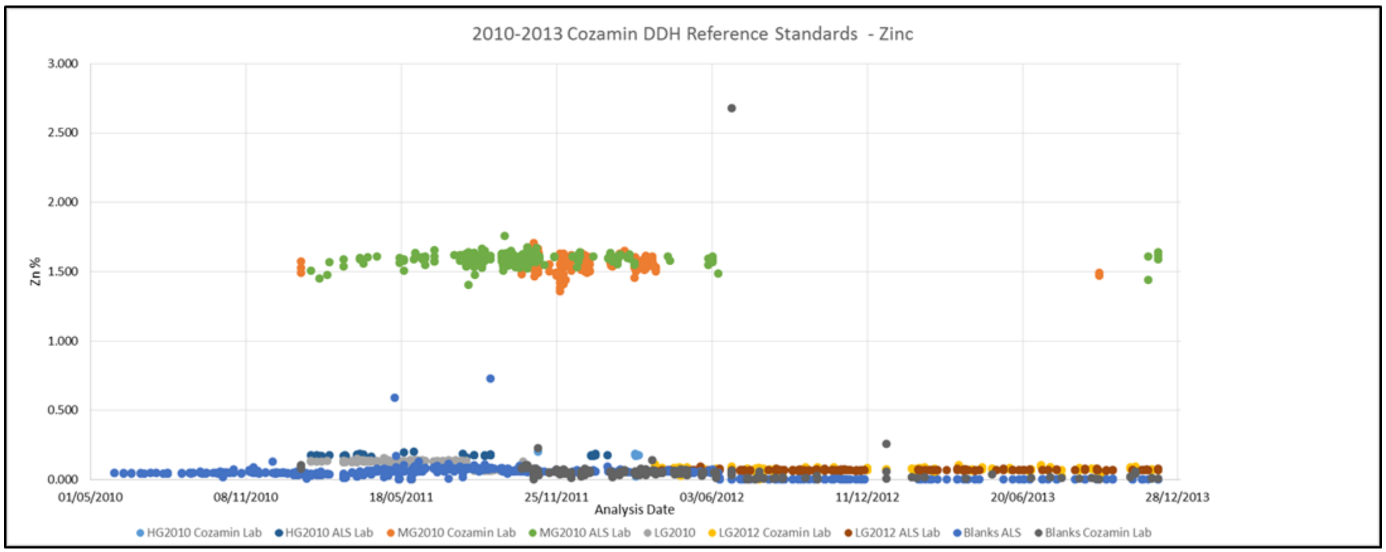


Figure 11-3: 2010 – 2013 DDH Reference Material Standards and Blanks Chart – Zinc

Table 11-11: 2010 – 2013 DDH Reference Material Standards and Blanks Data – Lead

Laboratory	SRM	Reference Value (%)	Mean (%)	No Samples	Total Failures	Failure Rate (%)
ALS	CGHG2010	0.010	0.009	83	0	0
CML			0.017	9	5	56
Eco Tech			0.008	3	0	0
ALS	CGMG2010	0.41	0.41	304	41	13
CML			0.41	162	44	27
Eco Tech			0.43	4	2	50
ALS	CGLG2010	0.002	0.011	324	80	25
CML			-	-	-	-
Eco Tech			0.003	3	0	0
ALS	CGLG2012	0.014	0.010	193	0	0
CML			0.016	280	50	18
ALS	Blank	0.050	0.006	976	26	3
CML			0.009	320	6	2
Eco Tech			0.007	10	0	0

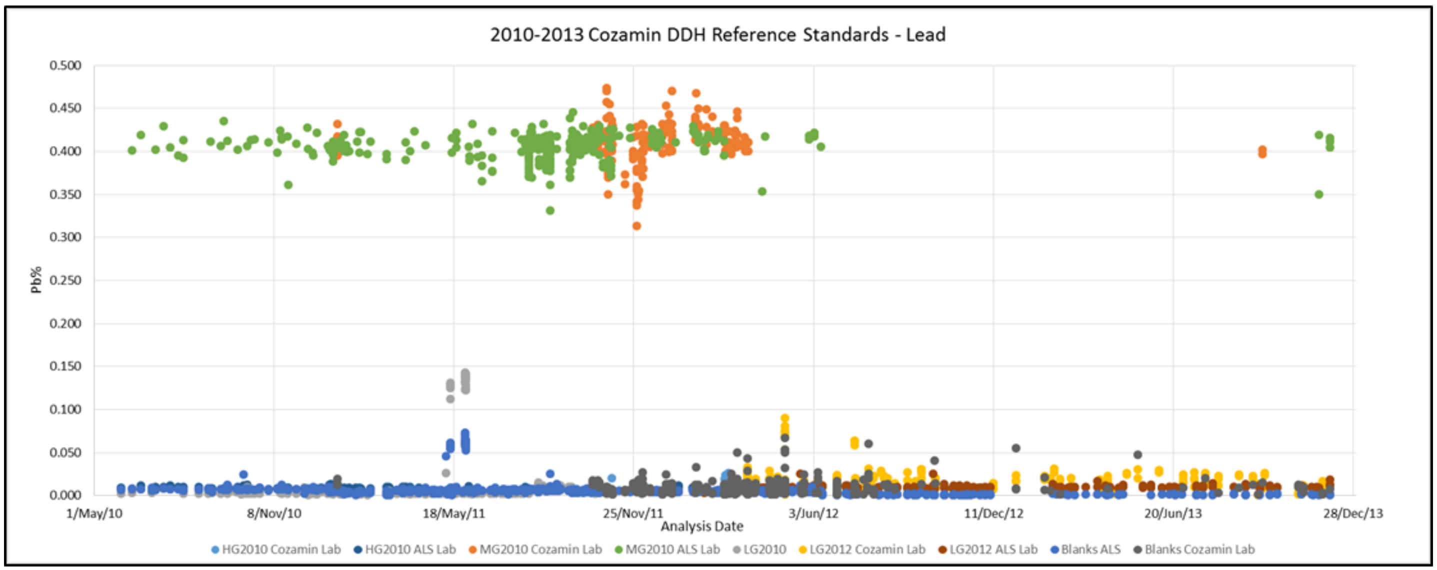


Figure 11-4: 2010 – 2013 DDH Reference Material Standards and Blanks Chart – Lead

11.1.5.6 Reanalysis of DDH Pulp Samples, 2010-2013

Capstone reassayed all available DDH pulp samples within the 2014 mineralization domains for MNV and MNFWZ (1,491 samples) with QAQC control samples to establish stronger controls on sample accuracy and precision. Results of the pulp reanalysis adequately corroborate the original analysis, thus original analytical values for the samples analyzed during the drilling campaigns were retained in the assay database (Capstone, 2015). Copper values reproduced well, with 90% of the samples within 5.2% of original result (Table 11-12), zinc and lead results performed well, while silver analyses showed more variability. Figure 11-5 illustrates the locations of the drillholes containing reanalyzed pulp samples.

Table 11-12: Comparison of Drillcore Pulp Reanalyses to Original Sample Values, 2010-2013

Element	Correlation Coefficient	Ranked HARD	Comments
Copper	0.995	96% within 10%	Not biased below 14% Cu (low bias 5-20% above 14% Cu, based on very few data points).
Silver	0.976	70% within 10%	Bias not shown.
Zinc	0.963	89% within 10%	Lower grade values below 2.75% Zn are well distributed. Low bias for values between 2.75-8% (3-7%). Overall high bias over 8% Zn, typically 4-8%.
Lead	1.00	70% within 10%	Bias not shown.

Table 11-12 Note:
1. Ranked HARD = Ranked Half-Absolute Relative Difference; target values are 90% or more of duplicate values within 10% of the original value (for pulp duplicates submitted to the same laboratory)

QAQC control samples included with the pulp reanalysis submittals included CRM, blanks and coarse and pulp rejects. All QAQC controls performed well for copper and zinc. Silver demonstrated a higher failure in two of four CRM. Silver and lead preparation duplicates were less precise than copper and zinc. All batches with CRM failures were reanalyzed.

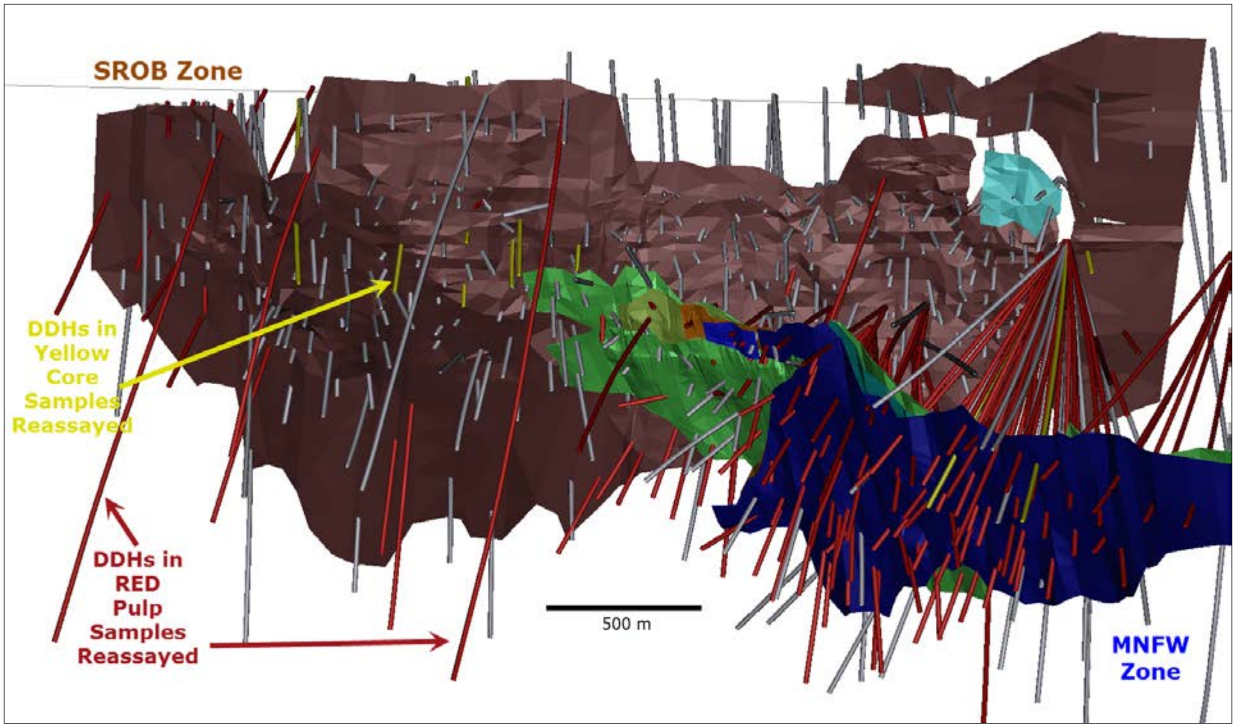


Figure 11-5: Isometric View of Drillholes Containing Reanalyzed Pulp Samples (red)

11.1.5.7 Phase XI Drilling Program, 2014

The QAQC program initiated in 2014 included CRM, blanks and duplicates (field and preparation). One of each type of control sample was included in every batch of 20 core samples; control sample performance was evaluated upon receipt of the certificate of analysis before results were accepted into the acQuire database. Performance of the QAQC control samples is summarized in Table 11-13, with examples of the control charts for copper in blanks (Figure 11-6) and medium-grade CRM “ME-1201” (Figure 11-7). CRM inserted included four commercially available CRM and two CRM created from ore material covered low-grade and medium-grade values. The custom CRM were certified by CDN Resources of Langley, Canada using 15 laboratories. All batches containing failed CRM were reanalyzed and the values replaced in the acQuire database. Blank performance demonstrated contamination typically did not occur between samples during preparation in ore grade samples. Preparation duplicates show increasing homogeneity from field duplicates (quarter core) through coarse crush duplicates and finally pulp duplicates, with strong correlation between duplicates for copper and zinc with moderate correlations for silver and lead (Capstone Gold, 2015a).

Table 11-13: 2014 DDH Certified Reference Material Standards and Blank QAQC Performance

Control	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Insertion Rate (%)	Total # Failures	Failure Rate (%)
2014							
ME-1403[1]	0.448 ± 0.045	1.34 ± 0.09	0.414 ± 0.027	53.9 ± 8.1	2.3	2	3
ME-1204[1]	0.519 ± 0.033	2.36 ± 0.18	0.443 ± 0.036	58.0 ± 9.0	1.4	-	-
CG-LG-14[2]	0.877 ± 0.057	0.451 ± 0.030	0.052 ± 0.006	27.5 ± 3.6	0.5	-	-
ME-1201[3]	1.572 ± 0.129	4.99 ± 0.435	0.465 ± 0.048	37.6 ± 5.1	0.7	2	9
CG-MG-14[2]	1.738 ± 0.099	0.492 ± 0.033	0.112 ± 0.012	53.0 ± 4.05	0.1	-	-
ME-1402[4]	2.9 ± 0.24	15.23 ± 1.005	2.48 ± 0.165	131.0 ± 10.5	0.4	-	-
BLANK	0.01% warning limit	0.01% warning limit	0.01% warning limit	10 g/t warning limit	6.5	2	1

Table 11-13 Notes:

CRM acceptable ranges are ±3 standard deviations. CRM were purchased from or certified through CDN Resource Laboratories Ltd., Langley, Canada. Blank material was quartz cobbles.

1. Mexico Campo Morado volcanogenic massive sulphide deposit material.
2. Mexico Cozamin Mine ore. "CG-Grade-14" certified using 15 laboratories.
3. Canada Slave structural province volcanogenic massive sulphide deposit material.
4. Mixed ore material with approximate whole rock composition of 36% SiO_2 and 15% Fe_2O_3.

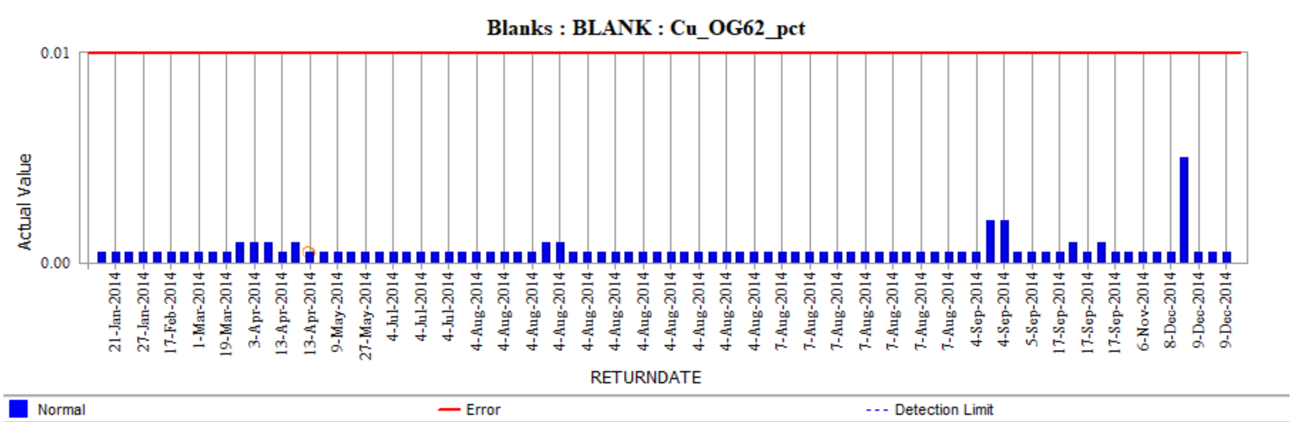


Figure 11-6: 2014 DDH Blanks performance - copper

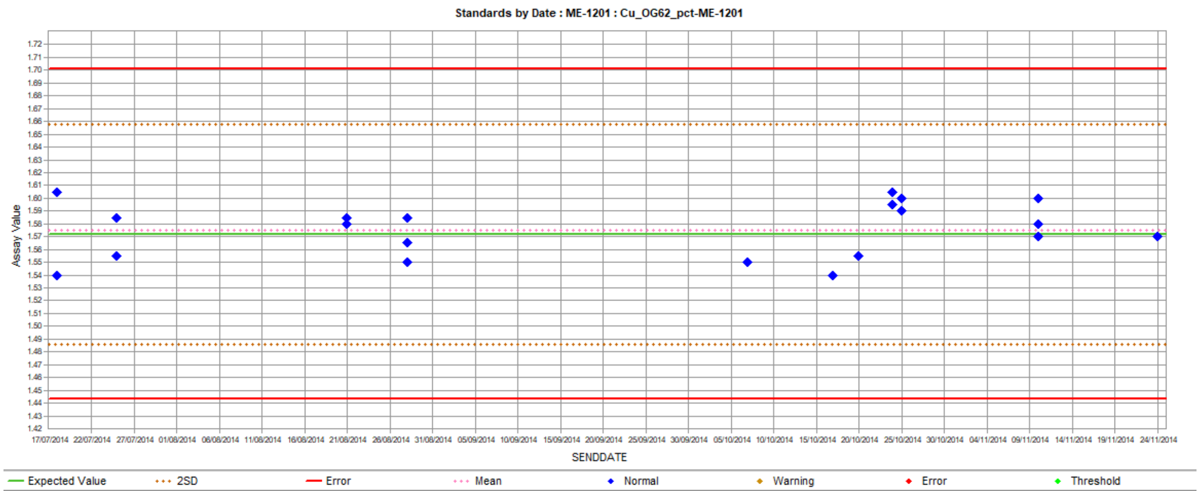


Figure 11-7: 2014 DDH CRM “CG-MG-14” performance – copper

11.1.5.8 Phase XII-XVI Drilling Programs, 2015-October 2018

The QAQC program initiated in 2014 continued to demonstrate the assay process was in control in 2015 through October 2018. Reporting on QAQC performance includes monthly and annual reports. Blank performance demonstrated contamination typically did not occur between samples during preparation in 2015 – 2016 (Cozamin, 2016a, 2017a), although increased between-sample contamination was observed in 2017, particularly in zinc. Blank performance shows that cross contamination between 0.01% to 0.04% Zn occurred in 2017, typically at the coarse crushing stage. The impact of these blank failures on ore-waste classification is considered low but investigation into the root cause and mitigation is on-going (Cozamin, 2018a). CRM inserted included six commercially available CRM and five CRM created from ore material covered low-grade to high-grade values. The custom CRM were certified by CDN Resources of Langley, Canada using 15 laboratories for three CRM created in 2014 and using 10 laboratories for two CRM created in 2016. All batches containing failed CRM were reanalyzed and the values replaced in the acQuire database. Performance of the QAQC control samples is summarized in Table 11-13, with examples of the control charts for copper in blanks at ALS and CML (Figure 11-8) and medium-grade CRM “CG-MG-14” (Figure 11-9) and “CG-MG-16” (Figure 11-10). Field duplicates show high variability consistent with the vein mineralization at Cozamin, with 70% of the duplicate value within ±20% of the original value for copper and zinc, 80% within ±20% for silver, 57% within ±20% for gold and 58% within ±20% for lead. Field duplicates were not taken in SROB-Zn drilling in 2017 and in drillholes from surface in 2018 to preserve material for metallurgical testing. Preparation duplicates show increasing homogeneity from field duplicates (quarter core until October 2015, the other half of core to present) through coarse crush duplicates and finally pulp duplicates. Correlation between preparation duplicates was strong for copper and zinc and moderate for silver and lead.

Table 11-14: 2015-2018 DDH Certified Reference Material Standards and Blank QAQC Performance

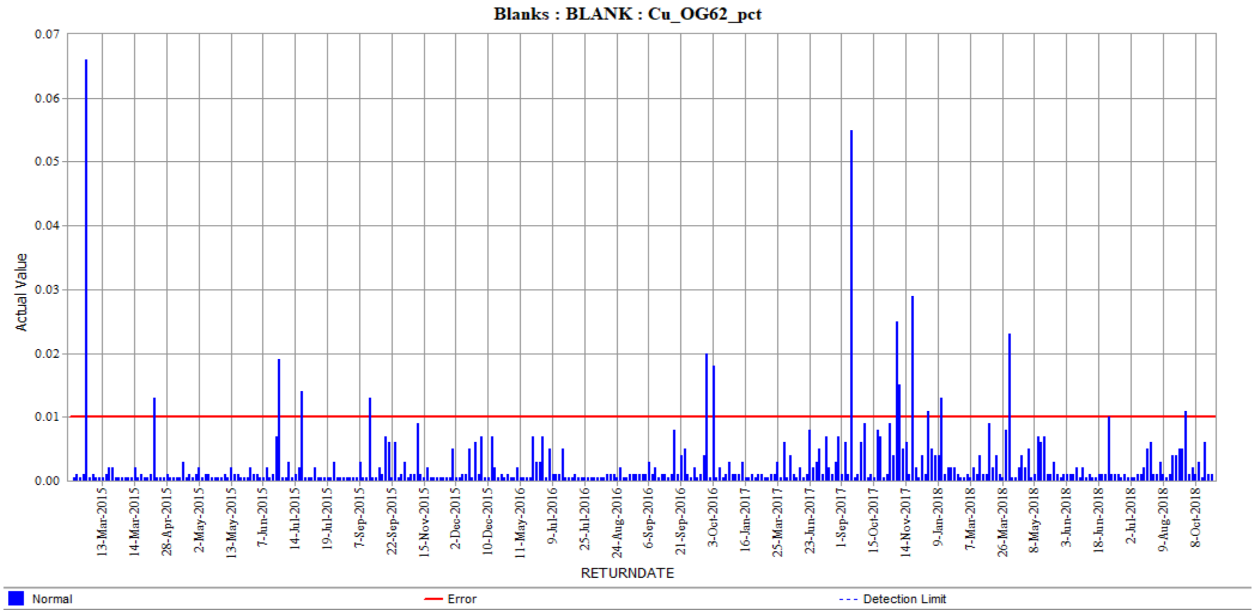
Control	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Insertion Rate (%)	Total # Failures	Failure Rate (%)
2015							
ME-1204[1]	0.519 ± 0.033	2.36 ± 0.18	0.443 ± 0.036	58.0 ± 9.0	0.1	-	-
CG-LG-14[2]	0.877 ± 0.057	0.451 ± 0.030	0.052 ± 0.006	27.5 ± 3.6	2.5	-	-
CG-MG-14[2]	1.738 ± 0.099	0.492 ± 0.033	0.112 ± 0.012	53.0 ± 4.05	1.8	-	-
ME-1402[3]	2.9 ± 0.24	15.23 ± 1.005	2.48 ± 0.165	131.0 ± 10.5	0.4	-	-
CG-HG-14[2]	3.553 ± 0.203	0.604 ± 0.036	0.094 ± 0.012	94.1 ± 7.1	0.1	-	-
BLANK	0.01% warning limit	0.01% warning limit	0.01% warning limit	10 g/t warning limit	5.6	14	7
2016							
ME-1306[4]	0.398 ± 0.027	3.17 ± 0.225	1.6 ± 0.105	104 ± 10.5	0.3	-	-
ME-1403[1]	0.448 ± 0.045	1.34 ± 0.09	0.414 ± 0.027	53.9 ± 8.1	0.3	-	-
CG-LG-14[2]	0.877 ± 0.057	0.451 ± 0.030	0.052 ± 0.006	27.5 ± 3.6	2.7	-	-
ME-17[5]	1.36 ± 0.15	7.34 ± 0.555	0.676 ± 0.081	38.2 ± 4.95	0.3	-	-
CG-MG-14[2]	1.738 ± 0.099	0.492 ± 0.033	0.112 ± 0.012	53.0 ± 4.05	1.3	-	-
CG-HG-14[2]	3.553 ± 0.203	0.604 ± 0.036	0.094 ± 0.012	94.1 ± 7.1	0.9	-	-
BLANK	0.01% warning limit	0.01% warning limit	0.01% warning limit	10 g/t warning limit	5.9	14	11
2017							
ME-1306[4]	0.398 ± 0.027	3.17 ± 0.225	1.6 ± 0.105	104 ± 10.5	0.9	-	-
ME-1403[1]	0.448 ± 0.045	1.34 ± 0.09	0.414 ± 0.027	53.9 ± 8.1	0.9	-	-
CG-LG-16[2]	0.751 ± 0.036	0.259 ± 0.015	0.008 ± 0.003	14.0 ± 2.55	2.3	3	4
CG-LG-14[2]	0.877 ± 0.057	0.451 ± 0.030	0.052 ± 0.006	27.5 ± 3.6	0.6	-	-
ME-17[5]	1.36 ± 0.15	7.34 ± 0.555	0.676 ± 0.081	38.2 ± 4.95	1.1	-	-
ME-1201[5]	1.572 ± 0.129	4.99 ± 0.435	0.465 ± 0.048	37.6 ± 5.1	0.4	1	7
CG-MG-14[2]	1.738 ± 0.099	0.492 ± 0.033	0.112 ± 0.012	53.0 ± 4.05	0.4	-	-
CG-HG-14[2]	3.553 ± 0.203	0.604 ± 0.036	0.094 ± 0.012	94.1 ± 7.1	0.8	-	-
BLANK	0.01% warning limit	0.01% warning limit	0.01% warning limit	10 g/t warning limit	6.9	OG62 51 blanks Cu= 4 Zn= 2 ICP61 43 blanks Cu= 2 Zn= 29 Pb= 10 MEMS61 260blanks	OG62 Cu 8% Zn 4% ICP61 Cu 5% Zn 70% MEMS61 Cu 5% Zn 34%

Control	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Insertion Rate (%)	Total # Failures	Failure Rate (%)
						Cu= 13 Zn= 88 Pb= 10	Pb 4%
2018 to October 24							
CG-HG-14[2]	3.553 ± 0.203	0.604 ± 0.036	0.094 ± 0.012	94.1 ± 7.1	1.1	3	4
CG-MG-14[2]	1.738 ± 0.099	0.492 ± 0.033	0.112 ± 0.012	53.0 ± 4.05	0.03	-	-
CG-HG-16[2]	3.19 ± 0.18	0.532± 0.048	0.028 ± 0.003	55.9 ± 3.45	0.03	1	50
CG-MG-16[2]	1.28 ± 0.063	0.608 ± 0.036	0.032 ± 0.003	30.7 ± 2.4	0.9	6	12
CG-LG-16[2]	0.751 ± 0.036	0.259 ± 0.015	0.008 ± 0.003	14.0 ± 2.55	3.1	22	11
ME-1201[5]	1.572 ± 0.129	4.99 ± 0.435	0.465 ± 0.048	37.6 ± 5.1	0.1	1	33
ME-1204[1]	0.519 ± 0.033	2.36 ± 0.18	0.443 ± 0.036	58.0 ± 9.0	0.1	1	11
ME-1306[4]	0.398 ± 0.027	3.17 ± 0.225	1.6 ± 0.105	104 ± 10.5	0.5	-	-
ME-1402[3]	2.9 ± 0.24	15.23 ± 1.005	2.48 ± 0.165	131.0 ± 10.5	0.1	-	-
ME-1403[1]	0.448 ± 0.045	1.34 ± 0.09	0.414 ± 0.027	53.9 ± 8.1	0.9	4	7
ME-17[5]	1.36 ± 0.15	7.34 ± 0.555	0.676 ± 0.081	38.2 ± 4.95	0.4	1	4
BLANK	0.01% warning limit	0.01% warning limit	0.01% warning limit	10 g/t warning limit	8.1	OG62 87 blanks Cu= 3 MEMS61 403 blanks Cu= 14 Zn= 4 Pb = 9 CML - ICP 23 blanks	OG62 3% MEMS61 13% CML - ICP 13%

Table 11-14 Notes:

CRM Acceptable ranges are ±3 standard deviations. CRM purchased from or certified through CDN Resource Laboratories Ltd., Langley, Canada. Blank material was quartz cobbles.

1. Mexico Campo Morado volcanogenic massive sulphide deposit material.
2. Mexico Cozamin Mine ore. “CG-Grade-14” certified using 15 laboratories; “CG-Grade-16” certified using 10 laboratories.
3. Mixed ore material with approximate whole rock composition of 36% SiO_2 and 15% Fe_2O_3.
4. Mixed ore material with approximate whole rock composition of 58% SiO_2 and 13% Fe_2O_3.
5. Canada Slave structural province volcanogenic massive sulphide deposit material.



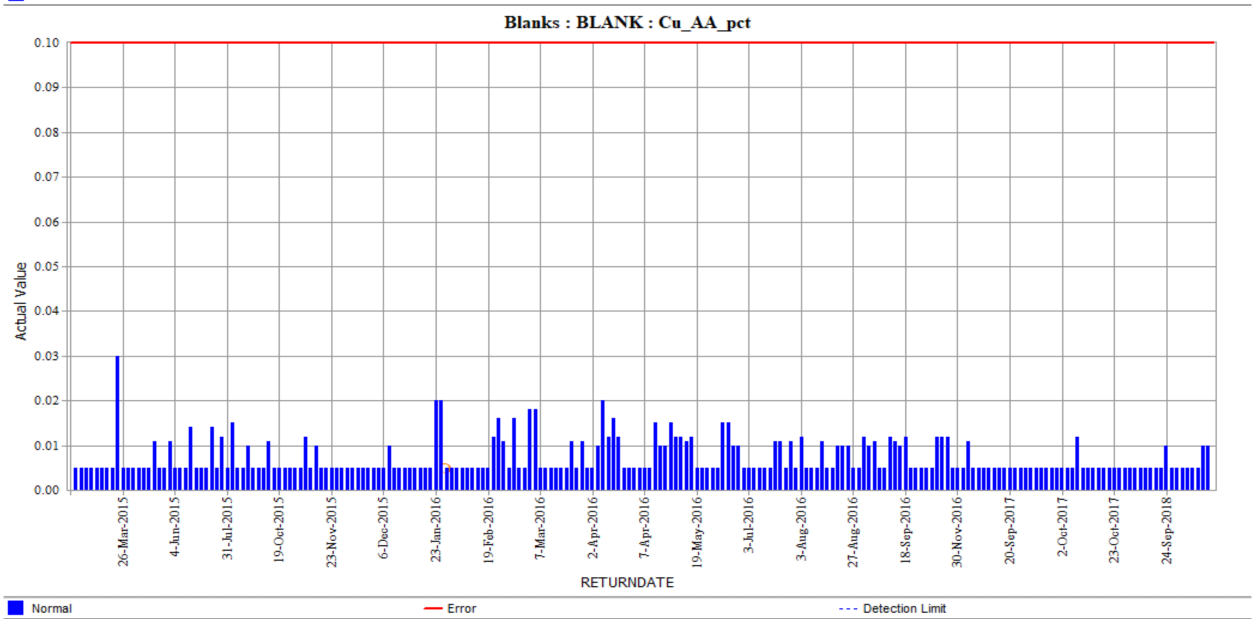


Figure 11-8: 2015 to October 2018 DDH Blanks performance – copper, ALS (upper) and CML (lower)

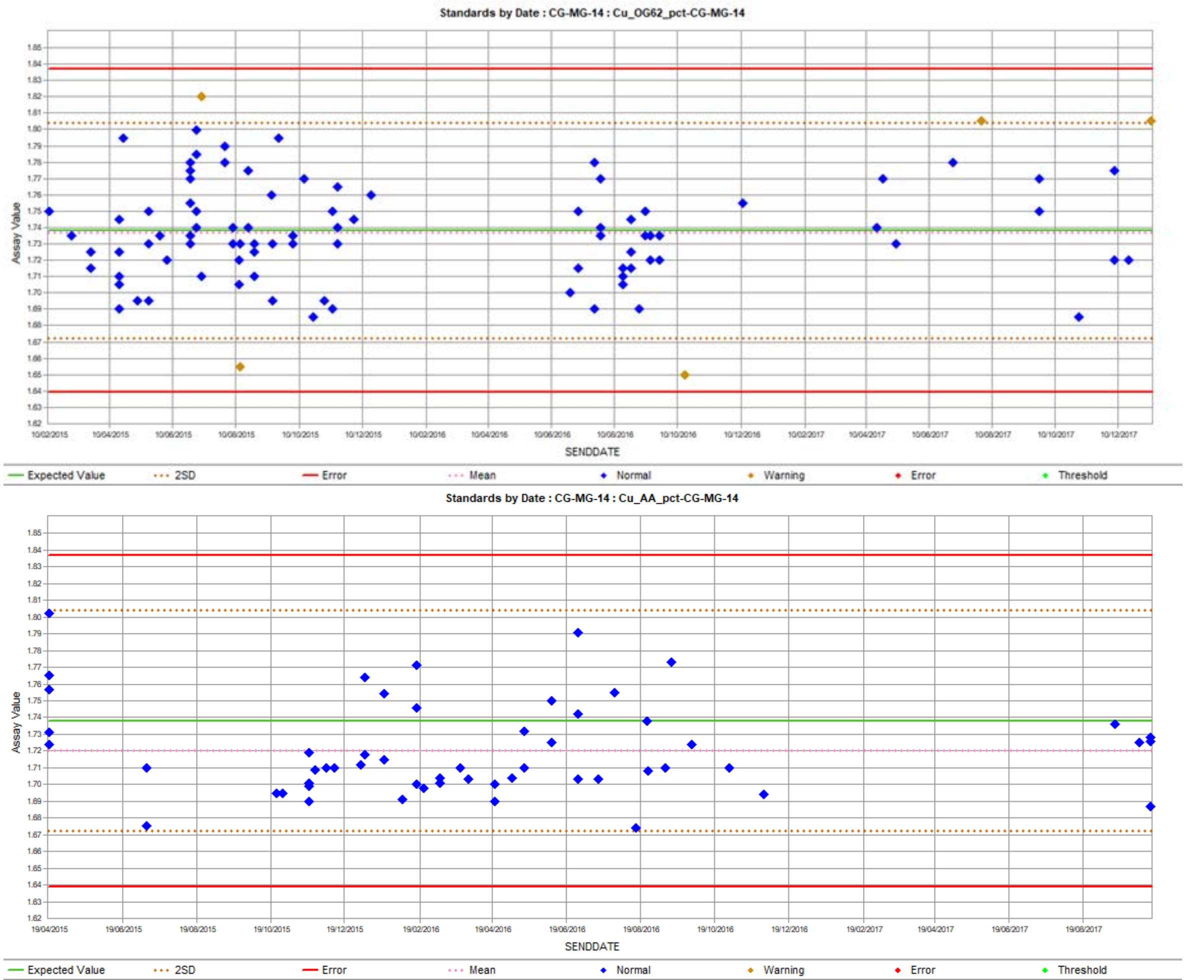


Figure 11-9: 2015 to 2017 DDH CRM "CG-MG-14" performance – copper, ALS (upper) and CML (lower)

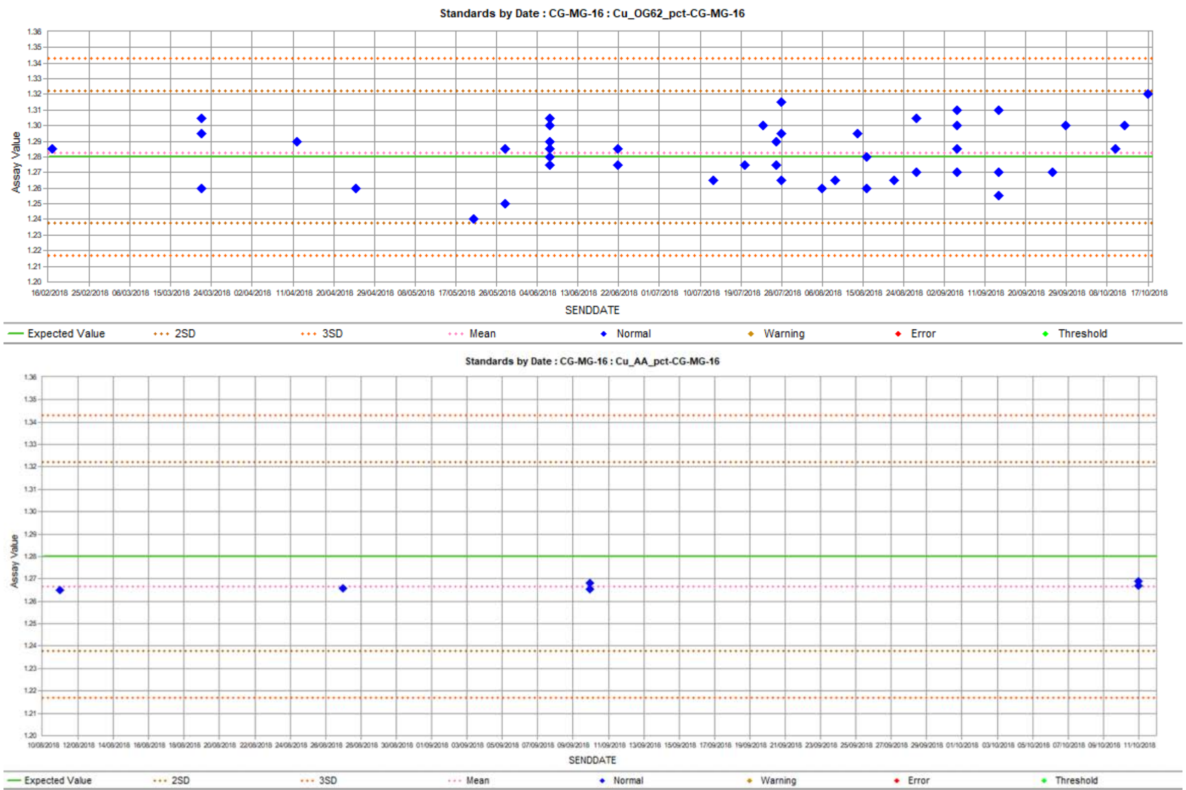


Figure 11-10: 2018 DDH CRM "CG-MG-16" performance – copper, ALS (upper) and CML (lower)

11.2 DDH QAQC Conclusions

Cozamin's QAQC program for DDH samples effectively controlled sample accuracy, precision and contamination since its reinstatement, 2014 through 2018. Reanalysis of available pulps from samples collected 2010 to 2013 within resource domains, including QAQC controls, confirmed original values.

Vivienne McLennan, P.Geo., Capstone's Senior Geologist – Technical Services, confirms the diamond drilling samples are acceptable to support the mineral resource estimation in this technical report.

11.3 Bulk Density

Capstone collects bulk density measurements from each drillhole, including samples from mineralized and non-mineralized intercepts. As of October 24, 2018, there are 35,522 bulk density measurements from most drillholes on the property.

11.3.1 Bulk Density Sampling Method and Procedure, 2009-2014

All drillcore pieces greater than 10 cm in length within an assay sample interval were selected from the core box and labelled to retain their order. Bulk density measurements were taken of consecutive assay intervals through mineralized zones. In waste zones measurements are less frequent, comprising a 2 m sample approximately every 20-50 metres down the hole. Core pieces were placed on a top loading balance and weighed. Capstone used the weight-in-air weight-in-water technique to determine the bulk density of the drillcore (Equation 11-1).

Equation 11-1:

$$\textbf{Bulk Density} = \frac{\textbf{weight in air}}{\textbf{volume of water displacement}}$$

A 2,000 mL plastic graduated cylinder is filled with water to the 2,000 mL graduation line and weighed. The cylinder is then emptied and filled with the drillcore pieces from the sample interval. Water is poured into the cylinder containing the core to the 2,000 mL mark and then weighed. The volume of the displaced water is then divided by the weight in air to determine the bulk density (g/cm^3). Data are recorded into a Microsoft Excel® spreadsheet, along with the drillhole name, from, to, and rock type information.

In 2009, Cozamin's bulk density dataset comprised 4,045 measurements, plus an additional 857 repeat samples to test the method precision. Three anomalous values were removed from the database due to suspected typographic entry errors of the sample weights. The bulk density ranges in the database were between 1.51 g/cm^3 to 6.37 g/cm^3, with a mean of 2.83 g/cm^3. Density values were measured in 135 of the 365 drillholes in the database at the time, and their spatial distribution was considered reasonably extensive throughout areas of potential economic interest.

In 2013, a total of 2,354 bulk density values were reanalysed to correct widely varying values obtained between 2009 and 2012, from 0.31 g/cm^3 to 9.02 g/cm^3, for quality control and to check extreme values. The extreme high and low values were replaced with results that fell within expected bulk density ranges database.

As of December 31, 2014, there were 18,468 bulk density measurements from most drillholes on the property. The bulk density values range between 2.05 g/cm^3 to 6.05 g/cm^3, with a mean of 2.71 g/cm^3.

11.3.2 Bulk Density QAQC 2013-2014

In November 2013, Cozamin implemented a QAQC program for its bulk density determinations. This included the use of an aluminum cylinder, approximately 20 cm in length with a known bulk density of 2.7 g/cm^3, to act as a reference standard for the measurement method. Measurements of the aluminum cylinder are taken at a rate of 1 in 25 measurements of drillcore. Values of 215 aluminum cylinder measurements ranged from 2.63-2.74 g/cm^3, with an average of 2.69 g/cm^3. This represents an average underestimation bias of less than 0.4%.

Repeat measurements are taken to provide an understanding of the precision of the method. Capstone selected vein intercepts from drillholes in the San Roberto, MNFWZ, and San Rafael zones for reanalysis. Repeat measurements from the drillholes showed good levels of precision, with 90% of the 142 sample pairs measuring within 1% of each other (from the Ranked HARD plot). The duplicate samples did not show obvious bias.

The results of the QAQC samples indicate the 2013-2014 bulk density dataset is of sufficient quality for use in mineral resources and mineral reserves estimation.

11.3.3 Bulk Density Sampling Method and Procedure, 2015-2018

Capstone uses the weight-in-air over weight-in-water technique to determine the bulk density of the drillcore (Equation 11-2). All drillcore pieces greater than 10 cm in length within an assay sample interval are selected from the core box and labelled to retain their order. Bulk density measurements are taken from consecutive assay intervals through mineralized zones. Core pieces are placed on a top loading balance and weighed, then weighed again in a vat of water using a basket suspended from the hook on the scale.

Equation 11-2:

$$\boldsymbol{Bulk\ Density} = \frac{\boldsymbol{weight\ in\ air}}{(\boldsymbol{weight\ in\ air} - \boldsymbol{weight\ in\ water})}$$

Data are recorded into an acQuire data entry object, along with the drillhole name and from-to.

At the end of October 2018, Cozamin's bulk density dataset comprised 17,265 measurements collected 2015-2018. The bulk density ranges in the database were between 1.95 g/cm^3 to 6.46 g/cm^3, with a mean of 2.72 g/cm^3.

11.3.4 Bulk Density QAQC 2015-2018

The QAQC program for bulk density determinations continued since 2013. Measurements of the aluminum cylinder reference material are taken at a rate of 1 in 20 measurements of drillcore. Values of 1187 aluminum cylinder measurements ranged from 2.69-2.72 g/cm^3, with an average of 2.70 g/cm^3. The average estimation matches the density of the aluminum bar reference material.

Repeat measurements are taken to provide an understanding of the precision of the method. Capstone selected vein intercepts from drillholes in the San Roberto, MNFWZ and San Rafael zones for reanalysis. Repeat measurements from the drillholes showed good levels of precision, with 90% of the 930 sample pairs measure within 0.4% of each other (from the Ranked HARD plot). The duplicate values do not exhibit bias.

The results of the QAQC samples indicate the 2015-2018 bulk density dataset is of sufficient quality for use in mineral resources and mineral reserves estimation.

12 Data Verification

12.1 Current Drillhole Database

Cozamin implemented a "Geological Information Management System" acQuire database in October 2014. Error rates remained within the typically accepted industry standard of less than 1% since that time, including the data collected 2004-2014.

Table 12-1: Drillhole Database Validation - Error Rates

Time Period	Error Rate	Comments on Source of Error	Corrective Actions
April to October 2018	0.8%	2.7% error rate in downhole surveys (Cozamin, 2018c)	Discussion regarding automated application of magnetic declination correction in database, rather than in the downhole survey tools.
July 2017 to March 2018	0.6%	downhole surveys (Cozamin, 2018b)	Reminded team of requirement to save all downhole survey backups.
January to July 2017	0.6%	collar surveys (Cozamin, 2017c)	Implemented 100% check on collar data.
April to December 2016	0.3%	downhole survey (Cozamin, 2017b)	None taken.
March 2015 to March 2016	2.6%	4% error rate in downhole survey; 1 error in assay (Cozamin, 2016b)	Switched to downloadable Reflex tool.
Re-Built Database 2004-2014	0.3%	1.2% error rate for lithology; 1.5% error rate in downhole survey (Cozamin, 2015b-d)	Added lithological core logging data entry object to acQuire; new workflow required saving of all downhole survey backups.

As noted in Table 12-1, the error rate for the data imported into the newly built acQuire database was 0.3% overall, with all errors limited to downhole survey at 1.5% and a new lithology check at 1.5%. To resolve the source of these errors, use of a downloadable Reflex downhole survey tool and a data entry object for lithological core logging were established.

Internal verification of drillhole data imported into the acQuire database is completed annually since 2015 and documented in memoranda accessible to all Capstone's intranet users. A minimum of 10% of surveyed collar co-ordinates, downhole survey data and analytical values are checked against original source records. As no other source records exist, data entered directly into acQuire's user interfaces, such as lithology, RQD and bulk density are not verified using this method. Functions such as pick-lists and acceptable value ranges set in the acQuire data entry object control error for these parameters.

All errors found were corrected immediately and the dataset used for resource estimation included the corrected values.

12.2 Past Drillhole Database

In 2014, audits of the former dataset collected in spreadsheets revealed an unacceptable error rate greater than the typical industry standard of less than 1%. The April 2014 internal audit demonstrated an error rate of 7.8% for assays checked against the ALS laboratory issued certificates across a random selection of 8% of the assay dataset. A further check by LGGC in May 2014 on 10% of the assays focussed on drillholes within areas of Indicated and Inferred mineral resources (LGGC, 2014a). Collar location data, downhole survey measurements, and assay values were all checked. No errors were found during the audit of the collar data, the assay error rate was 6.4% error rate for downhole survey data (most errors were decimal values or resulted missing source files) and 2% for assays (typically Zn and Pb switches). In June 2014, an internal audit on 92% of the drillhole database collars, downhole surveys and assays further demonstrated error rates of 2.4%, 1.4% and 3.4%, respectively. The data was considered adequate to support Indicated and Inferred classification of mineral resources only until further review after completion of corrective actions.

12.3 Site Visit and Author Verification

A site visit to the Cozamin property was completed by Garth Kirkham, P.Geo., on April 9-10, 2018. The purpose of these visits was to fulfill the requirements specified under NI 43-101 and to familiarize with the property. The site visit consisted of an underground tour of development headings as well as an inspection of the surface core logging, sampling and storage areas. The site visit also included an inspection of the property, offices, underground vein exposures, core storage facilities, mill and tour of major centre affected by the mining operation.

The tour of the office showed a clean, well-organized, professional environment. On-site staff led the author through the chain of custody and methods used at each stage of the logging and sampling process. All methods and processes are to industry standards and reflect best practices, and no issues were identified. The core is accessible and stored in covered racks.

The author selected 10 drill holes from the database and they were laid out at the core storage area. Site staff supplied the logs and assay sheets for verification against the core and the logged intervals. The data correlated with the physical core and no issues were identified. In addition, the author toured the complete core storage facilities, selecting and reviewing core throughout. No issues were identified.

The author is confident that the data and results are valid based on the site visit and inspection of all aspects of the project, including methods and procedures used. It is the opinion of the independent author that all work, procedures, and results have adhered to best practices and industry standards required by NI 43-101. No duplicate samples were taken during the site visit to verify assay results as the project is an operating mine and ongoing QAQC is performed constantly and consistently however there were no limitations on the author with respect to verification. In addition, there were no limitations with respect to validating the physical data or computer-based data. The author is of the opinion that the work was being performed by a well-respected, large, multi-national company that employs competent professionals that adhere to industry best practices and standards.

The data verification process did not identify any material issues with the Cozamin sample/assay data. The author is satisfied that the assay data is of suitable quality to be used as the basis for this resource estimate.

The author performed the preceding resource estimates of for the MNFW zones so no validation and verification was necessary. The Mala Noche zone resource estimates were performed by Capstone personnel which were validated by the author by creating and calculating verification models independent of those supplied. The results showed excellent agreement and are presented within this technical report without alteration or editing.

12.4 Summary and Opinion of QP

Garth Kirkham, P.Geo., considers the Cozamin DDH dataset appropriately validated and verified, and adequate for the mineral resource estimation in this Technical Report.

13 Mineral Processing and Metallurgical Testing

13.1 Introduction

Mr. Chris Martin of Blue Coast Metallurgy Ltd visited and toured the mill in January 2018. Mr. Martin has been in close contact with the mill throughout 2018, while metallurgists with Blue Coast have visited the mill on two occasions since January 2018. The mill remains largely as described in previous technical reports.

The Cozamin mill has milled increasing tonnages from the San Rafael resource since the previous technical report effective March 31, 2018, while the focus of laboratory testing has shifted back to future feed materials from MNFWZ with particular focus on relatively copper-rich Vein 20. This material was chosen for testing as it is the dominant source of material from MNFWZ for future milling and is expected to comprise the majority of tonnes and value from the MNFWZ. The zinc-rich Veins 10 and 11 (Calicanto) were not tested in the study and may require testing in the future.

13.2 Mill Performance on San Rafael-rich Blends of Mill Feed

Metallurgical development early in 2018 focused on the integration of zinc-rich ores from the San Rafael zone with the copper-rich ores from the MNV and MNFWZ. The majority of this work was on samples from San Rafael blended with 2017 and early 2018 mill feed material at ratios from 25% to 40% San Rafael material. This provided a guidance of metallurgy to be expected once ores from the two zones were co-mingled and milled.

While the majority of the milled tonnage was sourced from MNV and MNFWZ, significant tonnages from San Rafael were milled starting in August 2018. From August to December 2018, 29% of the mill feed arose from zinc-rich zones, 23% from San Rafael and 6% from Sub-level 4.7, as shown in Figure 13-1.

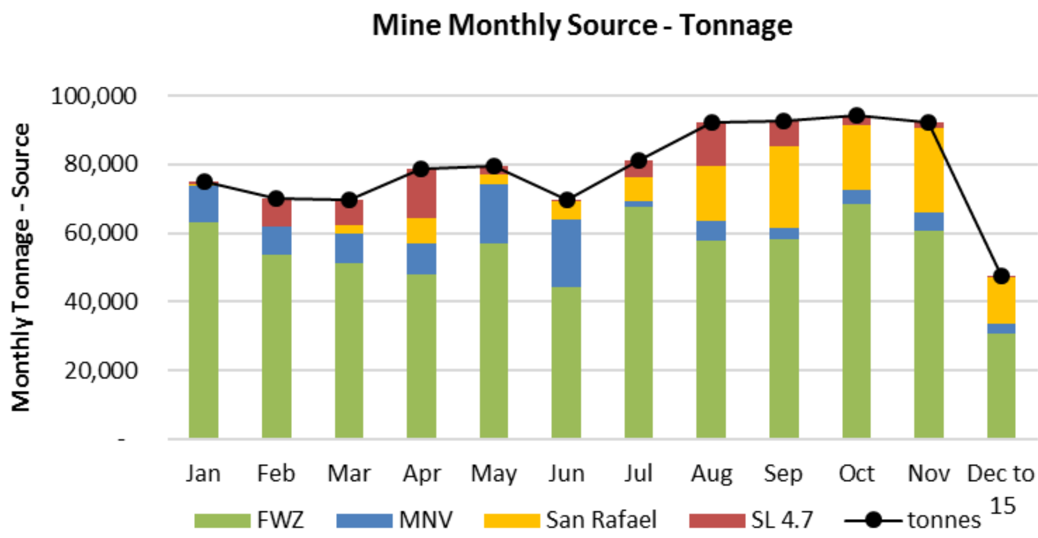


Figure 13-1: Ore Mix to the Mill Feed by Source Location

The daily performance of the mill during 2018 is summarised in the scatterplots in Figure 13-2, with the San Rafael-rich blends (25 to 40% San Rafael material) milled from August onwards denoted by golden diamonds, compared with the copper rich MNFWZ/MNV material milled prior to August shown in blue.

As expected, copper recovery has dropped somewhat with the drop in copper head grade. The average post-August copper recovery to the copper concentrate was 94.1%, one percent below the 95.1% recorded prior to the addition of the San Rafael tonnage to the mill feed. The concentrate grade has also dropped about 1% from 26.5% from January to July to 25.4% from August to December.

Lead recovery from August averaged 52% to a respectable concentrate grade of 60% lead.

Average zinc recovery rose to 65.9% through the months after August, from 61.9% prior to August. It was, however, lower than had been expected from the amenability testing due to poor metallurgy through the months of October and November. Metallurgy through these months, when the most zinc was fed to the mill from San Rafael, was particularly poor at below 62% zinc recovery. The cause of these unexpected zinc losses is under investigation while at the time of writing recoveries have recovered somewhat.

The concentrate grade dropped slightly, from 47.5% up to July to 46.9% from August onwards.

Exactly as predicted in early 2018, overall silver recovery (to combined copper and lead concentrates) dropped from 79% to 74%. Of the 5% additional silver losses, 4% reported to final tails, and the other 1% to the zinc concentrate.

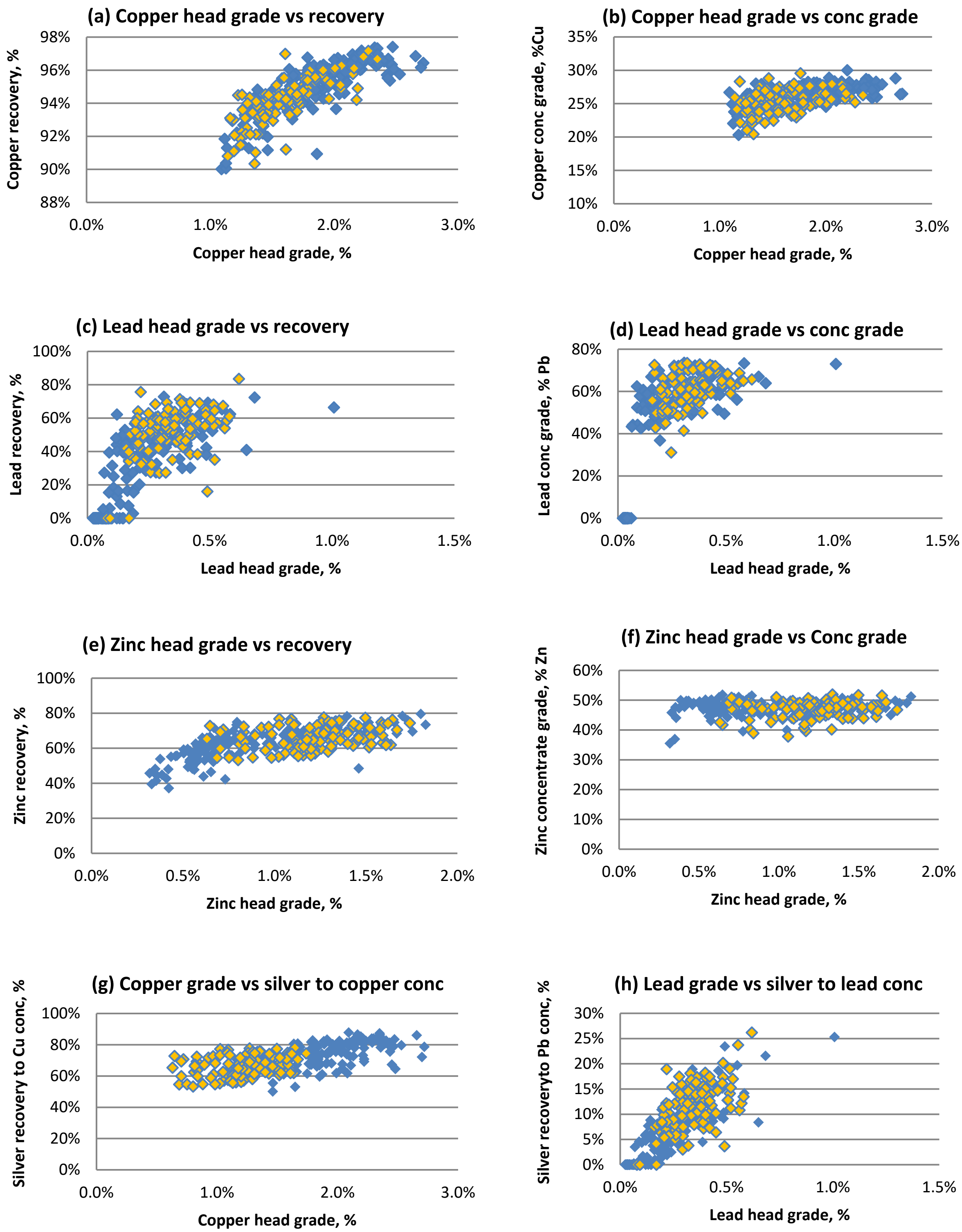


Figure 13-2: 2018 Daily Mill Performance (golden points: High San Rafael feed milled after Aug 4th)

13.3 Metallurgical Testing

13.3.1 Samples

Some 16 samples, all from drill hole intercepts of Vein 20 of the MNFWZ were tested in late 2018. The location of the sampled drill hole intercepts with respect to current production and development ore mining is shown in Figure 13-3. In each case the entire Vein 20 intercept from hanging wall to footwall and a rind of low-grade dilution was used to create the sample from half-HQ drill core (63.5 mm core diameter). None of these samples contained recoverable amounts of lead and in many cases the zinc content also dropped below the threshold for zinc recovery.

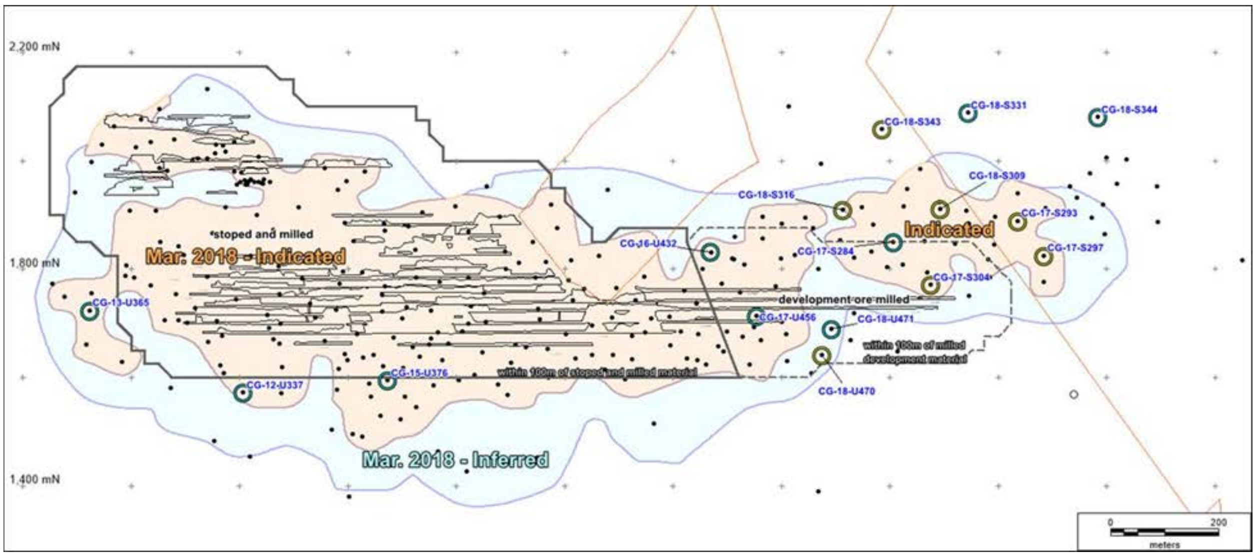


Figure 13-3: Long Section of Vein 20 of the MNFWZ with Location of Samples Tested in Late 2018 Program

The following samples were tested:

- Seven samples containing recoverable amounts of zinc (shown above in yellow), plus a high zinc master composite comprised of material from these samples.
- Nine samples with low zinc (shown above in blue), plus two master composites (low and high copper), also comprised of material from the variability samples.

13.3.2 Flotation Testing

Unoptimized standard batch tests were run on all variability samples. In addition, locked cycle tests were run on the master composites.

Copper recoveries as a function of head grade are plotted for the Vein 20 samples (blue diamonds), with the Vein 20 sample data superimposed on the 2018 daily mill performance data (Figure 13-4). The red triangles denote rougher recoveries from (usually) single unoptimized batch tests which the orange square points denote locked cycle performance to saleable concentrate grades. There is variability in the data, but the trend is for the metallurgy to track the mill performance envelope for 2018, suggesting future copper metallurgy in the processing of Vein 20 material is likely to be similar to that seen in 2018.

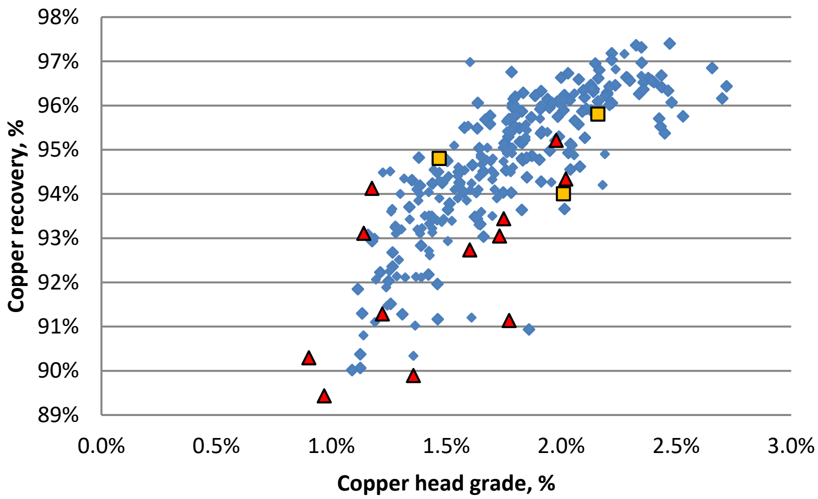


Figure 13-4: Copper Head Grade vs Recovery: Lab Batch and Cycle Test Data on Future Ores vs Mill Daily Metallurgy

Zinc metallurgy in the laboratory tests was quite poor. For the master composite and four of the seven variability samples, zinc lost to tails tracked the assayed estimate of oxide zinc in the sample. The other three samples floated much worse than the oxide zinc) assay had predicted. Again, these tended to be single tests on samples of a very wide range in feed assay. As the high zinc master composite contained the “bad actors” as well as those samples that behaved as expected, and as zinc losses from the master composite exactly matched the calculated zinc oxide composition, it seems likely that with more work the metallurgy of the poorer responding samples would also have been improved.

Three locked cycle tests were conducted, the results from which are superimposed on the 2018 daily mill performance plot below in Figure 13-5. Zinc recoveries trended slightly below the mean plant data at the same head grade.

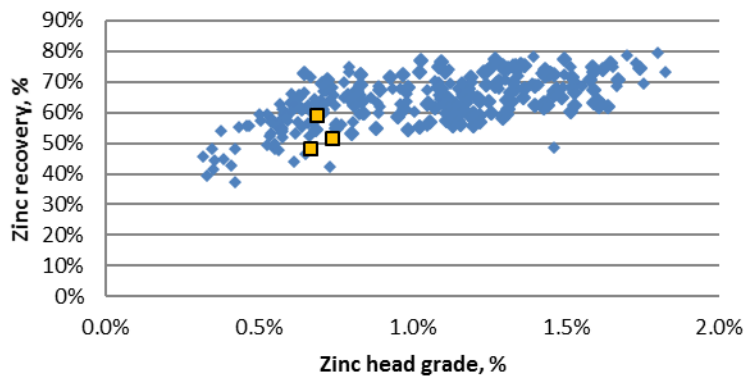


Figure 13-5: Zinc Head Grade vs. Recovery, Locked Cycle data on Future Ores vs 2018 Mill Daily Metallurgy

Average zinc lost to final tails from the three locked cycle tests was 16%. This is identical to the zinc losses to the mill tails for 2018, so total zinc floatability from Vein 20 appears to be similar to the material milled at this time. The supplemental zinc losses were to the copper concentrate. The cause of this is currently being investigated. It may simply be the difference in copper cleaner performance using a flotation column with froth washing in the mill compared with the shallow, poorly draining froths typical of a laboratory cell, or it may be mineralogical. Work planned for early 2019 should expose the true cause of this additional misplaced zinc, allowing for remedial action to be taken.

Silver recovery to the copper (or combined copper/lead) concentrate has been shown to be linked to copper head grade. This is shown for the 2018 mill daily data, on which the locked cycle data on future ores is superimposed as yellow squared points in Figure 13-6 below. Projected silver recovery to the copper concentrate is expected to track current silver recoveries.

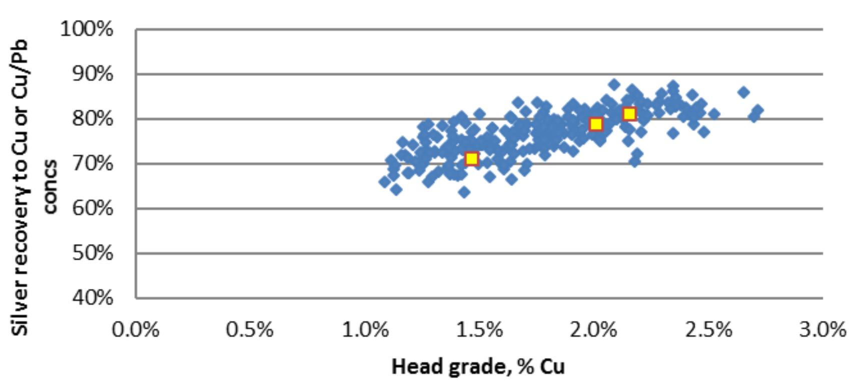


Figure 13-6: Silver Recovery vs. Copper Head Grade (2018 Daily Mill Data in Blue Locked Cycle Test Data on Future Ore Samples in Yellow)

13.4 Metallurgical Parameters for Resource Calculations

For the most part, the metallurgical data on future-mined material as described above coincided with current mined material of the same metal head grades. There is a risk of poorer zinc recoveries, however copper and silver recoveries appear to track the trends of past mill performance well. For the sake of resource calculations, the use of current mill data to directly predict future copper metallurgy is considered logical and defendable, however an element of conservatism was added to the forecasted zinc metallurgy reflecting what could be more challenging zinc metallurgy in the future.

Copper Recovery

Copper recovery is primarily linked to copper head grade, however the presence of zinc has an adverse effect on copper recovery owing to the need to depress zinc from the copper concentrate and the resulting slight depressing effect on copper. The algorithm used is therefore a function of copper and zinc head grades:

Copper recovery = 0.05472 x ln [Cu head grade] – 0.8902 x Zn grade +1.1777

Copper recovery is assumed to reach a ceiling of 96.5% at 2.1% copper, so recoveries are fixed at this number for very high-grade feed materials.

Copper concentrate grade is also linked to copper head grade, by the formula:

Copper concentrate grade = 2.2383 x copper feed grade + 0.2215

Lead Recovery

The lead recovery algorithm, linked to lead head grade, was taken directly from 2018 daily mill performance:

If Pb head grade < 0.1%: ***Lead recovery = 0***

If Pb head grade ≥ 0.1%: ***Lead recovery = Minimum of {0.1926 x ln (lead head grade) + 1.6055} or {70%}***

The lead flotation circuit operates with a lower grade limit of 0.1%. Lead recovery is capped at 70%.

The lead concentrate grade algorithm is similarly linked to lead grade:

Lead concentrate grade = 0.0767 x ln (lead head grade) + 1.0536

Zinc Recovery

Zinc recovery is linked with zinc head grade. Review of the mill performance data for 2018 revealed that the sensitivity of zinc recovery to head grade was greater for low grade samples and lesser for high grade samples, leading to creation of an algorithm containing two components. Further, immediately prior to preparing the forecast, the mill was experiencing particularly poor metallurgy on a mix of feeds deemed to be representative of near future production. This combined with the somewhat poor zinc metallurgy from the laboratory program on future ores led to the creation of a somewhat conservative set of recovery algorithms for resource estimation.

If Zn head grade > 0.3%: ***Zinc recovery = 0***

If Zn head grade ≥ 0.3% and <0.7%: ***Zinc recovery = 50.2000 x zinc head grade + 0.2254***

If Zn head grade >0.7%: ***Zinc recovery = Minimum of {7.4849 x zinc head grade + 0.5297} or {75%}***

Zinc concentrate is assumed to be constant at 47.3%

Silver Recovery

The recovery of silver is linked to the copper head grade:

Silver recovery = Minimum of {9.8313 x copper head grade + 0.5942} or {85%}

The silver recovery is capped at 85%.

14 Mineral Resources Estimates

At the Cozamin mine, mineral resources are estimated within the MNFWZ and MNV including the San Roberto ("SROB"), San Roberto Zinc ("SROB-Zn") and San Rafael zones. Capstone commenced production from SROB in 2006, San Rafael during 2006-2009 then restarted in February 2018, MNFWZ in 2010 and from SROB-Zn since early 2018.

In March 2009, Capstone completed a Mineral Resource estimate for the San Roberto and San Rafael zones under the supervision of Robert Sim, P.Geo., of Sim Geological Inc. (SGI). Findings from the Mineral Resource estimate was summarized in a NI 43-101 Technical Report (SRK, 2009). In December 2009, the San Rafael zone was again updated by SGI to reflect additional exploration and infill drilling.

The MNV San Roberto and Mala Noche Footwall zones were updated, respectively in November 2012, February 2013 and July 2018, as two separate Mineral Resource models by Ali Shahkar, P.Eng., of Lions Gate Geological Consulting Inc. (Shahkar, 2013) with the last previous update being published in July 2018 (Kirkham, 2018). After completion of the 2013 drilling campaign, which focused on infilling and delineation of additional resources in the San Roberto zone and MNFWZ, Capstone commissioned LGGC in January 2014 to combine and update the mineral resource models of these two zones.

MNV was the subject of two subsequent internal Resource estimate updates. The June 2016 update (Capstone, 2016) included 18 infill drillholes at San Roberto. An interim update in February 2017 targeted zinc-rich zones with eight infill holes at SROB-Zn and 14 infill drillholes at San Rafael. The San Roberto zone was separated into the SROB and SROB-Zn mineralization domains (Capstone, 2017a).

The current MNV Mineral Resource estimate, comprising the SROB, SROB-Zn and San Rafael zones, was updated effective July 2017, incorporating 27 HQ infill drillholes completed between February to July 2017, and 60 underground BQ drillholes completed between mid-March 2016 to July 2017 featuring whole core sampling. Further, 28 drillholes were omitted where the vein intercepts did not reasonably fit and there was a concern over spatial data (12), azimuths were sub-parallel to mineralization domains (4), absent logging or sampling information (5) or twinned drillholes (6); nine of the omitted drillholes were rejected in previous mineral resource estimations (Capstone, 2017a).

The July 2017 Mineral Resource Estimate was reported above an NSR cut-off using Capstone's current NSR formulae. Capstone believes the parameters and methodology are sufficient to consider the mineral resources in the San Rafael zone as current for reporting purposes.

In 2018, Capstone commissioned Garth Kirkham, P.Geo., of Kirkham Geosystems Ltd. to incorporate new data, models and understandings into the MNFWZ resource estimates. Although interim estimates and models were performed by the Company internally, which is to be expected considering that Cozamin is an operating mine, none of those internal, non-material estimates were published in the public domain. In addition, Kirkham Geosystems was tasked with updating the MNV Resources reporting to align with current pricing and updated NSR formula. A Technical Report covering the initial 2018 Resource update was published in July 2018, with an effective date of March 31, 2018.

Kirkham Geosystems Ltd. subsequently updated the MNFWZ Resource estimate with additional drilling, updated models, revised NSR calculations reflecting new concentrate contracts and metallurgical recoveries and the selection of cut-off grade to reflect current metal prices and mine operating costs. Kirkham Geosystems updated the MNV Resources reporting using the revised NSR calculations and cut-off grade. This Resource update, effective October 24, 2018, is the subject of this Technical Report.

14.1 Mala Noche and Mala Noche Footwall Zones

Mineral Resource estimates for the San Roberto and the Mala Noche Footwall zones, using data from surface and underground diamond drillholes are the subject of section 14. The Mineral Resource estimates were built using the commercially available three-dimensional block modelling software, Leapfrog®, Maptek™ Vulcan and MineSight®.

14.1.1 Geological Modelling

The drillhole desurveying method was set to the *balanced tangent algorithm* to be compatible with the *tangent* drillhole desurveying method used by Maptek™ Vulcan and MineSight®. This option is accessed in the survey table in Leapfrog®.

The internal validation tools provided in Leapfrog® were used to complete a more thorough validation of the data. No errors were identified in the collar, survey, lithology or assay tables. In the density, mineralization, structure and geotech tables, zero-length intervals (point values) and overlapping intervals were identified. These were flagged for correction and were addressed subsequent to this Mineral Resource estimate.

Following July 2017, strip logs of the drillholes were created to assist with the geological interpretation. These included geochemical, geological, mineralogical, structural and economic data to help reduce ambiguity in the vein/mineralization boundary definition.

These led to stronger definition of the lithological boundaries of the Mala Noche fault-vein hangingwall and footwall contacts, as well as confirmed the interpretation of the limits of the mineralized zones within the MNV fault-vein structure.

A revised lithological model was created due to redefinition and regrouping of lithological logging codes. A simplified lithological model was generated using Leapfrog® software to assist with exploration targeting and to provide lithological information for mine planning purposes. Four lithological units were modeled based on diamond drillhole logs and surface mapping including lutite, andesite, diorite and rhyolite (Figure 14-1). Surface mapping was tied into the sub-surface models using polylines. It should be noted that post-mineral faulting and the absence of a marker horizon complicated the creation of a robust stratigraphic model however the models are adequate for the purpose created.

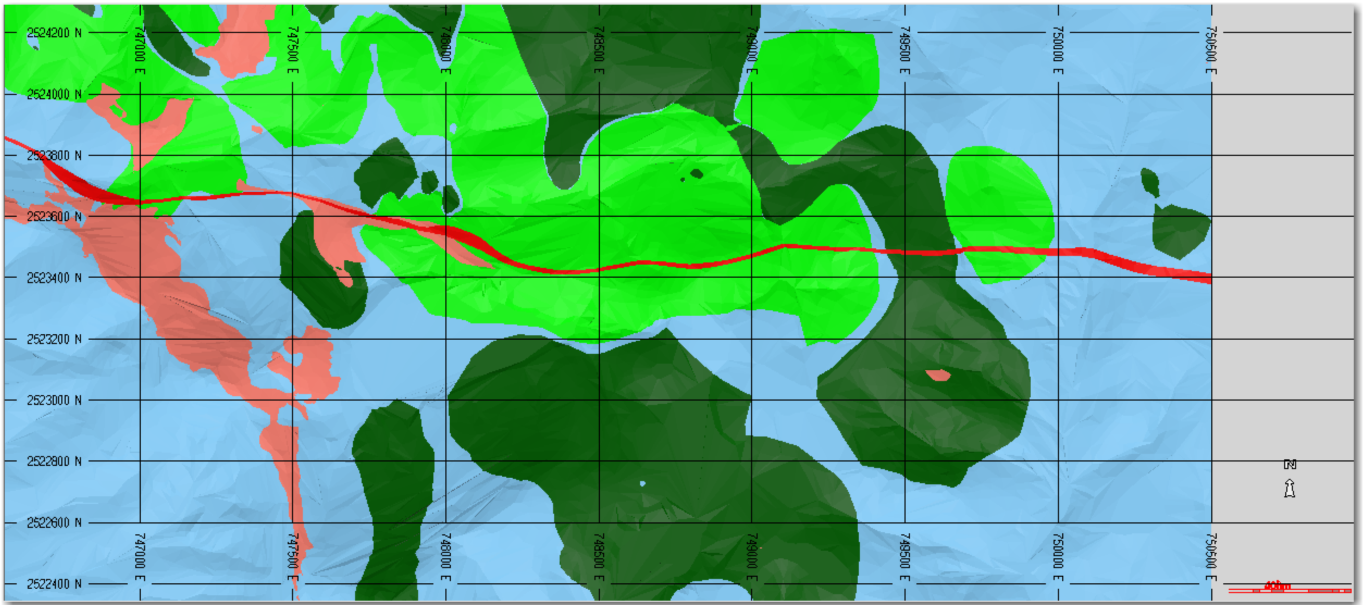


Figure 14-1: Modelled lutite (grey-blue) displayed with the rhyolite (pink), andesite (light green), diorite (dark green), MNV (red).

14.1.1.1 Mineralization Models

Mineralization domains for MNV and MNFWZ were constructed using Leapfrog® software. The vein system function was used allowing individual veins to be identified and assigned a priority to manage the relationship of multiple intersecting veins. This was done on a section by section basis using the interval selection tool by manually selecting categorical data from either lithology, structure or vein type. Alternatively, assay data was converted into NSR value ranges to define each individual vein domain. Core photos and diamond drillhole strip logs were also used to assist in the process of defining the limits of the mineralization domains and polylines were used to help guide the location of the vein position locally. All vein boundary surfaces were manually edited to restrict their extents along strike, up dip and down dip. Finalized mineralized domains were then exported from Leapfrog® and imported into Maptek™ Vulcan and MineSight®.

14.1.1.1.1 Mala Noche Zone

A total of five discrete veins were modelled in the MNV: MNV_Main, MNV_HW1, MNV_HW2, MNV_HW3 and MNV_East_HW1.

Table 14-1 shows the domains and corresponding volumes for each. The MNV_Main was further subdivided into three sub-domains to spatially segregate high-grade mineralization from surrounding low-grade/unmineralized material. Also, all mineralization wireframes were trimmed against the lithological interpretation of the MNV to ensure mineralization was constrained within the MNV structure.

Table 14-1: Mineralized Domains within Mala Noche Zone

Domain Name	Volume (m^3)
Main	29,249,252
HW1	318,849
HW2	143,060
HW3	68,396
East_HW1	365,364
Total	**30,114,921**

The MNV is shown in Figure 14-2 and Figure 14-3.

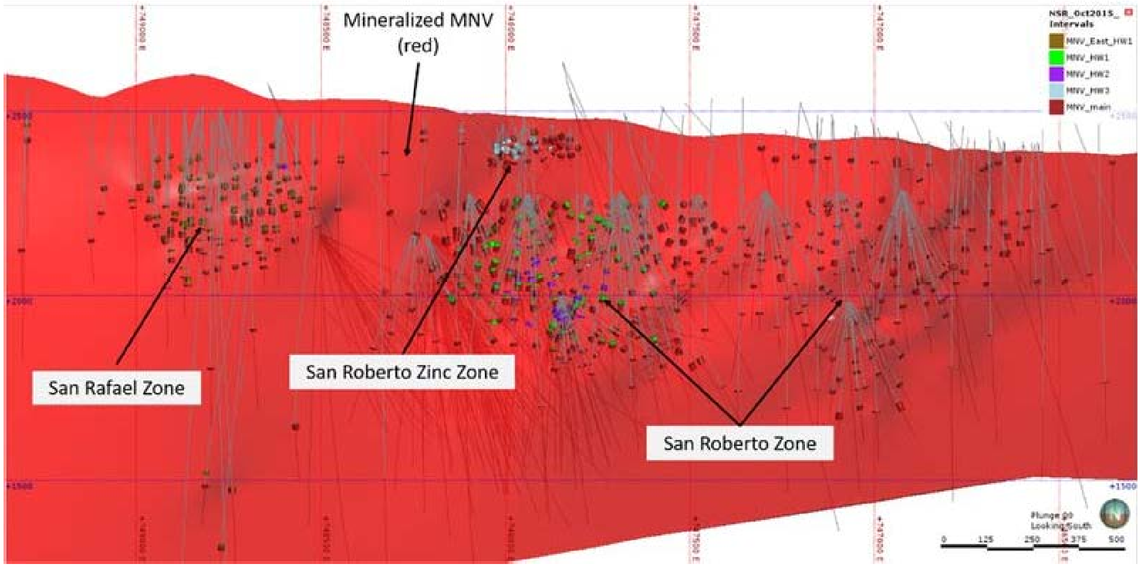


Figure 14-2: Long section, looking south, of the mineralized MNV (red).

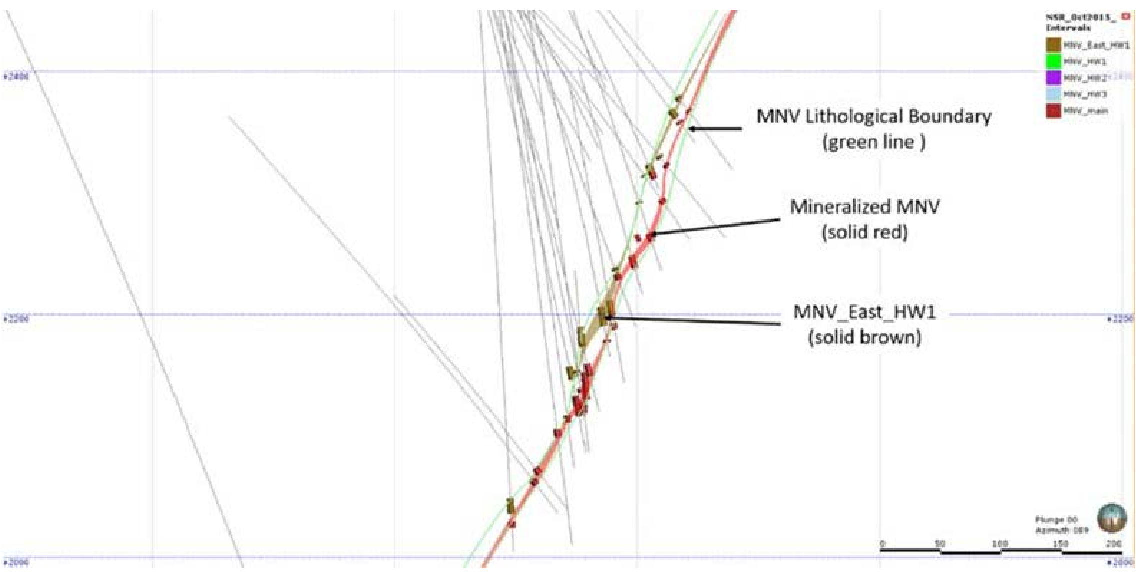


Figure 14-3: Cross section (San Rafael Zone) illustrating MNV Main (dark red intercepts and red solid vein) and MNV_East_HW1 (brown intercepts and brown solid vein) within the lithological boundary (green line).

The MNV_HW1 is a hangingwall structure in the heart of the San Roberto zone. It terminates against the hangingwall of MNV_Main (Figure 14-4).

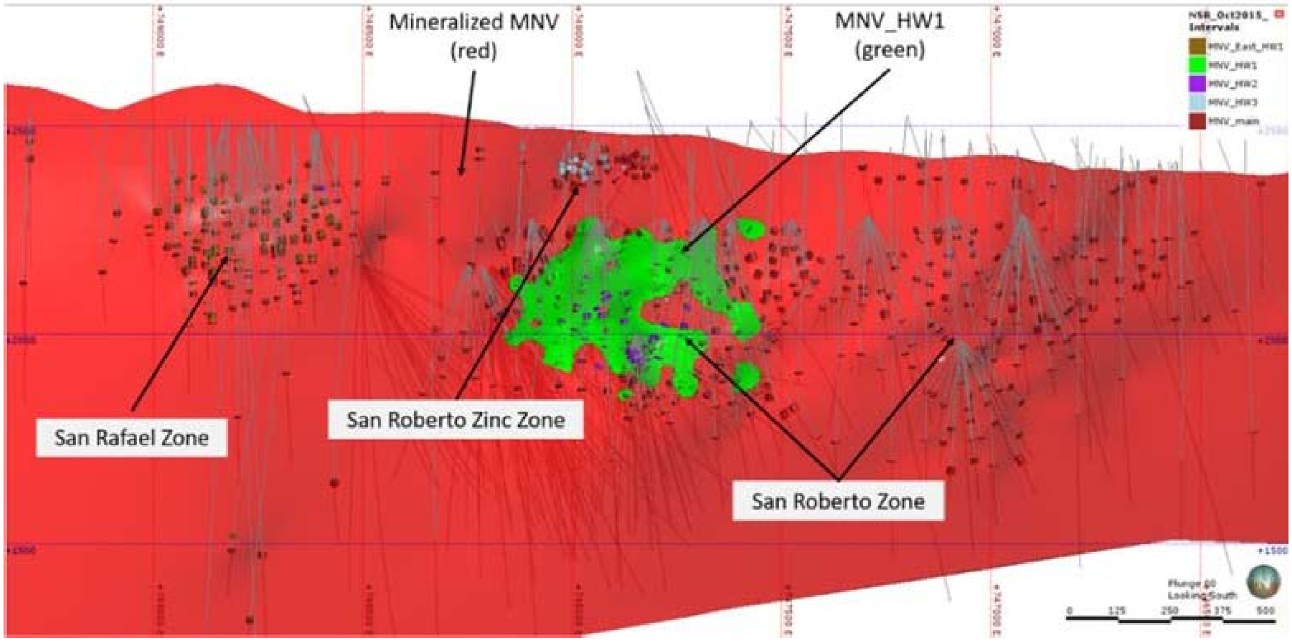


Figure 14-4: Long section, looking south, of MNV_HW1 (green) in relation to MNV (red).

The MNV_HW2 is another hangingwall structure (in the hangingwall of MNV_HW1) in the San Roberto zone. It terminates against the hangingwall of MNV_HW1 and MNV_Main (Figure 14-5).

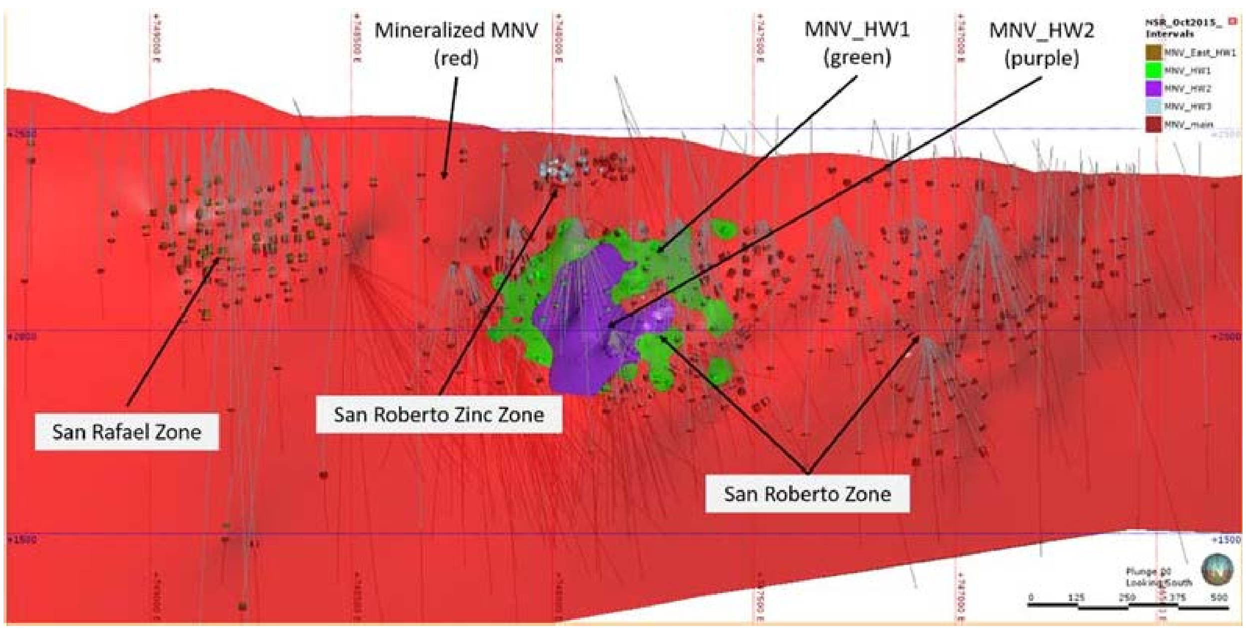


Figure 14-5: Long section, looking south, of MNV_HW2 (purple) in relation to MNV_HW1 (green) and MNV (red).

The MNV_HW3 is a hangingwall structure located in the San Roberto Zinc zone. It likely represents the up-dip portion of the MNV_HW1 vein, but there is insufficient drilling information to confirm this. It terminates against the hangingwall of MNV_Main (Figure 14-6).

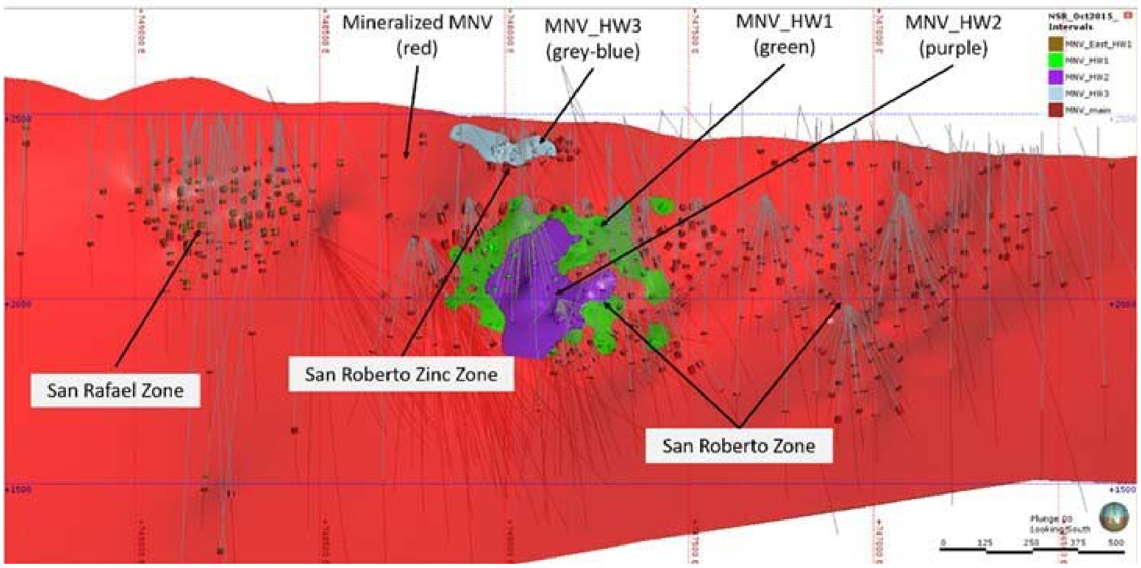


Figure 14-6: Long section, looking south, of MNV_HW3 (grey-blue) in relation to MNV_HW2 (purple), MNV_HW1 (green) and MNV (red).

The MNV_East_HW1 is a hangingwall structure located in the San Rafael zone. It terminates against the hangingwall of MNV_Main (Figure 14-7).

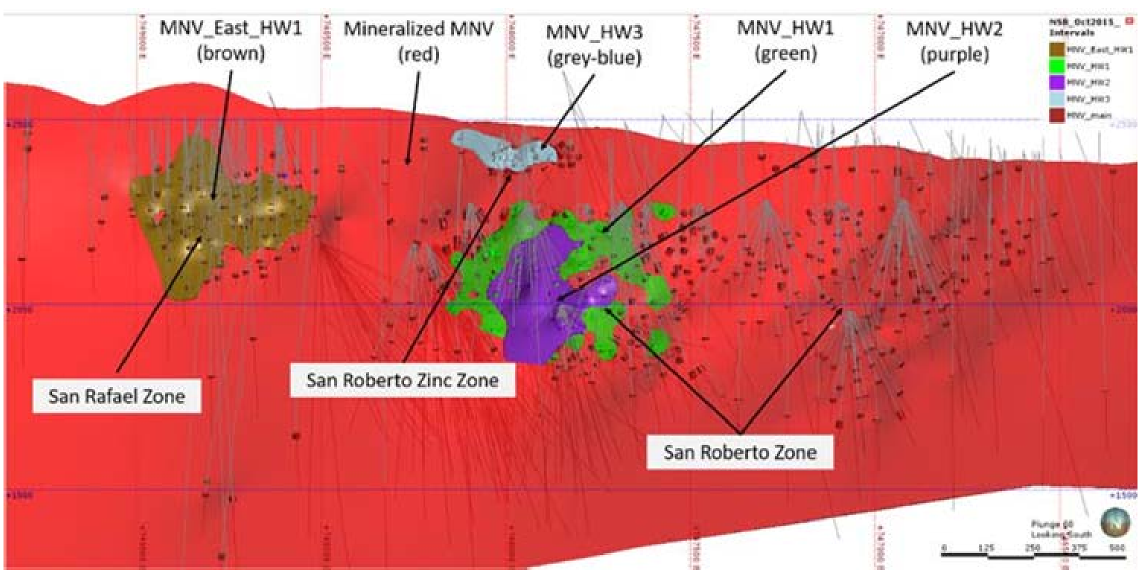


Figure 14-7: Long section, looking south, of MNV_East_HW1 (purple) in relation to MNV_HW1 (green) and MNV (red).

The San Roberto and San Rafael zones represent spatially-isolated, high-grade mineralized zones within the mineralized MNV (MNV_Main). To segregate these zones from lower-grade areas, two sub-domains were defined. In the San Roberto zone, two polygons were created to isolate the high-grade copper and zinc mineralization. In the San Rafael and San Roberto Zinc zones, a single polygon was created to isolate the high-grade zinc (low-grade copper) mineralization. (Figure 14-8).

The remaining areas of the MNV_Main represent low-grade/unmineralized material, which were classified as vein domain VN08. The sub-domains VN01, VN02 and VN08 (pink solid) are treated as mutually exclusive subsets comprising the entire modelled MNV_Main vein (Figure 14-8).

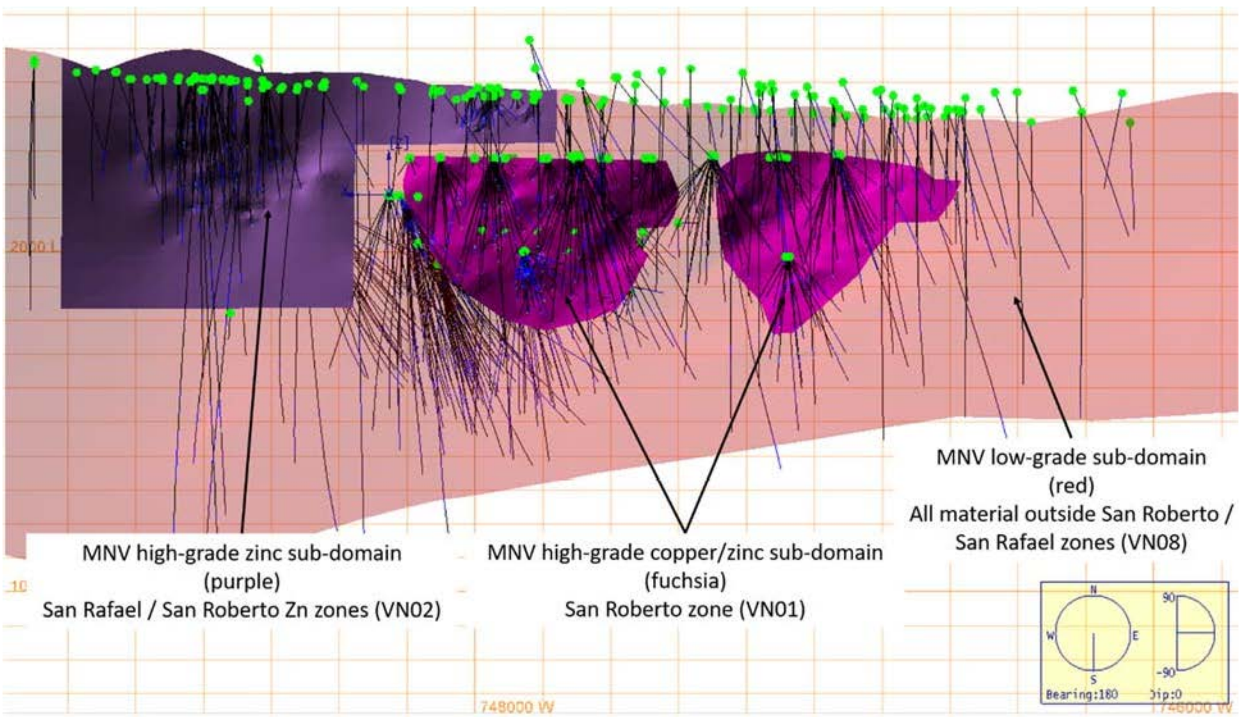


Figure 14-8: Long section, looking south, of sub-domains comprising the MNV_Main vein: San Roberto (VN01), San Rafael/San Roberto Zinc (VN02) and low-grade/unmineralized (VN08).

14.1.1.2 Mala Noche Footwall Model

Table 14-2 includes a list of the seven domains that were modelled at MNFWZ and the volumes reported for each domain solid. The total volume of all vein solids at MNFWZ is 10,434,079 m^3.

Table 14-2: Mineralized Domains within Mala Noche Footwall Zone

Domain Name	Volume (m^3)
VN08	31,879
VN09	344,432
VN10	1,417,168
VN11 (Calicanto)	960,625
VN18	529,471
VN19	374,953
VN20	6,444,191
VN22	331,360
Total	**10,434,079**

The MNFWZ strikes approximately southeast, 145° over its length, but strikes 92° in the western section of the zone. The VN11 (Calicanto) vein strikes at approximately 136° over the total strike length measured over 2,630 m (Figure 14-9 and Figure 14-10). The veins range in thickness from sub-metre to approximately 10 metres.

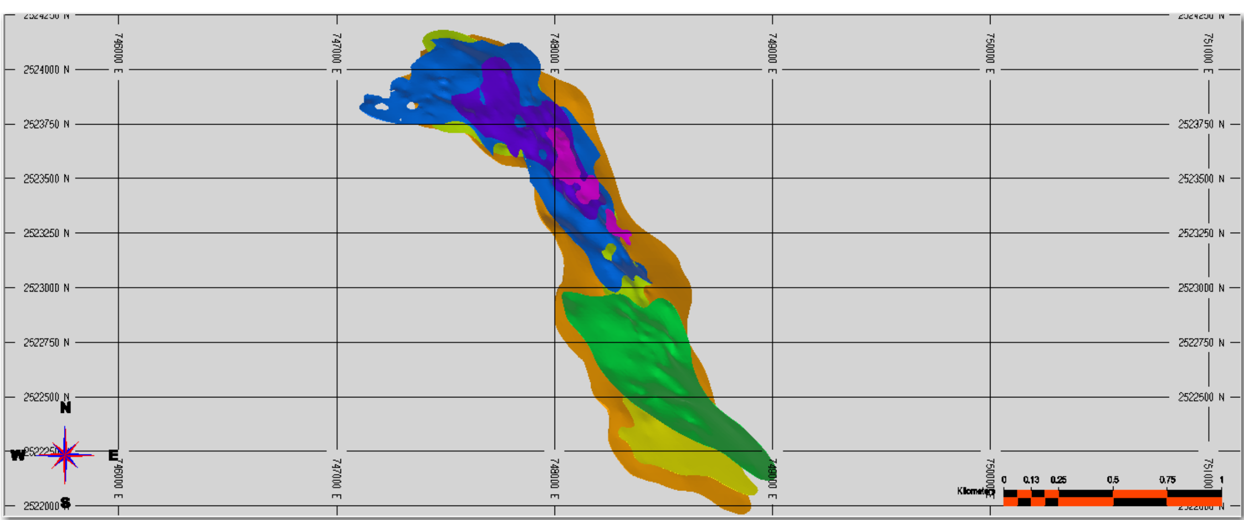


Figure 14-9: MNFWZ Structural Sub-Domains, , VN22 (red), VN20 (orange), VN19 (yellow), VN18 (light green), VN11 (Calicanto) (dark green) VN10 (blue), VN09 (dark blue), VN08 (purple)

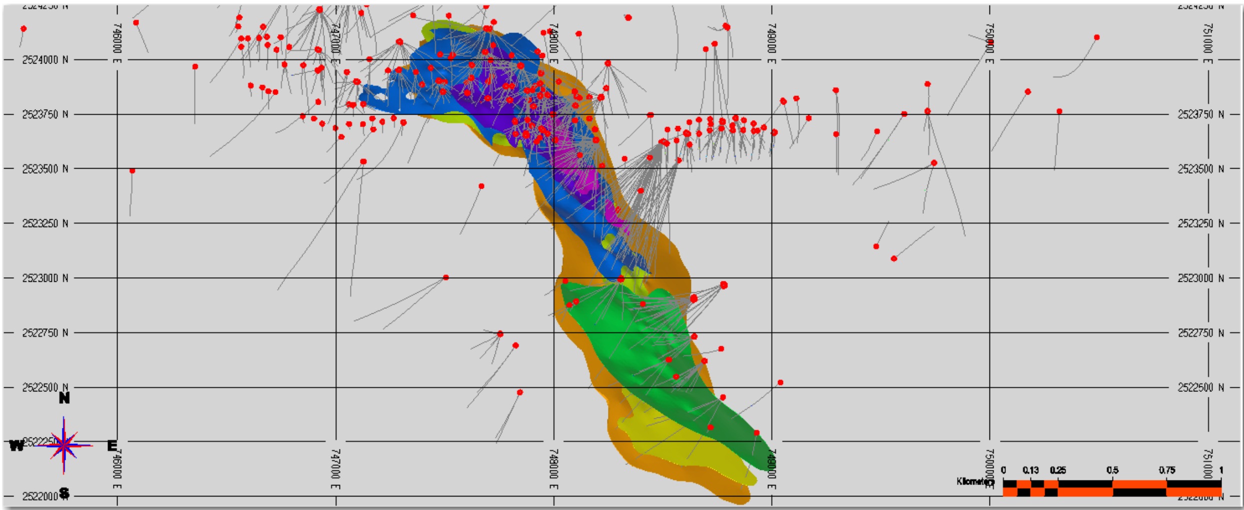


Figure 14-10: MNFWZ Structural Sub-Domains with DDH's, VN22 (red), VN20 (orange), VN19 (yellow), VN18 (light green), VN11-Calicanto (dark green) VN10 (blue), VN09 (dark blue), VN08 (purple)

14.1.2 Mala Noche Zone Mineral Resource Modelling

The Mala Noche resource modelling comprises the San Roberto copper zone along with the San Roberto and San Rafael zinc zones. The following section details the method and procedures employed to estimate the mineral resources within these zones and the classification of those resources.

14.1.2.1 Raw Data

The raw drillhole data were imported into Maptek™ Vulcan software version 10.1.1. This included data from the *collar.csv*, *survey.csv*, *lithology.csv*, *assay.csv*, *density.csv* and *geotech.csv* tables.

14.1.2.1.1 Geochemical Sample Analysis

The raw drillhole sample data were desurveyed and stored. The domain wireframes were used to code the drillhole data within the respective vein domains in the compositing process using the priority sequence defined during geological modelling. Missing and non-sampled data were ignored, while a value of 0.001 was assigned to data not logged. The drillhole selection file was used to exclude the drillholes identified as unsuitable for mineral resource estimation.

The database was exported and viewed within Snowden Technologies Pty Ltd *Supervisor* software version 8.7.0.7 ("Supervisor"). Univariate statistics, by vein domain, are summarized in Table 14-3 through Table 14-8 for the MNV model. The tables use abbreviated forms for statistical measures, including standard deviation ("Std. Dev.") and coefficient of variation ("CoV").

Table 14-3: Cu raw statistics of MNV

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
0	40,952	0.0001	22.00	0.16	0.89	5.61
VN01	5,818	0.0005	16.40	1.92	2.49	1.29
VN02	1,560	0.001	5.50	0.29	0.48	1.69
VN03	535	0.0005	3.48	0.24	0.43	1.78
VN05	579	0.0005	12.35	1.56	2.33	1.49
VN06	314	0.0005	12.40	1.21	1.96	1.62
VN07	87	0.0009	0.53	0.07	0.11	1.46
VN08	1,171	0.0005	7.39	0.41	0.73	1.77
Lith10	6,327	0.0002	14.2	0.15	0.67	4.34

Table 14-4: Ag raw statistics of MNV

Domain	No. Samples	Min (ppm)	Max (ppm)	Mean (ppm)	Std. Dev. (ppm)	CoV
0	40,952	0.001	4,070	5.82	37.5	6.44
VN01	5,818	0.001	1135	67.1	87.4	1.30
VN02	1,560	0.001	650	43.6	54.6	1.25
VN03	535	0.001	1,500	41.7	82.6	1.98
VN05	579	0.001	1,520	59.1	112.6	1.90
VN06	314	0.001	610	44.8	74.8	1.67
VN07	87	0.210	62.0	15.9	14.5	0.91
VN08	1,171	0.001	737	31.6	53.7	1.70
Lith10	6,327	0.001	3,020	9.15	47.8	5.22

Table 14-5: Zn raw statistics of MNV

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
0	40,952	0.0001	39.35	0.25	1.15	4.63
VN01	5,818	0.0005	28.30	1.43	2.62	1.84
VN02	1,560	0.0010	36.03	3.91	4.25	1.09
VN03	535	0.0010	19.95	3.67	3.42	0.93
VN05	579	0.0010	30.00	2.14	3.29	1.53
VN06	314	0.0010	11.05	1.46	2.27	1.56
VN07	87	0.1100	21.00	2.97	3.21	1.08
VN08	1,171	0.0010	28.90	1.83	3.11	1.71
Lith10	6,327	0.0005	43.07	0.61	1.44	2.35

Table 14-6: Pb raw statistics of MNV

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
0	40,952	0.0010	28.90	0.04	0.30	7.66
VN01	5,818	0.0005	36.85	0.33	1.57	4.69
VN02	1,560	0.0009	29.45	0.60	1.76	2.94
VN03	535	0.0010	20.00	0.56	1.46	2.61
VN05	579	0.0004	32.54	0.82	2.99	3.63
VN06	314	0.0010	13.05	0.84	2.17	2.59
VN07	87	0.0022	1.60	0.22	0.34	1.53
VN08	1,171	0.0001	20.00	0.26	1.14	4.32
Lith10	6,327	0.0001	13.65	0.11	0.60	5.70

Table 14-7: Zn oxide composited statistics of MNV

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
0	236	0.005	1.78	0.12	0.20	1.68
VN02	248	0.020	5.52	0.72	0.88	1.22
VN07	56	0.030	2.11	0.59	0.53	0.91
Lith10	165	0.005	1.74	0.22	0.24	1.09

Table 14-8: Pb oxide composited statistics of MNV

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
0	4	0.010	0.32	0.10	0.15	1.48
VN02	115	0.005	3.09	0.24	0.43	1.83
Lith10	4	0.010	0.13	0.05	0.06	1.26

14.1.2.1.2 Bulk Density Sampling

Bulk density sampling has been undertaken systematically throughout the MNV and MNFWZ veins. Since 2013 samples were taken at the same volume support as the geochemical assay data (i.e., the average bulk density value was generated over the interval length as the assay sample).

The vein domains and lithology wireframes were used to code the drillhole data in the compositing process (populating the domain and litho fields in the database).

Univariate statistics of the raw, domain-coded bulk-density drillhole sample data within the modelled veins and lithology units are summarized in Table 14-9. A filter was placed on the data during importation in to Supervisor, where values less than 1.50 g/cm3 were excluded (totaling 711). Those greater than 6 g/cm3 were included and then top cut.

Table 14-9: Bulk density raw statistics (MNV domains and all lithology units)

Vein/Litho	No. Samples	Min (g/cm³)	Max (g/cm³)	Mean (g/cm³)	Std. Dev. (g/cm³)	CoV
VN01	4,574	2.10	6.05	2.89	0.33	0.11
VN02	973	2.26	4.56	2.76	0.24	0.09
VN03	327	2.28	4.92	2.73	0.22	0.08
VN05	382	2.34	4.81	2.95	0.37	0.12
VN06	208	2.40	4.45	2.83	0.36	0.13
VN07	10	2.64	3.01	2.79	0.11	0.04
VN08	817	2.15	3.80	2.73	0.19	0.07
Lith 10	2,838	1.60	4.95	2.67	0.22	0.08
Lith 30	4,468	1.50	4.09	2.60	0.15	0.06
Lith 50	3,844	1.75	6.91	2.72	0.16	0.06
Lith 60	2,107	1.50	4.93	2.69	0.16	0.06
Lith 80	5,868	1.50	4.03	2.67	0.14	0.05

14.1.2.1.3 Core Recovery and Rock Quality Data (RQD) Samples

Core recovery data are recorded from measurements taken by the geologist of the total core length in the box between the blocks demarking the run interval. Rock Quality Data ("RQD") information involved summing the total length of individual pieces greater than 10 cm in length, divided by the run length. The resulting value is expressed as a percentage. Note that the core recovery and RQD data within the lithological domains should be considered as indicative and not definitive due to grouping of lithologies during the geological modelling process. Individual sub-units within a lithological domain (e.g., andesite tuff) could have significantly different values.

The vein domains and lithology wireframes were used to code the drillhole data in the compositing process (populating the domain and litho fields in the database). The domain-coded, raw statistics for the core recovery and RQD data are summarized in Table 14-10 and Table 14-11.

Table 14-10: Core recovery raw statistics (MNV domains and all lithology units)

Vein/Litho	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN01	351	18.03	100.0	96.88	8.20	0.08
VN02	371	0.00	100.0	95.88	12.41	0.13
VN03	115	68.40	100.0	98.71	4.19	0.04
VN05	50	31.50	100.0	93.40	14.18	0.15
VN06	66	86.56	100.0	99.09	2.53	0.03
VN07	53	62.15	100.0	96.13	8.25	0.09
VN08	274	0.00	100.0	98.05	8.03	0.08
Lith 10	2,231	0.00	100.0	95.96	14.17	0.15
Lith 30	5,886	0.00	100.0	93.45	22.69	0.24
Lith 50	22,805	0.00	100.0	98.51	8.77	0.09

Vein/Litho	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
Lith 60	14,089	0.00	100.0	86.26	32.70	0.38
Lith 80	28,687	0.00	100.0	97.41	12.17	0.12

Table 14-11: RQD raw statistics (MNV domains and all lithology units)

Vein/Litho	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN01	351	1.0	100.0	62.54	26.34	0.42
VN02	371	0.0	100.0	56.22	33.54	0.60
VN03	115	0.0	100.0	61.06	33.83	0.55
VN05	50	5.0	94.0	64.58	22.72	0.35
VN06	66	25.0	87.0	59.21	16.39	0.28
VN07	53	0.0	100.0	51.92	32.38	0.62
VN08	274	0.0	100.0	60.53	27.98	0.46
Lith 10	2,231	0.0	100.0	58.31	29.59	0.51
Lith 30	5,886	0.0	100.0	57.20	28.97	0.51
Lith 50	22,805	0.0	100.0	72.07	24.02	0.33
Lith 60	14,089	0.0	100.0	38.24	38.41	1.00
Lith 80	28,687	0.0	100.0	60.97	27.75	0.46

14.1.2.2 Compositing

The raw drillhole samples were composited within the modelled wireframes following the same prioritization rules used as previously stated. A 2.0 m composite length was chosen to match the minimum mining thickness. The run-length composite method with the merge option was used with a tolerance of “0.5”, as it yielded the most sample intervals with a 2.0 m width and a smaller sample-length variance than the other methods. Domain codes into the domain field of the database and to assign a default of zero (0) for samples in the waste domain.

The undeclustered statistics of the composited data are presented in Table 14-12 through Table 14-18.

Table 14-12: Cu composited statistics of MNV (undeclustered)

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN01	1,473	0.0005	10.13	1.74	1.89	1.08
VN02	536	0.0020	2.13	0.26	0.35	1.33
VN03	171	0.0010	2.32	0.22	0.34	1.51
VN05	162	0.0043	9.46	1.42	1.76	1.24
VN06	120	0.0090	6.07	1.02	1.39	1.37
VN07	59	0.0010	0.35	0.07	0.09	1.35
VN08	398	0.0006	4.58	0.37	0.57	1.52
Lith10	2,746	0.0005	8.60	0.11	0.42	3.71

Table 14-13: Ag composited statistics of MNV (undeclustered)

Domain	No. Samples	Min (ppm)	Max (ppm)	Mean (ppm)	Std. Dev. (ppm)	CoV
VN01	1,473	0.150	634.6	60.1	63.1	1.05
VN02	536	0.611	261.8	39.4	38.7	0.98
VN03	171	2.000	359.9	35.5	40.7	1.14
VN05	162	0.500	543.2	53.5	74.8	1.40
VN06	120	1.250	391.0	37.9	52.5	1.39
VN07	59	0.260	58.7	14.8	13.4	0.90
VN08	398	0.001	316.6	23.9	35.2	1.48
Lith10	2,746	0.059	758.3	7.3	22.9	3.14

Table 14-14: Zn composited statistics of MNV (undeclustered)

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN01	1,473	0.004	23.14	1.44	2.04	1.41
VN02	536	0.006	22.02	3.68	3.29	0.89
VN03	171	0.001	14.35	3.61	2.51	0.70
VN05	162	0.020	16.00	2.01	2.58	1.29
VN06	120	0.008	10.00	1.39	1.89	1.36
VN07	59	0.190	10.77	2.83	2.27	0.80
VN08	398	0.001	22.40	1.56	2.32	1.48
Lith10	2,746	0.001	16.84	0.55	0.91	1.65

Table 14-15: Pb composited statistics of MNV (undeclustered)

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN01	1,473	0.001	11.30	0.30	0.78	2.96
VN02	536	0.001	17.31	0.62	1.39	2.26
VN03	171	0.001	11.37	0.61	1.19	1.96
VN05	162	0.003	17.63	0.80	2.41	3.00
VN06	120	0.003	10.00	0.65	1.55	2.39
VN07	59	0.003	1.30	0.20	0.28	1.39
VN08	398	0.001	6.04	0.21	0.55	2.62
Lith10	2,746	0.001	8.15	0.08	0.36	4.32

Table 14-16: Zn oxide composited statistics of MNV (undeclustered)

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN02	123	0.022	5.33	0.58	0.74	1.27
VN07	40	0.036	1.79	0.56	0.44	0.80
Lith10	118	0.010	1.52	0.22	0.22	0.97

Table 14-17: Pb oxide composited statistics of MNV (undeclustered)

Domain	No. Samples	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN02	41	0.005	1.42	0.22	0.34	1.55
Lith10	2	0.020	0.02	0.02	-	-

Table 14-18: Bulk density composited statistics of (MNV domains and all lithology units)

Vein Domain	No. Samples	Min (g/cm^3)	Max (g/cm^3)	Mean (g/cm^3)	Std. Dev. (g/cm^3)	CoV
VN01	1,469	2.42	5.21	2.87	0.27	0.10
VN02	452	2.26	4.03	2.76	0.19	0.07
VN03	164	2.42	3.38	2.72	0.15	0.06
VN05	124	2.52	3.96	2.92	0.30	0.10
VN06	88	2.46	3.94	2.82	0.34	0.12
VN07	8	2.65	3.01	2.80	0.11	0.04
VN08	334	2.41	3.45	2.71	0.14	0.05
Lith 10	1,391	1.79	4.22	2.66	0.17	0.06
Lith 30	2,656	1.54	3.95	2.59	0.13	0.05
Lith 50	3,150	1.53	6.91	2.73	0.15	0.05
Lith 60	1,673	1.50	4.93	2.70	0.15	0.06
Lith 80	4,119	1.55	3.67	2.67	0.11	0.04

Since core recovery and RQD are calculated on a "per core run" basis of 3.05 m, compositing is not necessary.

14.1.2.3 Exploratory Data Analysis (EDA)

An exploratory data analysis ("EDA") was undertaken in Supervisor on the composited drillhole data. The objectives of this study are as follows:

- Identify spatial trends in grade data and verify domaining strategy (data orientation, data population distributions).
- Characterize geochemical associations through a regression analysis of the high-grade domains, VN02, VN03 and VN07 (Table 14-19).
- Understand sample distributions within the domains and select the appropriate grade estimation method and estimation strategy.
- Assess top-cutting and search-restriction requirements for outlier samples.

Table 14-19: Regression analysis of composited sample data in domains VN02, VN03 and VN07

Element	Ag	Cu	Zn	Pb	ZnOx	PbOx
San Roberto Zinc / San Rafael (VN02/03/07)						
Ag	1	**0.69**	0.33	0.36	-0.10	0.17
Cu	-	1	0.14	0.04	-0.13	0.00

Zn	-	-	1	0.31	0.32	0.20
Pb	-	-	-	1	0.03	0.60
ZnOx						0.26
PbOx						

The following observations were made based on geochemical correlations:

- Cu and Ag are well correlated. The same estimation search parameters will be used for both elements to attempt to maintain their relationship in the block model.
- Cu is uncorrelated with Zn and Pb and their oxide species. It will be estimated independently of these elements.
- Ag is weakly correlated with Zn and Pb and uncorrelated with their oxide species. It will be estimated independently of these elements.
- Zn and Pb are weakly correlated, so they will be estimated independently. They are uncorrelated with Cu and Ag.
- Pb is moderately correlated with it's oxide species, so estimation of PbOx will use the same estimation parameters.
- Zn is weakly correlated with it's oxide species, so estimation of ZnOx is independent of Zn.

The data in the high-grade mineralization domains (VN02, VN03, VN07) were reviewed graphically and spatially and the following observations were made with respect to grade distribution and continuity:

- The boundary between the high-grade sub-domains and low-grade sub-domain (VN08) will be treated as "soft" for grade estimation.
- The boundary between the high-grade sub domains within the modelled lithological vein structure (Lith10) will be treated as "hard" for grade estimation.
- Domains VN02 and VN03 show similar grade distributions for each element, so these will be combined and estimated together.
- Domain VN07 is lower in grade than VN02 and VN03 for each element, so it will need to be estimated separately. There are too few samples (57) to estimate using Ordinary Kriging, so this vein domain will be estimated using inverse distance weighting.
- The modelled veins are sinuous along strike. Grade estimation will utilize a search ellipse that changes orientation to match the locally varying strike and dip of the vein to ensure the correct samples are selected (Section 6.6).
- The coefficient of variation ("CoV") is between 0.7-1.6 for elements in the mineralization domains (VN02, VN03, VN07) except lead, which is generally higher than 2. Ordinary Kriging ("OK") will be used for grade estimation, with top-cuts used to manage outlier values.

Copper:

- San Rafael contains significantly lower copper grades (~10x) than San Roberto zone, with only minor top cutting required.
- There is a central "core" area of higher-grade copper values in the central part of the San

Rafael zone reaching as high as 2% Cu.

Silver:

- San Rafael is lower in grade (~30%) than the San Roberto zone, but minor top cutting will be required to control outlier grades that are dispersed throughout the zone.
- Higher-grade silver values are located in the eastern part of the San Roberto Zinc zone, with lower grades situated in the western part.

Zinc:

- San Rafael contains the highest average grade of zinc of all zones (3.7%), almost double the grade encountered in San Roberto and almost six times higher than the grade of the MNFWZ.
- The highest-grade samples are generally spatially associated with other high-grade samples, so top cutting would unfairly discount contained metal value. Instead, a search restriction will be employed to limit the influence of these samples on neighbouring blocks.

Lead:

- The lead distribution in the MNV deposit is strongly positively skewed, meaning that most of the lead metal value is contained within a few percent of the total distribution. This is supported through underground observations, where lead tends to occur in small, localized patches of higher grade material that is not continuously distributed. Due to this, OK is not the optimal estimation technique because it tends to oversmooth these types of distributions and leads to overestimation of tonnage and contained metal. A non-linear estimation technique (e.g., multiple indicator kriging, conditional simulation, etc.) would be more appropriate, but given the very small percentage of total economic value lead represents in the unmined portions of Cozamin (<5%), the additional time required to estimate using one of the suggested techniques is not justified.
- More restrictive top cutting and search restrictions will be used to mitigate over-estimation of lead using OK. The consequence will be a reduced amount of available metal in the drillhole file during estimation and lower confidence in the estimated lead grades (they will likely still be oversmoothed), but this trade-off is considered reasonable given lead's economic contribution to the total value of the ore.
- Historical mine reconciliation has shown lead to be overestimated with respect to mine production. This will be considered during validation of the grade estimation, with the aim of having grades that slightly underestimate the input sample data.

Zinc Oxide:

- All samples are located in the San Roberto Zinc zone, with the highest grades reaching 5% ZnOx in the central part area. The grades decrease outward to the western and eastern limits.
- Grades in the hangingwall vein (VN07) are approximately double those in the main MNV structure (VN02), however, it is noted that the VN07 domain are only located in the eastern edge of the zone.
- Top cuts and search restrictions will be needed to limit the influence of the high-grade samples in the VN02 domain.

Lead Oxide:

- All samples are located in the San Roberto Zinc zone.
- The available data are sparse (49 in total) and will only provide a high-level indication of lead-oxide mineral concentrations. Inverse-distance weighting will be used to estimate the grades.
- The estimation parameters from lead (search orientation, sample numbers, etc.) will be borrowed to estimate lead oxide.

14.1.2.3.1 Bulk Density Data

The San Roberto vein domains have higher average bulk density (2.82-2.91 g/cm3) than those in San Rafael (2.72-2.76 g/cm3). This implies there is a higher concentration of sulphide mineralization in the San Roberto zone and could be due to a higher amount of brecciation observed in the San Rafael mineralization.

14.1.2.3.2 Core Recovery and RQD Data

- Core recovery in the mineralization domains is greater than 95%, except for VN05, which is 93%. These are very good results and demonstrate the sample quality to be acceptable for use in mineral resource estimation.
- Lower recovery (< 90%) values do not appear to be spatially isolated or grouped, and they will not be factored into mineral resource confidence classification.
- RQD data are highly variable across the deposit. Rocks appear to have better RQD values at deeper depths (below 2,150 m).
- Rocks in VN02 (San Rafael) have a slightly lower average RQD (56%) than those in VN01 (62%). This could be due to the observed brecciated nature of the rocks in the San Rafael zone versus the San Roberto zone.

14.1.2.4 Outlier Analysis and Top Cutting

Grade distributions in each vein were assessed graphically and spatially for the presence of outlier samples, which can have a disproportionate impact during grade estimation and can lead to overestimated grades. Top-cut selection and search distance restrictions considered the locations of the outlier samples relative to other data. If high grade samples were isolated from other samples, top cuts and/or search restrictions were stricter to mitigate against grade overestimation, and conversely, they were relaxed if spatially associated with other high-grade samples. Determination of appropriate top-cut values was undertaken through identification of population breaks in histograms, and inflection points in log-probability plots and in mean-and-variance plots. The impact of the selected top cut was assessed by reviewing the change in the mean grade and CoV of the composited samples before and after the top cut (Table 14-20 through Table 14-25).

The samples from domains VN02 and VN03 were combined for grade estimation. For proper comparison to the block model estimates, the tables below present the combined domain statistics. For domain Lith10, top-cut selection for silver and copper considered the samples around the San Rafael and San

Roberto Zinc zones only, and not the San Roberto zone. Estimate quality is focused in the San Rafael and San Roberto Zinc zones because the San Roberto zone is nearly mined out. It is noted that these zones have far fewer high-grade outlier values than the San Roberto zone, so the top cut is appropriate.

Table 14-20: Cu top-cut, composited statistics of MNV

Vein Domain	Mean (%)	CoV	Top Cut (%)	Top Cut Mean (%)	Top Cut CoV	No. Samples Cut	Rest. Search Threshold (%) and distance (m)
VN01	1.74	1.08	8.75	1.74	1.08	9	≥ 6.0 25×25×10
VN02/03	0.25	1.37	1.57	0.25	1.31	10	-
VN05	1.42	1.24	No TC	-	-	-	-
VN06	1.02	1.37	5.20	1.00	1.33	3	≥ 4.0 25×25×10
VN07	0.07	1.35	No TC	-	-	-	-
VN08	0.37	1.52	1.70	0.34	1.26	14	-
Lith10	0.11	3.71	3.80	0.11	3.20	8	≥ 1.24 24×18×6

Table 14-21: Ag top-cut, composited statistics of MNV

Vein Domain	Mean (ppm)	CoV	Top Cut (ppm)	Top Cut Mean (ppm)	Top Cut CoV	No. Samples Cut	Rest. Search Threshold (%) and distance (m)
VN01	60	1.05	350	60	1.00	8	≥ 200 15×15×10
VN02/03	38	1.02	158	38	0.94	10	-
VN05	54	1.40	350	51	1.22	2	≥ 118 25×25×10
VN06	38	1.39	250	37	1.25	1	≥ 140 25×25×10
VN07	15	0.90	No TC	-	-	-	-
VN08	24	1.48	150	24	1.17	5	-
Lith10	7	3.14	30	6	1.13	76	-

Table 14-22: Zn top-cut, composited statistics of MNV

Vein Domain	Mean (%)	CoV	Top Cut (%)	Top Cut Mean (%)	Top Cut CoV	No. Samples Cut	Rest. Search Threshold (%) and distance (m)
VN01	1.44	1.41	12.0	1.43	1.35	6	≥ 10.0; 25×25×10
VN02/03	3.67	0.85	14.0	3.60	0.79	11	≥9.0 24×18×6
VN05	2.01	1.29	10.0	1.95	1.20	2	≥ 7.8; 10×10×10
VN06	1.39	1.36	No TC	-	-	-	-
VN07	2.83	0.80	6.7	2.69	0.70	2	-
VN08	1.56	1.48	11.0	1.52	1.36	5	-
Lith10	0.55	1.65	2.5	0.50	1.25	79	-

Table 14-23: Pb top-cut, composited statistics of MNV

Vein Domain	Mean (%)	CoV	Top Cut (%)	Top Cut Mean (%)	Top Cut CoV	No. Samples Cut	Rest. Search Threshold (%) and distance (m)
VN01	0.30	2.96	5.6	0.29	2.72	7	-
VN02/03	0.61	2.19	7.8	0.58	1.86	5	≥ 5.8; 24×18×6
VN05	0.80	3.00	9.5	0.70	2.58	2	≥ 8.0; 10×10×10
VN06	0.65	2.39	5.95	0.60	2.17	2	
VN07	0.20	1.39	0.80	0.18	1.22	3	-
VN08	0.21	2.62	2.4	0.19	2.26	6	
Lith10	0.08	4.32	2.6	0.08	3.04	8	≥ 1.4 24×18×6

Table 14-24: Zn oxide top-cut, composited statistics of MNV

Vein Domain	Mean (%)	CoV	Top Cut (%)	Top Cut Mean (%)	Top Cut CoV	No. Samples Cut	Rest. Search Threshold (%) and distance (m)
VN02/07	0.58	1.27	No TC	-	-	-	≥ 2.5; 24×18×6
Lith10	0.22	0.97	0.85	0.22	0.87	2	-

Table 14-25: Pb oxide top-cut, composited statistics of MNV

Vein Domain	Mean (%)	CoV	Top Cut (%)	Top Cut Mean (%)	Top Cut CoV	No. Samples Cut	Rest. Search Threshold (%) and distance (m)
VN02	0.22	1.55	No TC	-	-	-	-
Lith10	0.02	-	-	-	-	-	-

The composited bulk-density data were assessed graphically and spatially for outlier values in each vein domain. In general, top cuts were not harsh and only capped a minor number of samples in the mineralization vein domains. Top cuts were harsher in the waste lithology domains in order to mitigate the impact of isolated mineralized samples outside of the vein mineralization (Table 14-26). Search restrictions for higher bulk density values were not used.

Table 14-26: Bulk density top-cut, composited statistics (MNV)

Vein Domain	Mean (g/cm^3)	CoV	Top Cut (g/cm^3)	Top Cut Mean (g/cm^3)	Top Cut CoV	No. Samples Cut
VN01	2.87	0.10	3.80	2.87	0.07	9
VN02	2.76	0.07	3.37	2.76	0.07	4
VN03	2.72	0.06	2.73	2.72	0.05	6
VN05	2.92	0.10	3.60	2.91	010	3
VN06	2.82	0.12	3.60	2.82	0.11	4
VN07	2.80	0.04	No TC	-	-	-
VN08	2.71	0.05	3.02	2.71	0.05	11
Lith 10	2.66	0.06	3.53	2.66	0.06	10
Lith 30	2.59	0.05	3.10	2.59	0.04	18
Lith 50	2.73	0.05	3.07	2.73	0.05	8
Lith 60	2.70	0.06	3.05	2.70	0.05	17
Lith 80	2.67	0.04	3.18	2.67	0.04	8

There were no outlier values identified in the RQD data. No top cuts or bottom cuts were applied.

14.1.2.5 Variography

Spatial relationships of the top-cut, composited sample data were analyzed in Supervisor to define continuity directions of the mineralization. For copper and silver, a weak, shallow plunge to the east-southeast was modelled (-36→285). For lead, a weak plunge was modelled steeply dipping down the vein (-65→355), while for zinc, a weak, shallow plunge was observed in an orthogonal direction to copper and silver (-31→069). This was visually confirmed by reviewing the grade distribution spatially above a variety of cut-offs. These observations "fit" geologically, as copper and silver show a strong correlation, while lead and zinc are not correlated with copper/silver or with each other.

After establishing the orientation of the continuity ellipse, experimental semi-variograms were generated in the downhole direction (to establish the nugget effect) and in each of the three axis directions of the continuity ellipse (Figure 14-11). Spherical models were used to model the directional experimental semi-variograms with variance contributions normalized to a total 1.0.

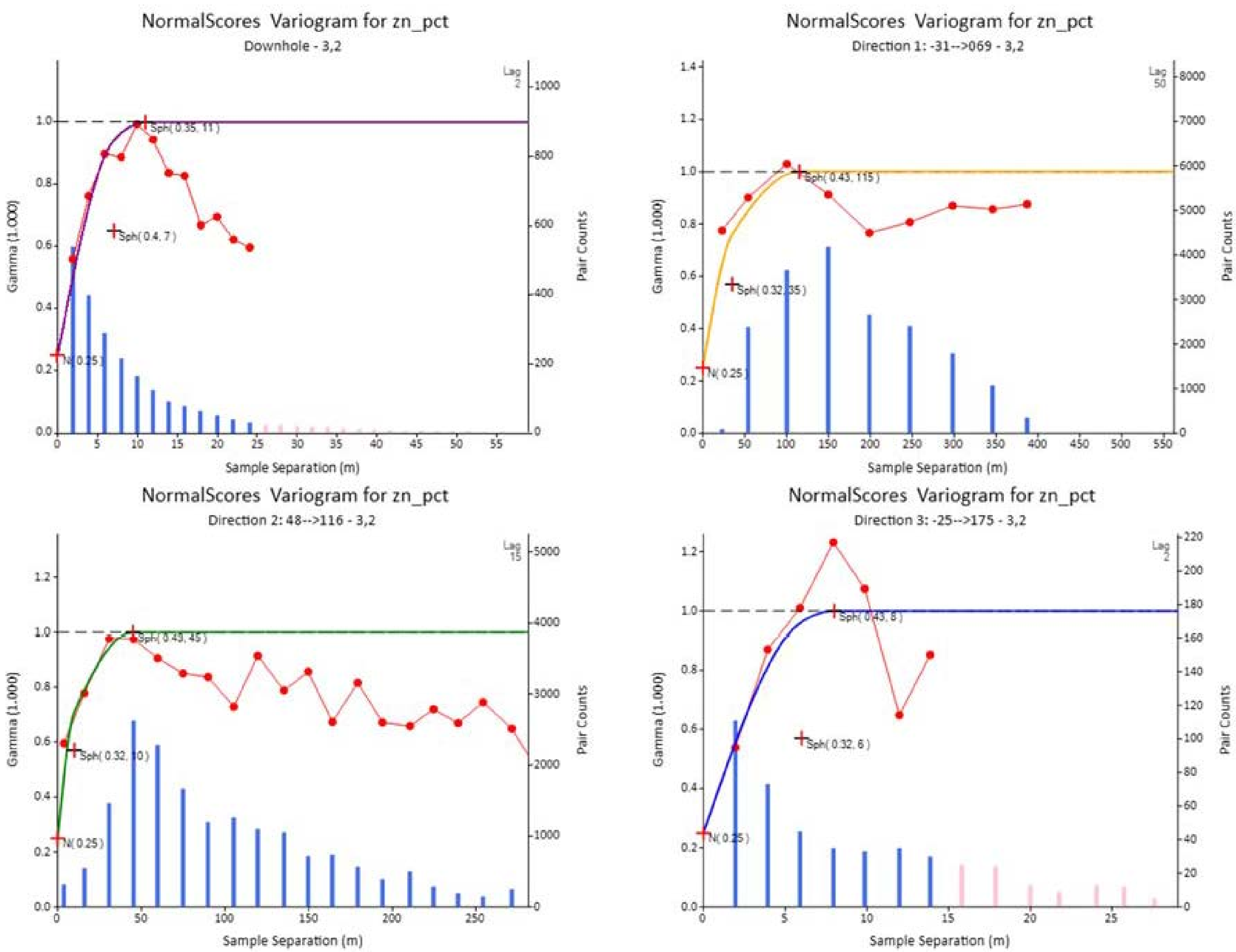


Figure 14-11: Zinc semi-variogram models (top left: downhole; top right: major axis – direction 1; bottom left: semi-major axis – direction 2; bottom right: minor axis – direction 3.

After modelling, the semi-variogram models were back-transformed in to regular space for use in grade estimation. Projecting the data onto a flat plane through data "unfolding" would improve the quality of the experimental semi-variogram and should be explored in the future. Tables 14-27 through 14-30 show the correlogram models for Cu, Ag, Zn and Pb, respectively.

Table 14-27: Cu back-transformed, semi-variogram parameters – Domains VN02 and VN03

Continuity Direction	Axis Direction	Variance	Range (m)		
		Nugget/Sill	R_1	R_2	R_3
HC: 00→265	D_1: 36→285	C_0: 0.05	-	-	-
AS: -65→355	D_2: -44→058	C_1: 0.54	35	35	10
DP: 36→105	D_3: -25→175	C_2: 0.41	130	130	10
Axis Rotation Angles (Vulcan ZXY): {284.525, -35.631, 121.330}					
*Note: HC = Horizontal Continuity; AS = Across Strike Continuity; DP = Dip Plane Continuity; C_0 = Nugget; C_x = Structure X					

Table 14-28: Ag back-transformed, semi-variogram parameters – Domains VN02 and VN03

Continuity Direction	Axis Direction	Variance	Range (m)		
		Nugget/Sill	R_1	R_2	R_3
HC: 00→265	D_1: 36→285	C_0: 0.07	-	-	-
AS: -65→355	D_2: -44→058	C_1: 0.41	25	15	6
DP: 36→105	D_3: -25→175	C_2: 0.25	85	70	14
		C_3: 0.27	375	150	14
Axis Rotation Angles (Vulcan ZXY): {284.525, -35.631, 121.330}					
*Note: HC = Horizontal Continuity; AS = Across Strike Continuity; DP = Dip Plane Continuity; C_0 = Nugget; C_x = Structure X					

Table 14-29: Zn back-transformed, semi-variogram parameters for MNV – Domains VN02 and VN03

Continuity Direction	Axis Direction	Variance	Range (m)		
		Nugget/Sill	R_1	R_2	R_3
HC: 00→265	D_1: -31→069	C_0: 0.28	-	-	-
AS: -65→355	D_2: 48→116	C_1: 0.34	35	10	6
DP: -27→071	D_3: -25→175	C_2: 0.38	115	45	8
Axis Rotation Angles (Vulcan ZXY): {68.515, -31.321, -119.651}					
*Note: HC = Horizontal Continuity; AS = Across Strike Continuity; DP = Dip Plane Continuity; C_0 = Nugget; C_x = Structure X					

Table 14-30: Pb back-transformed, semi-variogram parameters for MNV – Domains VN02 and VN03

Continuity Direction	Axis Direction	Variance	Range (m)		
		Nugget/Sill	R_1	R_2	R_3
HC: 00→265	D_1: -65→355	C_0: 0.32	-	-	-
AS: -65→355	D_2: 00→085	C_1: 0.50	35	20	7
DP: 65→175	D_3: -25→175	C_2: 0.18	175	100	8
Axis Rotation Angles (Vulcan ZXY): {355.000, -65.000, 180.000}					
*Note: HC = Horizontal Continuity; AS = Across Strike Continuity; DP = Dip Plane Continuity; C_0 = Nugget; C_x = Structure X					

14.1.2.6 Block Model

The selective mining unit ("SMU"), has been revised to 12 m east × 2 m north × 10 m elevation. It was previously 4 m East × 2 m North × 5 m Elevation. The updated size matches the model parent-block size and much more closely approximates the volume of a single longhole-stope blast that represents the volume of material that must be physically selected (mined).

The dimensions of the SMU are roughly one-third to one-quarter the average drillhole spacing supporting Measured and Indicated Mineral Resources (about 40 m × 40 m).

The existing MNV block model parameters remain unchanged with respect to its origin and block sizes. It is sub-blocked and non-rotated and was updated to represent the modelled geology and vein domain wireframes generated in Leapfrog®. The model origin is defined as the lower, southwest edge of the model and the origin coordinates are in the Cozamin local mine grid (Table 14-31). A total of 45 model variables were created, comprising domain codes, grade/density/RQD fields, classification, density, estimation parameters and search angles used by the dynamic anisotropy. Waste grades and waste density values were also estimated into the block model to provide additional information regarding local dilution grades and tonnages.

As a part of the July 2017 update, new variables were added to capture the zinc oxide and lead oxide data, as well as their ratios to total zinc and total lead. These data are limited to the San Roberto Zinc zone.

Table 14-31: MNV Block model origin and parameters

	X	Y	Z
Origin* (local grid)	746,400	2,523,350	1,500
Parent Block Size (m)	12.0	2.0	10.0
Sub-Block Size (m)	4.0	0.5	2.0
Extents (m)	2,604	1,050	1,120

*Note: Model origin is defined as lower, southwest edge of the model.

14.1.2.7 Grade, Density and RQD Estimation

Grades were estimated using OK, with inverse-distance-squared weighting ("ID2") and nearest neighbour ("NN") techniques used as checks of the OK estimate for global mean-grade unbiasedness (inverse-distance-weighting was set to the power of nine to generate the NN estimate). The OK grade estimation strategy was defined through an assessment of variogram shapes and ranges, and a review of the estimation parameters used in the previous estimates. A multi-pass search strategy was used ("SVOL").

For all domains, silver estimates used the same parameters as the copper estimates to maintain their spatial correlation. Lead and zinc were estimated independently of each other and of copper and silver.

Due to local changes in strike and dip of the veins, a search strategy employing a dynamic search ellipse was employed to match the strike and dip of the veins during estimation (dynamic anisotropy) to allow for better sample selection.

Vein limits were treated as hard boundaries. In the case of the high-grade sub-domains comprising the San Roberto zone (VN01) and San Rafael (VN02), within the principal MNV structure, these limits were treated as soft boundaries to permit the correct interaction of low-grade samples from the lower-grade sub-domain comprising the rest of the structure (VN08). The lithological unit representing the entire MNV fault/vein system (Lith10) was estimated separately from the mineralization vein domains and used hard boundaries.

Top cuts and grade restrictions were applied within the individual estimation profiles. Block discretization was set to 3 × 3 × 3 to take into account the change of support (volume increase/reduction in sample variance) moving from a point sample volume (i.e., drillhole) to the block volume.

Final estimation and search parameters for the MNV model are in Table 14-32.

Table 14-32: MNV estimation and search parameters

Element (Est. Method)	Vein Domain	SVOL	Min Samp	Max Samp	Max Samp/DH	Search Distance D1, D2, D3 (m)	Soft Boundary Dist (m)
Cu (OK)	01/05/06/08	1	8	12	3	120, 60, 30	VN01/08: 50×50×25
Cu (OK)	02/03/08	1	8	16	3	90, 90, 30	VN02/08: 24×18×6
Cu (OK)	01/02/05/06/08	2	6	16	4	240, 120, 30	VN01/02/08: 50×50×25
		3	6	16	3	360, 180, 30	
Cu (ID^2)		1	6	16	4	240, 120, 30	No
Cu (NN)		1	1	1	1	240, 120, 30	No
Cu (ID^2)	07	1	8	16	3	130, 100, 15	No
Cu (ID^2)	Lith10	1	2	16	3	300, 300, 30	No
Ag (OK)	01/05/06/08	1	8	12	3	120, 60, 30	VN01/08: 20×20×25
Ag (OK)	02/03/08	1	8	16	3	90, 90, 30	VN02/08 24×18×6
Ag (OK)	01/02/05/06/08	2	6	12	4	240, 120, 30	VN01/02/08: 20×20×25
		3	6	12	3	360, 180, 30	
Ag (ID^2)		1	6	12	4	240, 120, 30	No
Ag (NN)		1	1	1	1	240, 120, 30	No
Cu (ID^2)	07	1	8	16	3	130, 100, 15	No
Ag (ID^2)	Lith10	1	2	16	3	300, 300, 30	No
Zn (OK)	01/05/06/08	1	8	VN01: 16 VN05: 20 VN06: 12	3	120, 60, 30	VN01/08: 40×40×25

Element (Est. Method)	Vein Domain	SVOL	Min Samp	Max Samp	Max Samp/DH	Search Distance D1, D2, D3 (m)	Soft Boundary Dist (m)
Zn (OK)	02/03/08	1	8	16	3	60,30, 15	VN02/08: 24×18×6
ZN (OK)	01/02/05/ 06/08	2	8	VN01: 16 VN05: 20 VN06: 12	4	240, 120, 30	VN01/02/08: 40×40×25
		3	6		3		
Zn (ID^2)		1	6		4	240, 240, 30	No
Zn (NN)		1	1	1	1	240, 240, 30	No
Zn (ID^2)	07	1	12	24	3	120, 60, 15	No
Zn (ID^2)	Lith10	1	2	16	3	300, 300, 30	No
Zn (ID^2)	02/10	1	8	16	3	85, 45, 25	No
Pb (OK)	01/05/06/08	1	8	20	3	120, 60, 30	VN01/08: 50×50×30
Pb (OK)	02/03/08	1	12	20	3	50, 35, 15	VN02/08: 24×18×6
Pb (OK)	01/02/05 /06/08	2	6	20	4	240, 120, 30	VN01/02/08: 50×50×30
		3	6	20	3	240, 120, 30	No
Pb (ID^2)		1	6	20	4	240, 120, 30	No
Pb (NN)		1	6	20	4	240, 120, 30	No
Pb (ID^2)	07	1	12	24	3	175, 100, 15	No
Px (ID^2)	02	1	8	16	3	50, 35, 15	No
Bulk Density (ID^2)	01/02/03/05/ 06/07/08	2	12	24	4	330, 300, 30	No
Bulk Density (ID^2)	Lith10	2	12	24	4	300, 300, 30	No
RQD (ID^2)	01/02/03/05/ 06/07/ 08/Lith10	2	6	20	4	300, 300, 30	No

14.1.2.8 Model Validation

Block model validation after grade estimation involved the following steps:

- Visual inspection of block grades against the input drillhole data.
- Declustering of the top-cut, input drillhole data for:
  - Assessment for global unbiasedness.
  - Evaluation of block grades against declustered, top-cut, input drillhole data in swathe plots.
  - Global change of support ("GCOS") to assess smoothing above a specified cut-off.
- Review of element correlations in the blocks compared to input drillhole correlations.

14.1.2.9 Mineral Resources Classification

Mineral Resources classification conforms to the definitions provided in the CIM Definition Standards for Mineral Resources and Reserves (CIM, 2014). Previously, nearly all material contained within the modelled veins was given a default classification of Inferred, as the extents of the vein boundaries were limited during geological modelling (except the MNV). This methodology was changed during this update to eliminate the upper reaches of the MNV where historic mining has occurred. There is no available drilling information in these areas, meaning the grades estimated in these blocks are extrapolations of the grades directly below. Given the grade variability of copper, silver, zinc and lead in the MNV, confidence in these estimates is low.

Classification of Indicated Mineral Resources in the San Rafael and San Roberto Zinc zones considered the following factors:

- QAQC data: There is accurate and repeatable performance of external certified reference material and duplicate samples. There is also an established bulk density QAQC data set. The QAQC data are of sufficient quality to support classification of Measured Mineral Resources.
- Drillhole spacing: The high-level drillhole spacing study completed by Davis (2014) recommended a 40 m × 40 m drillhole spacing grid to have sufficient confidence in grade continuity for Indicated Resources. This was the primary constraint used during classification, but areas with wider spacing were reviewed on a case-by-case basis. Measured Resources require a drillhole spacing of about 25 m × 25 m, or they must be located proximally to underground development.
- Confidence classification boundaries: The existing boundaries were used as a guide for classification of Indicated resources, which were then adjusted to account for new drilling.
- Underground development and mined stopes: There is a development drive into the San Rafael zone along Level 10 that extends eastward from the San Roberto zone. Blocks around this development were left as Indicated resources and not classified as Measured.

14.1.2.10 Grade Tonnage Reporting

Mineral resources were reported above a US$50/t NSR cut-off and consider depletion from mining until October 24, 2018. Mineral resources within the MNV are evaluated using the NSR350 formula. Metal prices used are as follows: US$3.50/lb Cu, US$18.00/oz Ag, US$1.20/lb Zn, US$1.00/lb Pb. Assumed metal recoveries are as follows: 95% Cu, 78% Ag, 58% Zn, and 40%Pb. The NSR350 formula is as follows:

$$NSR350 = Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981$$

Mineral resources for all three zones within the MNV summarized below (Table 14-33 through Table 14-36). They are reported above a US$50/t NSR cut-off value using the NSR350 formula and account for mining activities until October 24, 2018.

Table 14-33: MNV – SROB-Zn mineral resources above US$50/t NSR cut-off as at October 24, 2018

Classification	Tonnes (kt)	Cu (%)	Ag (g/t)	Zn (%)	Pb (%)	Cu Metal (kt)	Ag Metal (koz)	Zn Metal (kt)	Pb Metal (kt)
Zinc Zone: MNV – San Roberto Zinc									
Measured	-	-	-	-	-	-	-	-	-
Indicated	289	0.21	32	3.92	0.77	1	300	11	2
Total M + I	**289**	**0.21**	**32**	**3.92**	**0.77**	**1**	**300**	**11**	**2**
Inferred	538	0.13	25	3.47	0.44	1	440	19	2

Table 14-33 Notes:

1. Mineral resources are reported at a cut-off of NSR US$50 using the NSR350 formula: Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981 based on metal price assumptions (in US$) of Cu = $3.50/lb, Ag = $18.00/oz, Zn = $1.20/lb, Pb = $1.00/lb and metal recoveries of 95% Cu, 78% Ag, 58% Zn, 40% Pb. All contained metals are reported at 100%.
2. Figures may not sum exactly due to rounding.
3. Mineral resources are depleted due to mining activities as at October 24, 2018.

Table 14-34: MNV – San Rafael Zinc Zone mineral resources above US$50/t NSR cut-off as at October 24, 2018

Classification	Tonnes (kt)	Cu (%)	Ag (g/t)	Zn (%)	Pb (%)	Cu Metal (kt)	Ag Metal (koz)	Zn Metal (kt)	Pb Metal (kt)
Zinc Zone: MNV – San Rafael									
Measured	-	-	-	-	-	-	-	-	-
Indicated	1,953	0.30	47	3.63	0.54	6	2944	71	11
Total M + I	**1,953**	**0.30**	**47**	**3.63**	**0.54**	**6**	**2944**	**71**	**11**
Inferred	3,090	0.24	37	3.26	0.35	7	3667	101	11

Table 14-34 Notes:

1. Mineral resources are reported at a cut-off of NSR US$50 using the NSR350 formula: Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981 based on metal price assumptions (in US$) of Cu = $3.50/lb, Ag = $18.00/oz, Zn = $1.20/lb, Pb = $1.00/lb and metal recoveries of 95% Cu, 78% Ag, 58% Zn, 40% Pb. All contained metals are reported at 100%.
2. Figures may not sum exactly due to rounding.
3. Mineral resources are depleted due to mining activities as at October 24, 2018.

Table 14-35: MNV – Total Zinc Zone mineral resources above US$50/t NSR cut-off as at October 24, 2018

Classification	Tonnes (kt)	Cu (%)	Ag (g/t)	Zn (%)	Pb (%)	Cu Metal (kt)	Ag Metal (koz)	Zn Metal (kt)	Pb Metal (kt)
Total Zinc Zones									
Measured	-	-	-	-	-	-	-	-	-
Indicated	2,242	0.29	45	3.67	0.57	6	3244	82	13
Total M + I	**2,242**	**0.29**	**45**	**3.67**	**0.57**	**6**	**3244**	**82**	**13**
Inferred	3,628	0.22	35	3.29	0.36	8	4107	119	13

Table 14-35 Notes:

1. Mineral resources are reported at a cut-off of NSR US$50 using the NSR350 formula: Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981 based on metal price assumptions (in US$) of Cu = $3.50/lb, Ag = $18.00/oz, Zn = $1.20/lb, Pb = $1.00/lb and metal recoveries of 95% Cu, 78% Ag, 58% Zn, 40% Pb. All contained metals are reported at 100%.
2. Figures may not sum exactly due to rounding.
3. Mineral resources are depleted due to mining activities as at October 24, 2018.

Table 14-36: MNV – San Roberto Copper Zone mineral resources above US$50/t NSR cut-off as at October 24, 2018

Classification	Tonnes (kt)	Cu (%)	Ag (g/t)	Zn (%)	Pb (%)	Cu Metal (kt)	Ag Metal (koz)	Zn Metal (kt)	Pb Metal (kt)
Copper Zone: MNV – San Roberto									
Measured	407	1.24	53	1.23	0.40	5	694	5	2
Indicated	2,956	1.05	45	1.57	0.39	31	4247	46	12
Total M + I	**3,363**	**1.07**	**46**	**1.53**	**0.39**	**36**	**4941**	**51**	**13**
Inferred	3,838	0.70	37	1.54	0.14	27	4582	59	5

Table 14-36 Notes:

1. Mineral resources are reported at a cut-off of NSR US$50 using the NSR350 formula: Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981 based on metal price assumptions (in US$) of Cu = $3.50/lb, Ag = $18.00/oz, Zn = $1.20/lb, Pb = $1.00/lb and metal recoveries of 95% Cu, 78% Ag, 58% Zn, 40% Pb. All contained metals are reported at 100%.
2. Figures may not sum exactly due to rounding.
3. Mineral resources are depleted due to mining activities as at October 24, 2018.

14.2 MNFWZ Modelling and Estimation

14.2.1 Raw Data

The raw drillhole data were imported into Hexagon MineSight® software version 14.0. This included data from the *collar.csv*, *survey.csv*, *lithology.csv*, *assay.csv*, *density.csv* and *geotech.csv* tables.

14.2.1.1 Assay Data

The raw drillhole sample data were desurveyed and stored. The domain wireframes were used to code the drillhole data within the respective vein domains in the compositing process using the priority coding defined during geological modelling.

Univariate statistics, by vein domain, are summarized in Table 14-37 through Table 14-40 for the MNFWZ model.

Table 14-37: Cu raw statistics of MNFWZ

Domain	No. Samples	Length	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	COV
VN08	41	30	0.002	5.17	0.219	0.472	2.1
VN09	264	213	0.001	12.35	1.236	1.786	1.4
VN10	771	609	0.0005	14.339	1.827	2.347	1.3
VN11	149	139	0.0015	5.65	0.314	0.807	2.6
VN18	337	270	0.002	14.3	1.461	2.209	1.5
VN19	22	19	0.011	2.25	0.503	0.597	1.2
VN20	1,790	1537	0.0005	22	2.418	3.126	1.3
VN22	219	182	0.002	16.45	0.942	1.710	1.8
All Vein	3,593	2998	0.0005	22	1.907	2.722	1.4
All	65,218	65912	0.0001	22	0.216	0.979	4.5

Table 14-38: Ag raw statistics of MNFWZ

Domain	No. Samples	Length	Min (ppm)	Max (ppm)	Mean (ppm)	Std. Dev. (ppm)	COV
VN08	41	30	0.5	100.0	13.4	20.6	1.5
VN09	264	213	0.4	553.0	35.3	56.6	1.6
VN10	771	609	0.4	4070.0	43.9	160.5	3.7
VN11	149	139	0.2	373.0	36.6	61.0	1.7
VN18	337	270	0.5	3410.0	35.0	155.8	4.5
VN19	22	19	2	134.0	20.6	24.4	1.2
VN20	1,790	1537	0.1	1500.0	51.7	90.4	1.8
VN22	219	182	0.5	472.0	20.2	39.9	2.0
All Vein	3,593	2998	0.1	4070.0	44.3	110.5	2.5

All	65,141	65870	0	4070.0	9.2	41.6	4.5

Table 14-39: Zn raw statistics of MNFWZ

Domain	No. Samples	Length	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	COV
VN08	41	30	0.003	11.56	2.11	2.40	1.1
VN09	264	213	0.003	19.70	0.79	1.82	2.3
VN10	771	609	0.001	24.20	0.67	1.61	2.4
VN11	149	139	0.0014	30.00	3.08	4.20	1.4
VN18	337	270	0.0005	4.66	0.26	0.69	2.7
VN19	22	19	0.014	16.25	2.25	3.38	1.5
VN20	1,790	1537	0.0005	15.15	0.40	0.99	2.5
VN22	219	182	0.0005	7.23	0.18	0.67	3.7
All Vein	3,593	2998	0.0005	30.00	0.61	1.63	2.7
All	65,217	65910	0.0001	43.07	0.39	1.39	3.6

Table 14-40: Pb raw statistics of MNFWZ

Domain	No. Samples	Length	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	COV
VN08	41	30	0.0005	4.55	0.29	0.83	2.8
VN09	264	213	0.0005	0.62	0.04	0.06	1.6
VN10	771	609	0.0005	6.12	0.05	0.27	5.7
VN11	149	139	0.0002	33.34	1.74	4.15	2.4
VN18	337	270	0.0004	3.68	0.02	0.14	5.8
VN19	22	19	0.0025	6.14	0.38	1.12	2.9
VN20	1,790	1537	0.0004	3.62	0.04	0.19	4.7
VN22	219	182	0.0005	3.07	0.04	0.22	6.3
All Vein	3,593	2998	0.0002	33.34	0.12	0.99	8.0
All	65,217	65911	0	36.85	0.08	0.58	7.5

14.2.1.1.1 Bulk Density, Core Recovery and RQD Data

As previously stated, bulk density sampling has been undertaken systematically throughout the MNV and MNFWZ veins. Since 2013 samples were taken at the same volume support as the geochemical assay data (i.e., the average bulk density value was generated over the interval length as the assay sample).

The vein domains and lithology wireframes were used to code the drillhole data in the compositing process (populating the domain and litho fields in the database).

As previously stated, core recovery data are recorded from measurements of the total core length in the box between the blocks demarking the run interval. Rock Quality Data (“RQD”) information involved summing the total length of individual pieces greater than 10 cm in length, divided by the run length. The resulting value is expressed as a percentage. The vein domains and lithology wireframes were used to code the drillhole data in the compositing process (populating the domain and litho fields in the database).

14.2.1.2 Compositing

The 1.0 m composite length offered a balance between supplying common support for samples and minimizing the smoothing of the grades. This was taking into consideration that the vertical block dimension was 2 metres which is the predominant direction of drilling. In addition, the 1.0 m sample length was consistent with the distribution of sample lengths within the mineralized domains as 70% of the assay lengths are less than or equal to 1.0 m and 85% of the assay lengths are less than or equal to 1.5 m as shown in Figure 14-12. It should be noted that although 1.0 m is the composite length, any residual composites of length greater than 0.5 m and less than 1.0 m remained to represent a composite whilst any composites residuals less than 0.5m were combined to the composite above.

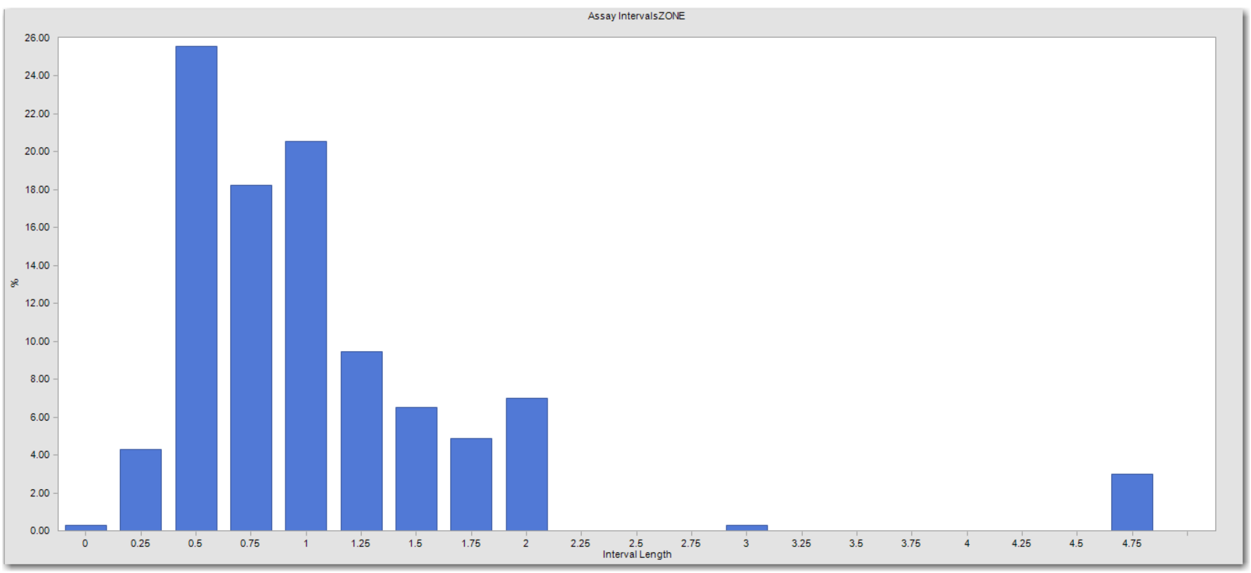


Figure 14-12: Histogram of Assay Interval Lengths within the Vein Models

The statistics of the composited data are presented in Table 14-41 through Table 14-45.

Table 14-41: Cu composited statistics of MNFWZ (undeclustered)

Domain	No. Samples	Length	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN08	39	29.6	0.002	1.995	0.219	0.339	1.5
VN09	230	212.5	0.01	11.808	1.236	1.614	1.3
VN10	633	608.6	0.001	10.641	1.827	2.076	1.1
VN11	144	139.0	0.0021	4.389	0.314	0.728	2.3
VN18	297	270.1	0.002	10.670	1.461	1.885	1.3

Domain	No. Samples	Length	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN19	19	18.5	0.011	2.096	0.503	0.571	1.1
VN20	1,559	1,537.2	0.0005	16.192	2.418	2.734	1.1
VN22	200	182.0	0.004	9.408	0.942	1.334	1.4
All Vein	3,121	2,997.5	0.0005	16.192	1.907	2.398	1.3
All	68,331	65,911.7	0.0001	16.192	0.216	0.893	4.1

Table 14-42: Ag composited statistics of MNFWZ (undeclustered)

Domain	No. Samples	Length	Min (ppm)	Max (ppm)	Mean (ppm)	Std. Dev. (ppm)	CoV
VN08	39	29.6	0.5	100.0	13.4	19.9	1.5
VN09	230	212.5	0.4	442.7	35.3	50.1	1.4
VN10	633	608.6	0.4	3468.5	43.9	147.2	3.4
VN11	144	139.0	0.3	373.0	36.6	57.3	1.6
VN18	297	270.1	0.5	1401.4	35.0	107.5	3.1
VN19	19	18.5	2	68.8	20.6	19.8	1.0
VN20	1,559	1,537.2	0.1	1095.6	51.7	75.1	1.5
VN22	200	182.0	0.5	279.6	20.2	33.5	1.7
All Vein	3,121	2,997.5	0.1	3468.5	44.3	94.0	2.1
All	68,289	65,870.2	0	3468.5	9.2	36.0	3.9

Table 14-43: Zn composited statistics of MNFWZ (undeclustered)

Domain	No. Samples	Length	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN08	39	29.6	0.003	11.56	2.11	2.38	1.1
VN09	230	212.5	0.003	11.05	0.79	1.56	2.0
VN10	633	608.6	0.001	24.20	0.67	1.49	2.2
VN11	144	139.0	0.0041	30.00	3.08	3.76	1.2
VN18	297	270.1	0.001	4.24	0.26	0.64	2.5
VN19	19	18.5	0.0168	16.25	2.25	3.36	1.5
VN20	1,559	1,537.2	0.0005	13.00	0.40	0.84	2.1
VN22	200	182.0	0.001	4.22	0.18	0.55	3.0
All Vein	3,121	2,997.5	0.0005	30.00	0.61	1.48	2.4
All	68,329	65,910.2	0.0001	33.15	0.39	1.23	3.2

Table 14-44: Pb composited statistics of MNFWZ (undeclustered)

Domain	No. Samples	Length	Min (%)	Max (%)	Mean (%)	Std. Dev. (%)	CoV
VN08	39	29.6	0.0005	4.55	0.29	0.83	2.8
VN09	230	212.5	0.0005	0.62	0.04	0.05	1.4
VN10	633	608.6	0.0005	6.12	0.05	0.26	5.6
VN11	144	139.0	0.0004	23.65	1.74	3.75	2.2
VN18	297	270.1	0.0004	3.68	0.02	0.14	5.8
VN19	19	18.5	0.0025	4.05	0.38	1.02	2.7
VN20	1,559	1,537.2	0.0005	2.85	0.04	0.16	3.9
VN22	200	182.0	0.0005	2.15	0.04	0.19	5.3
All Vein	3,121	2,997.5	0.0004	23.65	0.12	0.91	7.4
All	68,330	65,910.7	0	23.65	0.08	0.49	6.2

Table 14-45: Bulk density composited statistics (MNFWZ domains and all lithology units)

Domain	No. Samples	Length	Min (g/cm^3)	Max (g/cm^3)	Mean (g/cm^3)	Std. Dev. (g/cm^3)	CoV
VN08	26	22.2	2.49	3.05	2.68	0.10	0.04
VN09	241	225.0	2.36	3.23	2.69	0.12	0.04
VN10	596	532.9	2.37	3.61	2.69	0.17	0.06
VN11	92	59.1	2.52	4.32	3.16	0.47	0.15
VN18	266	231.0	2.31	3.35	2.62	0.14	0.05
VN19	20	14.9	2.67	3.3	2.93	0.16	0.06
VN20	1,406	1,216.7	2.19	3.93	2.77	0.21	0.08
VN22	169	143.2	2.36	3.57	2.63	0.13	0.05
All Vein	2,816	2,444.9	2.19	4.32	2.73	0.21	0.08
All	37,425	23,891.4	1.95	6.46	2.70	0.18	0.07

Since core recovery and RQD are calculated on a "*per core run*" basis of 3.05 m, compositing is not necessary.

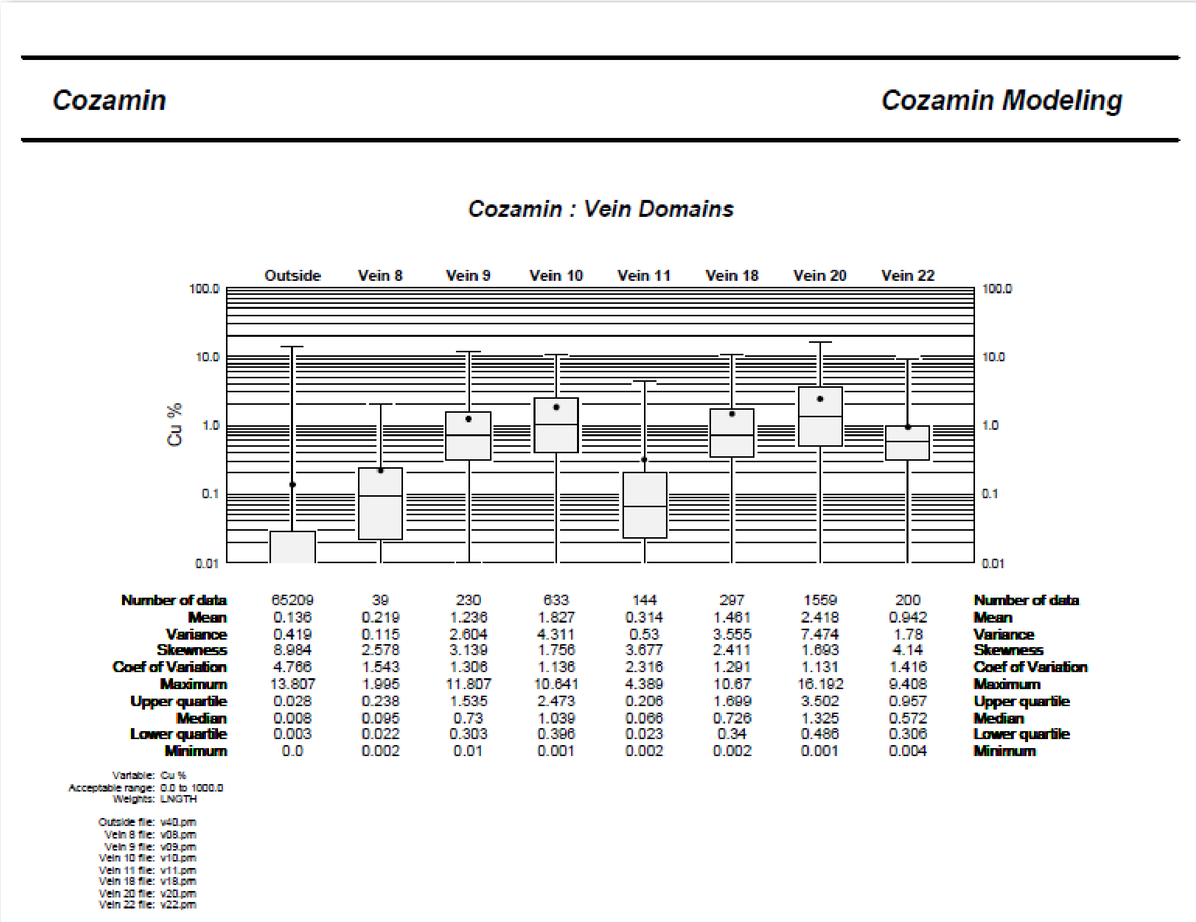
14.2.2 Exploratory Data Analysis

An exploratory data analysis ("EDA") was undertaken on the composited drillhole data. The objectives are of this study are as follows:

- Identify spatial trends in grade data and verify domaining strategy (data orientation, data population distributions).
- Understand sample distributions within the domains and select the appropriate grade estimation method and estimation strategy.
- Assess top-cutting and search-restriction requirements for outlier samples.

- Histograms, probability plots, contact plots were used for exploratory data analysis ("EDA") on the composited drillhole data. Histograms showed all veins and metals demonstrated log-normal distributions which is to be expected. Contact plots illustrated that there a sharp contact at the boundary of the veins which supports the use of hard boundaries between vein and waste.

Box plots with statistics by individual vein for copper, silver, zinc and lead are shown in Figures 14-13 through 14-16, respectively.

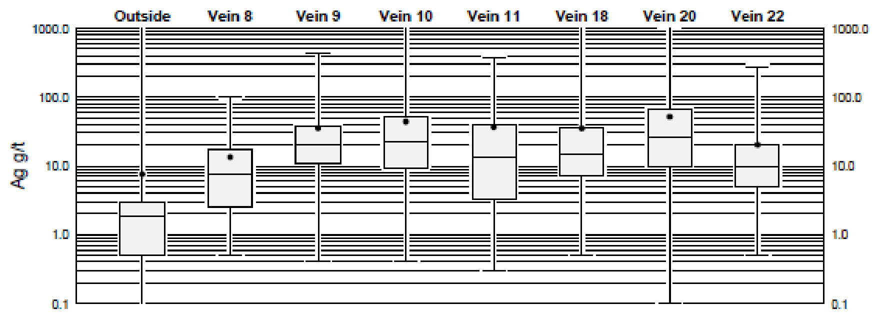


	Outside	Vein 8	Vein 9	Vein 10	Vein 11	Vein 18	Vein 20	Vein 22	
Number of data	65209	39	230	633	144	297	1559	200	Number of data
Mean	0.136	0.219	1.236	1.827	0.314	1.461	2.418	0.942	Mean
Variance	0.419	0.115	2.604	4.311	0.53	3.555	7.474	1.78	Variance
Skewness	8.984	2.578	3.139	1.756	3.677	2.411	1.693	4.14	Skewness
Coef of Variation	4.766	1.543	1.306	1.136	2.316	1.291	1.131	1.416	Coef of Variation
Maximum	13.807	1.995	11.807	10.641	4.389	10.67	16.192	9.408	Maximum
Upper quartile	0.028	0.238	1.535	2.473	0.206	1.699	3.502	0.957	Upper quartile
Median	0.008	0.095	0.73	1.039	0.066	0.726	1.325	0.572	Median
Lower quartile	0.003	0.022	0.303	0.396	0.023	0.34	0.486	0.306	Lower quartile
Minimum	0.0	0.002	0.01	0.001	0.002	0.002	0.001	0.004	Minimum

Figure 14-13: Cu Composite Box Plot and Statistics

Cozamin | **Cozamin Modeling**

Cozamin : Vein Domains



	Outside	Vein 8	Vein 9	Vein 10	Vein 11	Vein 18	Vein 20	Vein 22	
Number of data	65167	39	230	633	144	297	1559	200	**Number of data**
Mean	7.538	13.384	35.337	43.943	36.628	35.037	51.7	20.151	**Mean**
Variance	875.812	395.856	2506.45	21679.3	3277.57	11554.4	5640.79	1123.15	**Variance**
Skewness	15.185	3.207	4.045	20.857	3.13	11.385	4.819	4.47	**Skewness**
Coef of Variation	3.926	1.487	1.417	3.351	1.563	3.068	1.453	1.663	**Coef of Variation**
Maximum	1510.3	100.0	442.7	3468.5	373.0	1401.4	1095.6	279.6	**Maximum**
Upper quartile	3.0	17.0	38.0	52.029	39.796	35.375	67.198	20.0	**Upper quartile**
Median	1.8	7.46	20.705	22.459	13.1	14.935	25.692	10.0	**Median**
Lower quartile	0.5	2.5	11.0	9.4	3.3	7.0	9.8	5.0	**Lower quartile**
Minimum	0.0	0.5	0.4	0.4	0.3	0.5	0.1	0.5	**Minimum**

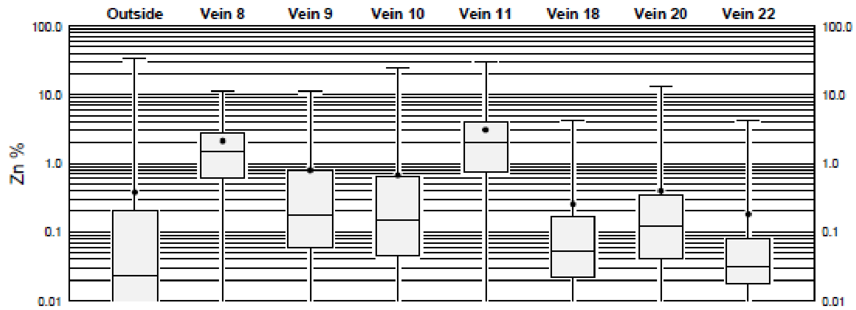
Variable: Ag g/t
Acceptable range: 0.0 to 10000.0
Weights: LNGTH

Outside file: v40.pm
Vein 8 file: v08.pm
Vein 9 file: v09.pm
Vein 10 file: v10.pm
Vein 11 file: v11.pm
Vein 18 file: v18.pm
Vein 20 file: v20.pm
Vein 22 file: v22.pm

Figure 14-14: Ag Composite Box Plot and Statistics

Cozamin | **Cozamin Modeling**

Cozamin : Vein Domains



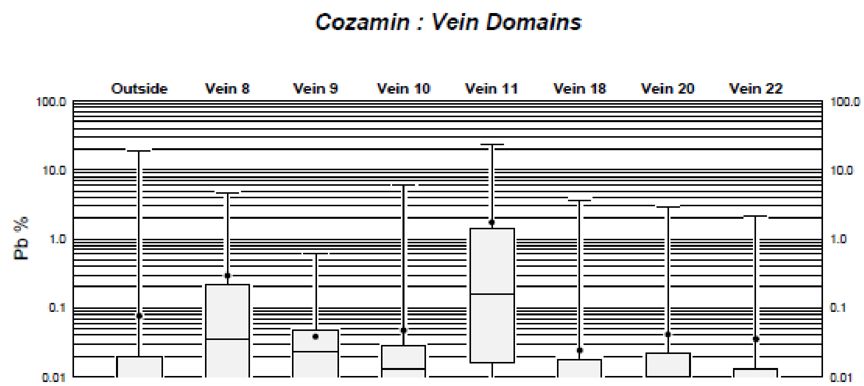
	Outside	Vein 8	Vein 9	Vein 10	Vein 11	Vein 18	Vein 20	Vein 22	
Number of data	65207	39	230	633	144	297	1559	200	**Number of data**
Mean	0.379	2.114	0.791	0.672	3.077	0.255	0.396	0.18	**Mean**
Variance	1.476	5.658	2.437	2.225	14.101	0.412	0.711	0.298	**Variance**
Skewness	8.366	1.883	3.568	7.357	3.059	4.424	5.588	5.223	**Skewness**
Coef of Variation	3.209	1.125	1.974	2.218	1.221	2.517	2.13	3.03	**Coef of Variation**
Maximum	33.145	11.56	11.047	24.2	30.0	4.24	13.0	4.216	**Maximum**
Upper quartile	0.204	2.756	0.786	0.63	4.016	0.162	0.347	0.078	**Upper quartile**
Median	0.023	1.501	0.179	0.152	2.041	0.054	0.12	0.031	**Median**
Lower quartile	0.008	0.623	0.059	0.045	0.733	0.022	0.04	0.018	**Lower quartile**
Minimum	0.0	0.003	0.003	0.001	0.004	0.001	0.001	0.001	**Minimum**

Variable: Zn %
Acceptable range: 0.0 to 1000.0
Weights: LNGTH

Outside file: v40.pm
Vein 8 file: v08.pm
Vein 9 file: v09.pm
Vein 10 file: v10.pm
Vein 11 file: v11.pm
Vein 18 file: v18.pm
Vein 20 file: v20.pm
Vein 22 file: v22.pm

Figure 14-15: Zn Composite Box Plot and Statistics

Cozamin — **Cozamin Modeling**



	Outside	Vein 8	Vein 9	Vein 10	Vein 11	Vein 18	Vein 20	Vein 22	
Number of data	65208	39	230	633	144	297	1559	200	Number of data
Mean	0.076	0.293	0.038	0.047	1.74	0.024	0.041	0.035	Mean
Variance	0.211	0.691	0.003	0.069	14.037	0.019	0.025	0.035	Variance
Skewness	18.729	4.323	4.811	20.243	3.498	22.648	10.558	9.216	Skewness
Coef of Variation	6.027	2.84	1.374	5.619	2.153	5.768	3.869	5.288	Coef of Variation
Maximum	18.9	4.552	0.621	6.12	23.645	3.68	2.854	2.154	Maximum
Upper quartile	0.02	0.214	0.048	0.028	1.433	0.018	0.022	0.013	Upper quartile
Median	0.005	0.034	0.023	0.013	0.159	0.008	0.01	0.005	Median
Lower quartile	0.001	0.007	0.009	0.006	0.016	0.004	0.005	0.002	Lower quartile
Minimum	0.0	0.001	0.001	0.001	0.0	0.0	0.001	0.001	Minimum

Variable: Pb %
Acceptable range: 0.0 to 1000.0
Weights: LNGTH

Outside file: v40.pm
Vein 8 file: v08.pm
Vein 9 file: v09.pm
Vein 10 file: v10.pm
Vein 11 file: v11.pm
Vein 18 file: v18.pm
Vein 20 file: v20.pm
Vein 22 file: v22.pm

Figure 14-16: Pb Composite Box Plot and Statistics

The data in the vein domains were reviewed and the following observations were made with respect to grade distribution and continuity:

- The boundary between the vein domains will be treated as “hard” for grade estimation.
- Veins 09, 10, 18 and 20 show similar grade distributions for each element as do 08 and 11.
- Domain Vein 08 and 11 illustrate elevated zinc and lead grades in comparison to the other veins.
- The coefficient of variation (“CoV”) is between 1.3-2.1 for copper and silver however CoV’s for zinc and lead range between 2.4-7.4 which are generally high and indicate variability. This is flagged for review during outlier analysis. However, the CoV for lead in VN18 is extremely high at 5.8 which indicates a high degree of variability but as the mean lead grades are very low and a result of outliers which will be addressed by cutting.
- In general, the veins will be estimated using the same variogram models however hard boundaries will be applied but mixing of vein populations will not be permitted.

14.2.2.1 Outlier Analysis

Grade distributions in each vein were assessed graphically and spatially for the presence of outlier samples, which can have a disproportionate impact during grade estimation and can lead to overestimated grades. Determination of appropriate top-cut values was undertaken through identification of population breaks in histograms and inflection points in log-probability plots. The impact of the selected top cut was assessed by reviewing the change in the mean grade and CoV of the composited samples before and after the top cut (Table 14-46 through Table 14-49). After application of cutting the CoV for copper and silver are fairly consistently around 1.1 which illustrates that the outliers are being sufficiently treated. The CoV's for zinc and more specifically lead are higher however and the application of cutting did not have any real effect on reducing the CoV. The mean grades are low so the issue lies in the fact that there is variability in the zinc and lead data but this is not due to outliers.

Table 14-46: Cu top-cut, composited statistics of MNFWZ

Domain	Mean (%)	CoV	Top Cut (%)	Top Cut Mean (%)	Top Cut CoV
VN08	0.219	1.5	0.700	0.182	1.2
VN09	1.236	1.3	5.000	1.144	1.1
VN10	1.827	1.1	8.000	1.803	1.1
VN11	0.314	2.3	1.500	0.229	1.7
VN18	1.461	1.3	9.500	1.455	1.3
VN19	0.503	1.1	2.096	0.503	1.1
VN20	2.418	1.1	13.000	2.411	1.1
VN22	0.942	1.4	5.000	0.873	1.1
All Vein	1.907	1.3	-	1.883	1.2
All	0.216	4.1	-	0.240	3.9

Table 14-47: Ag top-cut, composited statistics of MNFWZ

Domain	Mean (ppm)	CoV	Top Cut (ppm)	Top Cut Mean (ppm)	Top Cut CoV
VN08	13.4	1.5	100.0	13.4	1.5
VN09	35.3	1.4	442.7	35.3	1.4
VN10	43.9	3.4	800.0	39.6	1.5
VN11	36.6	1.6	373.0	36.6	1.6
VN18	35.0	3.1	800.0	31.7	2.1
VN19	20.6	1.0	68.8	20.6	1.0
VN20	51.7	1.5	800.0	51.5	1.4
VN22	20.2	1.7	279.6	20.2	1.7
All Vein	44.3	2.1	-	43.0	1.5
All	9.2	3.9	-	9.8	3.4

Table 14-48: Zn top-cut, composited statistics of MNFWZ

Domain	Mean (%)	CoV	Top Cut (%)	Top Cut Mean (%)	Top Cut CoV
VN08	2.11	1.1	11.56	2.11	1.1
VN09	0.79	2.0	11.05	0.79	2.0
VN10	0.67	2.2	24.20	0.67	2.2
VN11	3.08	1.2	25.00	3.05	1.2
VN18	0.26	2.5	4.24	0.26	2.5
VN19	2.25	1.5	16.25	2.25	1.5
VN20	0.40	2.1	13.00	0.40	2.1
VN22	0.18	3.0	4.22	0.18	3.0
All Vein	0.61	2.4	-	0.61	2.4
All	0.39	3.2	-	0.41	3.1

Table 14-49: Pb top-cut, composited statistics of MNFWZ

Domain	Mean (%)	CoV	Top Cut (%)	Top Cut Mean (%)	Top Cut CoV
VN08	0.29	2.8	4.55	0.29	2.8
VN09	0.04	1.4	0.62	0.04	1.4
VN10	0.05	5.6	6.12	0.05	5.6
VN11	1.74	2.2	10.00	1.47	1.8
VN18	0.02	5.8	3.68	0.02	5.8
VN19	0.38	2.7	4.05	0.38	2.7
VN20	0.04	3.9	2.85	0.04	3.9
VN22	0.04	5.3	2.15	0.04	5.3
All Vein	0.12	7.4	-	0.11	6.1
All	0.08	6.2	-	0.08	5.6

14.2.2.2 Variography

Spatial relationships of the top-cut, composited sample data were analyzed to define continuity directions of the mineralization. Experimental variograms and variogram models in the form of correlograms were generated for Cu, Ag, Zn and Pb grades. The individual zones did not have sufficient data to generate meaningful variogram results however when combined, which is valid in the opinion of the Author, the results are meaningful and there is justification for utilizing ordinary kriging for the estimation process. The definition of the nugget effect for each of the metals was taken from the downhole variograms. The correlogram models for each of copper, silver, zinc and lead are shown in Figures 14-17 through Figure 14-20, respectively.

Cozamin FW Veins Cu Correlograms

Medsystem and Vulcan Rotation Conventions

Nugget ==> 0.300
C1 ==> 0.459
C2 ==> 0.241

First Structure -- Spherical

LH Rotation about the Z axis ==> 12
RH Rotation about the X' axis ==> -54
LH Rotation about the Y' axis ==> -25

Range along the Z' axis ==> 3.3	Azimuth ==> 42	Dip ==> 32
Range along the Y' axis ==> 19.4	Azimuth ==> 12	Dip ==> -54
Range along the X' axis ==> 11.3	Azimuth ==> 122	Dip ==> -14

Second Structure -- Spherical

LH Rotation about the Z axis ==> -8
RH Rotation about the X' axis ==> -57
LH Rotation about the Y' axis ==> 33

Range along the Z axis ==> 72.4	Azimuth ==> 314	Dip ==> 27
Range along the X' axis ==> 18.9	Azimuth ==> 53	Dip ==> 18
Range along the Y' axis ==> 182.3	Azimuth ==> 352	Dip ==> -57

Modeling Criteria

Minimum number pairs req'd ==> 75
Sample variogram points weighted by # pairs

Figure 14-17: Cu Correlogram model parameters – MNFWZ

Cozamin FW Veins Ag Correlograms

Medsystem and Vulcan Rotation Conventions

Nugget ==> 0.350
C1 ==> 0.571
C2 ==> 0.079

First Structure -- Spherical

LH Rotation about the Z axis ==> -58
RH Rotation about the X' axis ==> 1
LH Rotation about the Y' axis ==> -10
Range along the Z' axis ==> 8.9 Azimuth ==> 36 Dip ==> 80
Range along the Y' axis ==> 12.2 Azimuth ==> 302 Dip ==> 1
Range along the X' axis ==> 2.9 Azimuth ==> 32 Dip ==> -10

Second Structure -- Spherical

LH Rotation about the Z axis ==> -51
RH Rotation about the X' axis ==> 3
LH Rotation about the Y' axis ==> 33
Range along the Z axis ==> 635.2 Azimuth ==> 215 Dip ==> 57
Range along the X' axis ==> 37.7 Azimuth ==> 41 Dip ==> 33
Range along the Y' axis ==> 250.3 Azimuth ==> 309 Dip ==> 3

Modeling Criteria

Minimum number pairs req'd ==> 75
Sample variogram points weighted by # pairs

Figure 14-18: Ag Correlogram model parameters – MNFWZ

Cozamin FW Veins Zn Correlograms

Medsystem and Vulcan Rotation Conventions

Nugget ==> 0.350
C1 ==> 0.561
C2 ==> 0.089

First Structure -- Spherical

LH Rotation about the Z axis ==> 7
RH Rotation about the X' axis ==> -104
LH Rotation about the Y' axis ==> -9
Range along the Z' axis ==> 2.9 Azimuth ==> 17 Dip ==> -14
Range along the Y' axis ==> 20.3 Azimuth ==> 187 Dip ==> -76
Range along the X' axis ==> 6.6 Azimuth ==> 106 Dip ==> 2

Second Structure -- Spherical

LH Rotation about the Z axis ==> -34
RH Rotation about the X' axis ==> 34
LH Rotation about the Y' axis ==> 23
Range along the Z axis ==> 432.4 Azimuth ==> 184 Dip ==> 50
Range along the X' axis ==> 38.1 Azimuth ==> 70 Dip ==> 19
Range along the Y' axis ==> 141.4 Azimuth ==> 326 Dip ==> 34

Modeling Criteria

Minimum number pairs req'd ==> 75
Sample variogram points weighted by # pairs

Figure 14-19: Zn Correlogram model parameters – MNFWZ

Cozamin FW Veins Pb Correlograms

Medsystem and Vulcan Rotation Conventions

Nugget ==> 0.050
C1 ==> 0.594
C2 ==> 0.356

First Structure -- Spherical

LH Rotation about the Z axis ==> 71
RH Rotation about the X' axis ==> -88
LH Rotation about the Y' axis ==> 116
Range along the Z' axis ==> 2.1 Azimuth ==> 315 Dip ==> -1
Range along the Y' axis ==> 39.9 Azimuth ==> 71 Dip ==> -88
Range along the X' axis ==> 16.4 Azimuth ==> 45 Dip ==> 2

Second Structure -- Spherical

LH Rotation about the Z axis ==> -43
RH Rotation about the X' axis ==> 2
LH Rotation about the Y' axis ==> -6
Range along the Z axis ==> 27.7 Azimuth ==> 63 Dip ==> 84
Range along the X' axis ==> 19.6 Azimuth ==> 47 Dip ==> -6
Range along the Y' axis ==> 526.5 Azimuth ==> 317 Dip ==> 2

Modeling Criteria

Minimum number pairs req'd ==> 75
Sample variogram points weighted by # pairs

Figure 14-20: Pb Correlogram model parameters – MNFWZ

14.2.2.3 Block Model

The selective mining unit ("SMU"), has been revised to 12 m East × 2 m North × 10 m Elevation. The dimensions of the SMU are roughly one-third to one-quarter the average drillhole spacing supporting Measured and Indicated mineral resources (about 40 m × 40 m).

The MNFWZ block model is sub-blocked and rotated to the southeast at 145° and was updated to represent the modelled geology and vein domain wireframes generated in Leapfrog®. The model origin is defined as the lower, southwest edge of the model and the origin coordinates are in the Cozamin local mine grid (Table 14-50). A total of 36 model variables were created, comprising domain codes, grade/density/RQD fields, classification, density, estimation parameters, and search angles used by the dynamic anisotropy. Waste grades and waste density values were also estimated into the block model to provide additional information regarding local dilution grades and tonnages.

Table 14-50: MNFWZ Block model origin and parameters

	X	Y	Z
Origin* (local grid)	746,884.125	2,523,943.25	1,200
Parent Block Size (m)	12.0	2.0	10.0
Sub-Block Size (m)	4.0	0.5	2.0
Extents (m)	2,964	1,050	1,420

*Table 14-50 Note: Model origin is defined as lower, southwest edge of the model.

14.2.2.4 Grade, Density and RQD Estimation

The estimation plan includes the following items:

- Mineralized zone code of modelled mineralization in each block;
- Estimated bulk specific gravity based on an inverse distance squared method;
- Estimated block Cu, Ag, Zn and Pb grades by ordinary kriging, using a one estimation pass.

The search ellipsoids were omni directional as oriented which will effectively use 100 metres search distance along strike and down dip for each of the veins. However, the search will only be limited to the width of the vein or perpendicular to strike as the search strategy is using hard boundaries. In all cases, a minimum of two composites is used and a maximum of 16. In addition, a maximum of five composites are permitted per drillhole.

Grades were estimated using Ordinary Kriging, with inverse-distance-squared weighting (“ID2”) and nearest neighbour (“NN”) techniques used as checks of the OK estimate for global mean-grade. The OK grade estimation strategy was defined through an assessment of variogram shapes and ranges, and a review of the estimation parameters used in the previous estimates. A multi-pass search strategy was used.

For all domains, silver estimates used the same parameters as the copper estimates to maintain their spatial correlation. Lead and zinc were estimated independently of each other and of copper and silver.

Vein limits were treated as hard boundaries.

Top cuts were applied within the individual estimation profiles. Block discretization was set to 4 × 4 × 2 to take into account the change of support (volume increase/reduction in sample variance) moving from a point sample volume (i.e., drillhole) to the block volume.

14.2.2.5 Model Validation

Block model validation after grade estimation involved the following steps:

- Visual inspection of block grades against the input drillhole data.
- Histogram and Grade-Tonnage curve evaluation.
- Declustering of the top-cut, input drillhole data for:
    - Assessment for global unbiasedness.
    - Evaluation of block grades estimates (Ordinary kriged vs. inverse distance vs. nearest neighbor) against the declustered, top-cut, input drillhole data in swathe plots.
    - Global change of support to assess smoothing above a specified cut-off.

14.2.2.6 Mineral Resource Classification

Mineral resources classification conforms to the definitions provided in the CIM Definition Standards for Mineral Resources and Reserves (CIM, 2014). Classification of mineral resources in the Mala Noche Footwall zone considered the following factors:

- QAQC data: There is accurate and repeatable performance of external certified reference material and duplicate samples. There is also an established bulk density QAQC data set. The QAQC data are of sufficient quality to support classification of Measured mineral resources.
- Drillhole spacing: The high-level drillhole spacing study completed by Davis (2018) recommended a 50 m × 50 m drillhole spacing grid to have sufficient confidence in grade continuity for Indicated resources. This was the primary constraint used during classification, but areas with wider spacing were reviewed on a case-by-case basis. Measured resources require a drillhole spacing of about 25 m × 25 m, or they must be located proximally to underground development.
- Confidence classification boundaries digitized taking into account number of composites informed, distance to nearest composite, average distance of composites used, number of drillholes informed and relative error.
- Underground development and mined stopes.

14.2.2.7 Grade Tonnage Reporting

Mineral resources were reported above a US$ 50/t NSR cut-off and consider depletion from mining until October 24, 2018. Mineral resources within the MNV are evaluated using the NSR350 formula. Metal prices used are as follows: US$ 3.50/lb Cu, US$18.00/oz Ag, US$ 1.20/lb Zn, US$ 1.00/lb Pb. Assumed metal recoveries are as follows: 95% Cu, 78% Ag, 58% Zn, and 40%Pb. The NSR350 formula is as follows:

$$NSR350 = Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981$$

The mineral resources are not particularly sensitive to the selection of cut-off grade. Table 14-51 shows global quantities and grade in the MNFWZ at different NSR cut-offs. The reader is cautioned that these values should not be misconstrued as a mineral reserve. The reported quantities and grades are only presented to show the sensitivity of the resource model to the selection of cut-off.

Table 14-51: MNFWZ mineral resources at various NSR cut-offs as at October 24, 2018

NSR COG	Tonnes (kt)	NSR (US$)	Copper (%)	Silver (g/t)	Zinc (%)	Lead (%)	Contained Copper (kt)	Contained Silver (Troy koz)	Contained Zinc (kt)	Contained Lead (kt)
Indicated										
70	10,475	158.75	1.99	47	0.67	0.18	209	15,958	70	19
60	11,126	153.27	1.92	46	0.69	0.18	213	16,364	77	21
50	**11,683**	**148.60**	**1.85**	**44**	**0.70**	**0.19**	**216**	**16,669**	**82**	**22**
40	11,941	145.95	1.82	44	0.69	0.19	217	16,756	82	22
30	12,132	144.22	1.79	43	0.69	0.19	217	16,826	84	23
Inferred										
70	8,646	148.24	1.72	53	1.00	0.33	149	14,607	87	29
60	8,995	145.03	1.68	52	1.02	0.33	151	14,922	92	30
50	**9,485**	**140.40**	**1.61**	**50**	**1.06**	**0.32**	**153**	**15,249**	**100**	**30**
40	9,865	136.71	1.56	49	1.07	0.31	154	15,477	106	30
30	10,009	134.33	1.53	48	1.08	0.31	153	15,473	108	31

Table 14-51 Notes:

1. NSR350 formula: Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981 based on metal price assumptions (in US$) of Cu = $3.50/lb, Ag = $18.00/oz, Zn = $1.20/lb, Pb = $1.00/lb and metal recoveries of 95% Cu, 78% Ag, 58% Zn, 40% Pb. All contained metals are reported at 100%.
2. Figures may not sum exactly due to rounding.
3. Mineral resources are depleted due to mining activities as at October 24, 2018.

CIM Definition Standards for Mineral Resources and Mineral Reserves (2014) defines a mineral resource as:

“[A] concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized 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 eventual 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.”

The “reasonable prospects for eventual economic extraction” requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account the likely extraction scenarios and process metal recoveries. It is the opinion of the Qualified Person that the Mala Noche Footwall zone, as classified, has a reasonable expectation of economic extraction.

Table 14-52 presents the mineral resource statement for the Mala Noche Footwall Zone at a US$50/t NSR cut-off.

Table 14-52: MNFWZ mineral resources above US$ 50/t NSR cut-off as at October 24, 2018

Classification	Tonnes (kt)	Cu (%)	Ag (g/t)	Zn (%)	Pb (%)	Cu Metal (kt)	Ag Metal (koz)	Zn Metal (kt)	Pb Metal (kt)
Copper Zone: MNFWZ									
Measured	-	-	-	-	-	-	-	-	-
Indicated	11,683	1.85	44	0.7	0.19	216	16,669	82	22
Total M + I	11,683	1.85	44	0.7	0.19	216	16,669	82	22
Inferred	9,485	1.61	50	1.06	0.32	153	15,249	100	30

Table 14-52 Notes:

1. Mineral resources are reported at a cut-off of NSR US$50 using the NSR350 formula: Cu*65.024 + Ag*0.438 + Zn*10.755 + Pb*6.981 based on metal price assumptions (in US$) of Cu = $3.50/lb, Ag = $18.00/oz, Zn = $1.20/lb, Pb = $1.00/lb and metal recoveries of 95% Cu, 78% Ag, 58% Zn, 40% Pb. All contained metals are reported at 100%.
2. Figures may not sum exactly due to rounding.
3. Mineral resources are depleted due to mining activities as at October 24, 2018.

15 Mineral Reserves Estimates

Tucker Jensen, P.Eng., Senior Mining Engineer at Capstone Mining Corp., is the Qualified Person for the Cozamin Mineral Reserve Estimate. The estimate is based on the mineral resource block models developed by Jeremy Vincent, P.Geo., formerly of Capstone Mining Corp for the San Roberto/San Rafael zone and by Garth Kirkham, P.Geo., FGC, Kirkham Geosystems Ltd., for the Mala Noche Footwall Zone.

The Cozamin Mineral Reserve estimate effective as of October 24, 2018 is summarized in Table 15-1. The Mineral Reserves are estimated based on a longhole open-stoping mining method and tabulated from the interrogations of development and stope triangulations generated in Maptek Stope Optimizer software (MSO). These triangulations were applied to both Mineral Resource block models listed above after the models had been depleted of past mining production and areas of geotechnical sterilization. Also factored for in the Mineral Reserve estimate are production losses and dilution.

Capstone considers that the classification and reporting of the Mineral Reserves is in accordance with CIM definitions and best practices. Capstone Mining Corp. is not aware of any mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

Table 15-1: Cozamin Mineral Reserves Estimate at October 24, 2018 above a US$50/t NSR cut-off

Category	Tonnage (kt)	Cu (%)	Ag (g/t)	Zn (%)	Pb (%)	Cu Metal (kt)	Ag Metal (Troy koz)	Zn Metal (kt)	Pb Metal (kt)
Proven	-	-	-	-	-	-	-	-	-
Probable	6,195	1.60	43	0.71	0.14	99	8,543	44	8
Proven + Probable	6,195	1.60	43	0.71	0.14	99	8,543	44	8

Table 15-1 Note: (1) Tucker Jensen, P.Eng., Senior Mining Engineer at Capstone Mining Corp., is the Qualified Person for this Cozamin Mineral Reserve update. Disclosure of the Cozamin Mine Mineral Reserves as of October 24, 2018 was completed using fully diluted mineable stope shapes generated by the Maptek Vulcan Mine Stope Optimizer software and estimated using the 2016 MNV resource block model created by J. Vincent, P.Geo., formerly of Capstone Mining Corp and the 2018 MNFWZ resource block model created by Garth Kirkham, P.Geo., FGC. (2) Mineral Reserves are reported at a US$50/t net smelter return ("NSR") cut-off using the NSR275 formula: ($50.707*%Cu + 0.366*Ag ppm + 7.276*Zn%)*(1-NSRRoyalty%) based on metal price assumptions (in US$) of Cu = $2.75/lb, Ag = $16.00/oz, Zn = $1.10/lb and metal recoveries of 96.5% Cu, 81% Ag, 44% Zn. Note that zero value was attributed to Pb due to low concentrations. Tonnage and grade estimates include dilution and recovery allowances. The NSR royalty rate applied varies between 1% and 3% depending on the mining concession. All metals are reported as contained.

15.1 NSR Formula

The Cozamin mine extracts several metals and produces multiple metal concentrates from mining operations. Due to the polymetallic nature of the mine, the reserve cut-off is applied to a calculated Net Smelter Return (NSR) formula. The NSR is the dollar value of the metals recovered from a tonne of ore, less the cost for concentrate transport to the smelter, smelting and refining charges, other deductions at the smelter, and royalties. For mining of an area to be considered in the estimation of reserves, the mineral reserve cut-off NSR value of that volume must cover the cost for mining, milling and G&A. The mineral reserve NSR calculation formula and metal prices were developed and based on forecasted metal recoveries and current and historical transportation and smelting charges for Cozamin concentrates and Capstone metal price assumptions.

The metal recoveries and prices used in the NSR formula calculations are summarized in Table 15-2. Note that in the Reserve Estimate NSR formula, it is assumed that zero value is given to any contained lead. At low concentrations (<0.10%) the lead circuit is not operated. Although periods of sufficient lead concentration to recover the metal are expected over the life of the mine, value derived from this commodity is less predictable and was omitted.

Table 15-2: Metal Recoveries and Prices Used in the 2018 Mineral Reserves NSR Calculations

Metal	Metal Recovery	Selling Price (US$)
Copper	96.5%	$2.75/lb
Silver	81.0%	$16.00/troy oz
Lead	44.0%	$0.90/lb
Zinc	0.0%	$1.10/lb

The final NSR formula (NSR275) used for the October 24, 2018 reserve estimate was:

($50.707*%Cu + 0.366*Ag ppm + 7.276*Zn%)*(1-NSRRoyalty%)

15.2 Cut-off Grade

The mineral reserve estimates for the San Roberto zone and MNFWZ were based on a Mineral Reserve NSR cut-off value of $50.00/tonne milled.

The mineral reserve NSR cut-off value was calculated for the San Roberto zone and MNFWZ using actual mine, milling, and G&A costs. The economic mineral reserve NSR cut-off grade calculations from San Roberto zone and MNFWZ are summarized in Table 15-3. These historical operating costs have been reviewed and were considered to be reasonable, which therefore supported a NSR cut-off value of $50.00.

Table 15-3: 2018 Mineral Reserve NSR Cut-off Value Calculation

Cost Center	Unit Cost (US$/tonne milled)
	Cozamin Mine
Mining	31.11
Processing (Milling)	10.11
General and Administration	8.17
Total Cost	49.39

In late 2018, minor changes in mining strategies and procedures were implemented that affect the majority of future mining areas. These anticipated changes have been applied to the historical costs in Table 15-3 and amount to and adjustment of +$0.48/tonne milled, resulting in a final modeled cost per tonne of $49.87 which supports the Mineral Reserves cut-off of $50.00/tonne milled for optimization in MSO.

15.3 Dilution and Recovery

Stope shapes generated by MSO include planned dilution and an allowance for overbreak and sloughage. The mining method and sequence avoid major sources of backfill dilution, so backfill dilution has been ignored in this estimate. Dilution is accounted for as physical volume inside the stope shape wireframes and is interrogated against the modified resource block models as previously described in Section 15. The block models used for stope optimization and tabulation had been modified to zero any metal grades that were generated in blocks that met any of the following conditions:

- Blocks with classification that was *not* Measured or Indicated
- Blocks with centroids that were located outside the mineralized vein domain triangulations
- Blocks with centroids inside mined-out (density also zeroed) or sterilized areas
- Blocks with centroids inside planned geotechnical support pillars

Planned dilution is included in the walls of designed stopes as a factor of the natural undulation and curve of the narrow vein deposits found at the Cozamin mine when employing the longhole open-stoping mining method. Additional planned dilution is accounted for in the development drives where either the mineralized domain is narrower than the development or the development is placed along one of the walls and a part of the volume is outside the mineralized domain solid.

Overbreak and sloughage was added as a linear expansion of the initial “seed” wireframe into the hangingwall and footwall. The skin that was added to the wireframes is based on historical observations and geotechnical assessments of the rock quality as expected according to the geotechnical domain model. Overbreak and sloughage is estimated to be approximately 15% in the MNV and the areas of the MNFWZ with good quality rock (i.e. diorite and rhyolite in the HW/FW) over average mining depth ranges. The overbreak and sloughage in areas of the MNFWZ with poor rock quality (i.e. phyllite and lutite) are estimated to be approximately 66% over average mining depth ranges. The grade assigned to the diluting stope wall rock skin in this mineral reserve estimate comes from the modified resource block models and is included in the interrogation of the stope shapes, however the majority of this volume has had all metal grades removed and is effectively zero-grade dilution.

An additional but minor source of dilution is backfill mucked during stope cleanout. Backfill dilution will only be encountered in those longhole benches that are mucked out on a floor of backfill. Since this dilution is considered insignificant, it has not been included in the mineral reserve estimate but will be monitored and reported by the Cozamin staff in reconciliation reports.

The design of the Cozamin mine considers both horizontal (sill) and vertical (rib) unrecoverable geotechnical support pillars that remain in-situ after the mining extraction process. The volume occupied by sill pillars is variable and depends on depth and rock quality. This sill pillar volume is removed from the reserve estimate after stope optimization. Rib pillars are placed as required by geotechnical observations made during the extraction process, and thus are accounted for as a volume-reducing geotechnical recovery fraction applied to each stope wireframe during the interrogation and reporting process. This fraction is a factor of the depth and rock type of the immediate area around each individual stope wireframe. As depth increases and rock quality decreases, the rib pillars must increase in width and frequency to support the excavation and thus the recovery fraction decreases. Table 15-4 lists the various values of this rib pillar recover fraction.

Table 15-4: Geotechnical Recovery Factors used for Rib Pillars

	RHYOLITE/DIORITE		PHYLLITE/LUTITE	
Depth (m)	Rib Pillar Width (m)	Geotech Recovery	Rib Pillar Width (m)	Geotech Recovery
<500	9	**87%**	13.7	**80%**
500-750	11.5	**84%**	17.6	**75%**
>750	13.7	**80%**	21.1	**70%**

An additional mining recovery factor of 95% (5% ore loss) has been applied to all wireframes in the mineral reserve estimate to account for ore that cannot be recovered from the stopes, is lost in transit to the processing facilities, or remains in situ as underbreak. This recovery factor is consistent with those realized in mining similar deposits using longitudinal longhole stoping.

15.4 Recommendations

The dilution and recovery factors used in this Mineral Reserves estimate are considered appropriate and based upon historical observations of mining activities and predicted behaviour of future mining areas. Historical information is limited concerning the dilution in areas of low rock quality, so it is recommended that Cozamin technical staff continue to closely monitor and reconcile these factors for use in future reserve estimates.

16 Mining Methods

16.1 Mining Method and Design

The active ore zones at the Cozamin mine are able to support underground mining operations. At the time of this Technical Report, only the Longitudinal Longhole Open-Stoping Method ("LHOS") is actively practiced. Historically, a standard drift-and-fill method and a version of the Modified AVOCA mining method have been used, however these methods have fallen out of use in favor of the higher production and lower costs possible from the LHOS mining method. The LHOS mining method has proven to be a scalable method for use at the Cozamin mine, allowing production to steadily increase since Capstone ownership.

Figure 16-1 illustrates the LHOS mining method as it is applied to the Cozamin mine. Shown below is a section of one major level, split into three sub-levels. Major levels are separated by sill pillars and extend along strike to each extent of the vein domain being mined.

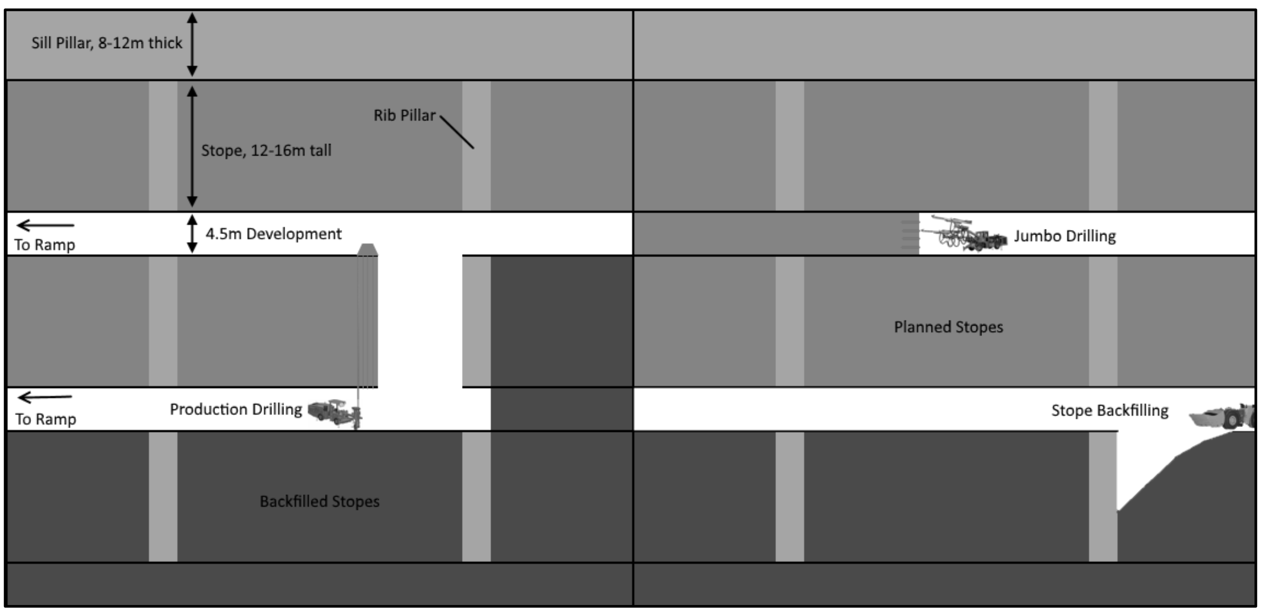


Figure 16-1: Single Vein Longitudinal LHOS Mining Method Diagram

Longitudinal longhole stoping operates along or parallel to the strike of the vein. The orientation of the method means that the hangingwall and footwall of the vein will form the sidewalls of the stope and is used where rock mass quality of the hangingwall is competent enough to allow the development of a substantial opening in the hangingwall or footwall. Longitudinal longhole methods are well suited to retreat mining and can be planned such that much of the development necessary can be considered production as the cuts can be kept within the vein.

Cozamin backfills each stoping sublevel prior to mining the sublevel above. The backfill used is unconsolidated waste development rock from other areas of the mine.

The production schedule is based on a general rule set of mining dependencies. When downward ramp development reaches stoping levels, in-vein production development begins expanding from the access along strike in both directions. Each of the ~60 m levels consist of three sublevel production development drifts. When the top and bottom sublevel development drifts for the lowest stoping sublevel are completed, stoping proceeds from the outside (furthest from the access) back to center. Stoping is performed for up to 72 m along strike (this distance varies according to local geotechnical conditions), after which a vertical rib pillar is left in-situ. The stoping resumes after the rib pillar and this pattern continues until mining reaches the central access point.

After a sublevel is mined, loose backfill is place from the center outwards to the extremities from the top drift of the sublevel. This loose fill creates the floor of the stoping activities on the next level above. After three sublevels are mined in this bottom-up, outside-in sequence, a horizontal pillar is left separating the completely mined and filled level from the level above and below. The mining activities continue in the level above/below and the pattern is repeated. The sequence is constrained to vertical columns with a length of ~200 m along strike. The division of columns in this manner allow for parallel mining activities to occur at several locations along strike simultaneously.

Some minor accessing strategy adjustments were suggested in late 2018 to allow for infill drilling, a reduction in development costs and improvements in short-term planning and modelling. The changes only apply in some areas of the MNFWZ where the major levels have not yet been impacted by mining activities. The main component of the change is the removal of the second sub-level. This change requires slight modifications to the designed access horizons in the ramp systems, and also suggests downhole drilling from the third sub-level to retrieve the ore previously accessed by the central sub-level. This suggestion has been included where applicable to the mine design in this Reserves Estimate, and the increased operating cost due to these changes has been applied to the entire estimate for conservatism.

Detailed mine development layouts are prepared by Cozamin Engineering for the Life of Mine Plan ("LOMP"). Thirty five percent of primary mine development is carried out by Capstone and the remaining 65% is by a Mexican mining contractor. Capstone personnel complete 100% of the mine production. The general dimensions of the various development headings are as follows:

Table 16-1: LOMP development dimensions

Development	Dimensions
Ramps	5.0 m wide x 5.0 m high
Sublevels (usually mined to the extent of the ore)	4.0 m wide x 4.5 m high
Access cross-cuts, drawpoints	4.0 m wide x 4.5 m high
Raises	3.1m/3.6m bore diameters

16.2 Geotechnical Considerations

Caution to Readers: This item contains forward-looking information related to mining methods, dilution and recovery estimates, the mine production plan and ground support requirements for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts or projections in the forward-looking information include, but are not limited to, any significant differences from one or more of the following material factors or assumptions that were applied in drawing the conclusions or making the estimates, designs, forecasts or projections set forth in this Item, as follows: geotechnical and hydrogeological characteristics, geology model, rock quality and strength parameters, and in-situ ground stresses.

The Cozamin underground mine comprises a series of sub-parallel copper and lead-zinc rich veins dipping north at 45-70° and striking approximately east-west at MNV and northwest-southeast at MNFWZ. The mining width can vary between 2 m and 15 m, depending on the vein thickness. The hangingwall horizon generally is composed of rhyolite with some local lutite (shale) and phyllite. The vein material is competent, being a mix of quartz and massive sulphides. The lutite is locally metamorphosed to phyllite. The footwall material is generally volcanic, including rhyolite and andesite with some local diorite. The mine maintains a three-dimensional model of lithological contacts and these are used for planning of the location of development openings and stope design purposes.

The mine continues to advance the understanding of the mechanical properties for each of the main rock units, sub-divided by geomechanical domains. Extensive core logging and underground mapping have been conducted to derive rock mass rating (“RMR”) and Q values for these domains. In terms of geological structures, Cozamin geologists map all significant occurrences encountered underground and include them in the three-dimensional model.

Exposed igneous rocks are typically competent and exhibit similar geotechnical characteristics and therefore can be lumped into the same broad geotechnical domain. The sedimentary and metamorphic rocks, lutite and phyllite, are similar geotechnically and are included as a single geotechnical domain although localised reduced rock mass quality in the phyllite is observed and special ground control considerations are often required, particularly below 750m depth. The veins are assigned the strength of the rock type they are hosted in for purposes of geotechnical assessment.

The igneous rocks exhibit high intact rock strengths of up to 150 MPa but the presence of micro-defects in rocks near the veins reduce the unconfined compressive strength (“UCS”) values to approximately 100 MPa. The veins themselves exhibit similar intact rock strengths to the igneous rocks. The metamorphosed sedimentary rocks (lutite and phyllite) are typically foliated and exhibit lower intact rock strengths than the igneous rocks with unconfined compressive strength of typically 50 MPa. Rock mass quality in the igneous rocks and the veins are higher than in the lutite and phyllite.

Ground conditions and intact rock strengths typically deteriorate in proximity to cross-cutting fault zones (typically striking perpendicular or orthogonal to the veins) due to increased fracturing and alteration. Vein parallel faults are present in both the footwall and hangingwall of the MNV which can increase local stope dilution, but these do not appear to be as prevalent in the MNFWZ. Rib pillars are typically left in place where cross-cutting faults intersect the veins. There is a fault that runs sub-parallel to the Mala Noche Vein that is generally present on the hangingwall. There are also numerous sub-vertical slip planes, which cut across the lenses. Ground conditions in the waste rock at depth are expected to deteriorate to a certain extent as metamorphic horizons are encountered and as induced mining stresses are experienced. Ground support practices have been modified to address these situations.

Observed ground conditions and in-situ stress information available for the mine location suggest that horizontal stresses are less than the vertical stress due to the overburden load. Geomechanical instrumentation is routinely used at Cozamin, mainly in the form of instrumented cable bolts in wider stopes and intersections, particularly where contact zone alteration is encountered in cross-cutting fault zones.

16.2.1 Anticipated geotechnical conditions in the lower MNFWZ

For the bulk of the future reserves of the mine present in the lower MNFWZ and the east extension of that area, the bulk of the vein 20 stopes will be wholly excavated in the igneous rock mass but lutite and phyllite zones are present locally in the footwall of the stopes. The proposed vein 10 mining in the lower MNFWZ is in a more complex geotechnical situation than the vein 20 mining with more lutite and phyllite anticipated, particularly in the hangingwall.

The depth of mining in the reserve update ranges from 440 m deep to 1000 m deep.

Much of the vein 20 mining is in rhyolite and mining conditions there are expected to be like what has been encountered in recent mining in the last five years in the upper MNV and MNFWZ mining except for increased depth. Localised portions of vein 20 and much of vein 10 are expected to encounter more challenging ground conditions than have been encountered in the past due to an increasing prevalence of lutite and phyllite in the permanent development openings, the stope development and in the stope walls themselves. Additionally, higher stress conditions than encountered in past development are expected due to the greater mining depths. These issues cause a reduction in achievable extraction due to an increase in the requirement for pillars to control wall dilution relative to what has been required in much of the mine's previous production.

Recommendations for required stope and pillar geometry designs in the lower MNFWZ and the east extension for typical vein widths of 6 m are summarized in Table 16-2 below. These recommendations are based primarily on anticipated geotechnical conditions derived from empirical open stope span stability assessments and numerical and empirical pillar stability analyses using input based on site observations, stope performance data and geotechnical core logging data.

Table 16-2: Recommended Pillar and Stope Dimensions by Depth and by Geotechnical Domain.

Depth (m)	IGNEOUS				PHYLLITE/LUTITE			
	Rib Pillar Width (m)	Sill Pillar Height (m)(3)	Extraction Ratio (%)	Max. Sub-Level Height (m)(4)	Rib Pillar Width (m)	Sill Pillar Height (m)(3)	Extraction Ratio (%)	Max. Sub-Level Height (m)(4)
<500	11.0	7.4	78%	16.5	15.7	11.2	69%	16.5
500-750	13.5	9.4	73%	16.5	19.6	14.4	62%	13.5
>750	15.7	11.2	69%	16.5	23.1	17.3	56%	12.5

Table 16-2 Notes:

1. For an assumed 6 m thick vein (measured normal to vein dip), dipping no shallower than 55°.
2. Based on a rib pillar center-to-center spacing of 78 m, and a sill pillar center-to-center spacing of 59.5 m (vertical).
3. Sill pillar height measured vertically.
4. Sub-level height measured vertically and includes 4.5 m tall drift.

Designs require variable rib and sill pillar dimensions with depth. The pillar thicknesses summarized in Table 16-2 result in extraction ratios ranging from 78 to 69% in the igneous rocks and from 69 to 56% in the phyllite/lutite, varying with depth. These design parameters are based on an assumed vein thickness of 6 m normal to dip, a vein dip of 55° or greater, a 78 m center-to-center rib pillar spacing, and a 57.5 m center-to-center vertical sill pillar spacing. Based on these design dimensions, achievable sub-level heights are expected to be 16.5 m (vertical) in the igneous rocks, however hangingwall stability in the phyllite/lutite result in the need to reduce sublevel height at depth, to 13.5 m below 500 m and to 12.5 m below 750 m. The pillar widths and resultant extraction ratios in Table 16-2 are generally considered conservative due to a number of conservative assumptions related to mine geometry and geotechnical parameters.

The following are additional considerations related to mine design and geotechnical stability:

- The pillar design summarized above approximately adheres to the minimum pillar width to height ratio guidance of 1:1; this should always be maintained for pillar design.
- If mining of adjacent veins is to be added to the reserve in the future, such mining may not be feasible if they are too close together, but unless cemented fill is adopted the footwall stopes should be mined before stopes on the hangingwall side.
- Cross-cutting fault zones can be left as rib pillars, but they may need to be larger than those required to be left in un-faulted areas.

Ground support requirements will increase with depth in the lower MNFWZ and the MNFW east extension as pattern rebar is now being used in the stopes in the lower MNFWZ stope development. Increasing thicknesses of shotcrete and reduced round lengths are required in development in lutite and phyllite, and spiling may be required in the lowest rock mass quality areas. Development openings wider than 10 m in igneous rocks and 7.5 m in lutite and phyllite rocks should have a provision that 50% will require long tendon (e.g. cable bolts) support.

16.3 Mining Shapes and Stope Designs

Identification of the mineable portions of the San Roberto zone and MNFWZ resources was accomplished using Maptek Vulcan Mine Stope Optimizer ("MSO"). The respective resource block models (San Roberto and MNFWZ models) were modified for use by the MSO software. Metal values in block with centroids outside the depleted vein domain triangulations (e.g., VN10, an individual mineralization domain identifier) were replaced with zero grade to remove any intra-vein grade smoothing. Additionally, metal values in blocks outside of Measured or Indicated classifications were also replaced with zero grade to limit optimization the only select M&I blocks. Mineable shapes exclude the following: ore intentionally left in crown pillars; ore left in parallel veins with insufficient intervening pillar to allow the stoping of both zones; and ore material deemed un-mineable due to geological complications (structures).

Stope dimensions were constrained by both practical limits of the mining method and geotechnical limitations. The limitations used are consistent with industry best practises and reflect the methods currently in use at the Cozamin mine. The following tables provide the constraints used in each of the mining zones.

Table 16-3: Mala Noche Dimensional Constraints

Minimum Stope Width (m, xy plane)	2
Maximum Stope Width (m, xy plane)	9
Wall Dilution FW (m)	0.8
Wall Dilution HW (m)	0.8
Minimum FW Dip (deg.)	50
Maximum FW Dip (deg.)	120
Minimum HW Dip (deg.)	50
Maximum HW Dip (deg.)	120
Center-to-Center Rib Pillar Spacing (m)	75
Rib Pillar Width (m)	8
Minimum Horizontal Pillar Width (m)	8
Maximum Development Drive Width (m)	9

Table 16-4: San Rafael Dimensional Constraints

Minimum Stope Width (m, xy plane)	2
Maximum Stope Width (m, xy plane)	9
Wall Dilution FW (m)	0.37
Wall Dilution HW (m)	0.37
Minimum FW Dip (deg.)	50
Maximum FW Dip (deg.)	120

Minimum HW Dip (deg.)	50
Maximum HW Dip (deg.)	120
Center-to-Center Rib Pillar Spacing (m)	75
Rib Pillar Width (m)	8
Minimum Horizontal Pillar Width (m)	8
Maximum Development Drive Width (m)	9

Table 16-5: MNFWZ Dimensional Constraints

	Rhyolite/Diorite	Phyllite/Lutite
Minimum Stope	2	2
Maximum Stope	9	9
Wall Dilution FW (m)	0.34	0.72
Wall Dilution HW (m)	0.34	0.72
Minimum FW Dip	50	50
Maximum FW Dip	120	120
Minimum HW Dip	50	50
Maximum HW Dip	120	120
Center-to-Center Rib	70	70
Rib Pillar Width (m)	7.9-13.7	11.9-21.1
Horizontal Pillar	6.5-11.2	9.8-17.3
Maximum	4.5	4.5

The results of the optimization were reviewed, and shapes were removed according to the following vetting steps:

- Sill pillars
- Stope blocks too small and isolated to be economically extracted
- Checked against the short-term model (if areas showed no viable stopes in the short-term model, stopes generated were removed from the reserve estimation)
- Geotechnical viability
- Economical viability after adding access and capital development requirements

16.4 Mine Access and Material Handling

The Cozamin mine is accessed by two ramp declines. The ~430 m shaft is located centrally between the MNV and the MNFWZ and is used for ore hoisting only. Ore is brought to the crusher at the mill by means of haulage through the Guadulapana Ramp decline and through the hoist. The second decline, the San Ernesto Ramp is smaller in section than the Guadulapana ramp and is used primarily for light vehicle passage, however the smallest of the three truck sizes used at Cozamin can utilize this decline when it is beneficial to do so. Waste generated by development activities in the mine is sometimes also brought to surface by means of truck haulage when insufficient backfilling capacity is available.

Mineralized material is mucked from stopes and in-ore development using load-haul-dump (“LHD”) vehicles and then transferred into trucks. Mineralized material is either hauled to surface via the Guadalupana ramp or taken to the San Roberto shaft and dumped on the grizzly-crusher system. Oversized material left on the grizzly is broken up using a hydraulic rock breaker. Hoisted material from the San Roberto shaft is loaded into surface trucks and is transported to the truck scales. Trucks are weighed on a truck scale located near the mill, after which the material is dumped into the Run of Mine (“ROM”) stockpile. Ore is then re-handled from the ROM stockpile to the primary jaw crusher by a loader. Oversized material is broken by a mobile hydraulic rock breaker.

Historically, the mine has been the bottleneck for production at Cozamin. The processing plant has been operated intermittently, starting up when the ROM stockpile is full and shutting down when the remainder in the stockpile and the inflow from ongoing mining operations is insufficient to continue to feed the processing circuits at capacity. An internal Material Handling Study (“MHS”) in 2018 concluded that the under-utilized processing plant is estimated to be capable of crushing, grinding and beneficiating an additional annual average of 842 tpd if such feed was available. The MHS then studied a variety of material handling solutions to close the gap between current mine production levels and mill capacity.

The first stage of the MHS identified the current hoisting and haulage resources as the limiting factor in mine production. The hoist is utilized at capacity and production from the shaft rarely exceeds 2,000 tpd. A traffic study concluded that truck haulage capacity is limited by the bi-directional use of the Guadulapana Ramp for ore haulage. The estimated impact of this traffic to the current truck fleet is a reduction of ~35% of the potential truck haulage system capacity. The compartmental nature of the LHOS mining method used at Cozamin allows multiple mining areas to be accessed simultaneously, so long as sufficient development has been completed. Cozamin mine has a long history of stable relationships with mining contractors, which account for the entire truck haulage efforts and the bulk of development efforts. The scalable nature of contract mining, along with unused capacity for development and ore production using the current equipment fleet (Figure 16-2) provides the foundation that mine production would be capable of matching the rate of a new haulage, hoisting or novel ore movement solution.

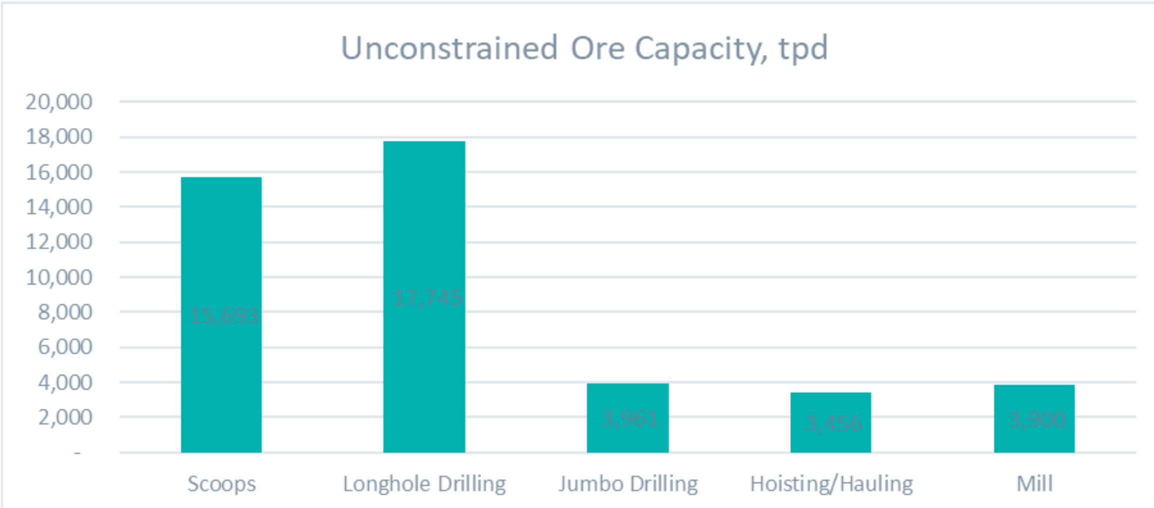


Figure 16-2: Cozamin Unconstrained Ore Capacity Model

Solutions considered in the study included hoist upgrades, new hoisting infrastructure, vertical conveyors, standard conveying in steep decline and novel solutions such as the Railveyor technology. The final recommendation from the study leveraged the geometry of the Cozamin orebodies and ramp systems to propose a design for a one-way truck haulage loop that greatly eliminates the impact of traffic stemming from both uphill and downhill traffic in the current Guadulapana Rampa.

The loop, internally called the “Crucero de San Rafael” is shown in Figure 16-3. Capital expenditure considered in this design includes the development of ~1,600 m of decline between the lowest part of the San Rafael ramp system to the top of the planned San Jose II ramp system. These two ramp systems, required as part of the standard LHOS mining method to access nearby reserves, are to be mined regardless of the solution chosen, thus the costs associated with the development of these ramps is excluded from the cost of this upgrade. Connecting these two ramp systems (~1km @ -12% gradient) plus ~600m of development at -12% gradient from ~100m down-ramp from the Guadulapana portal to the top of the San Rafael ramp system (The Upper Guadulapana Ramp), combined with the “contrafrente” lateral drift system in the MNFWZ, provides the opportunity to eliminate bi-directional traffic in all but the active mucking areas and the first 100 m of the Guadulapana Ramp.

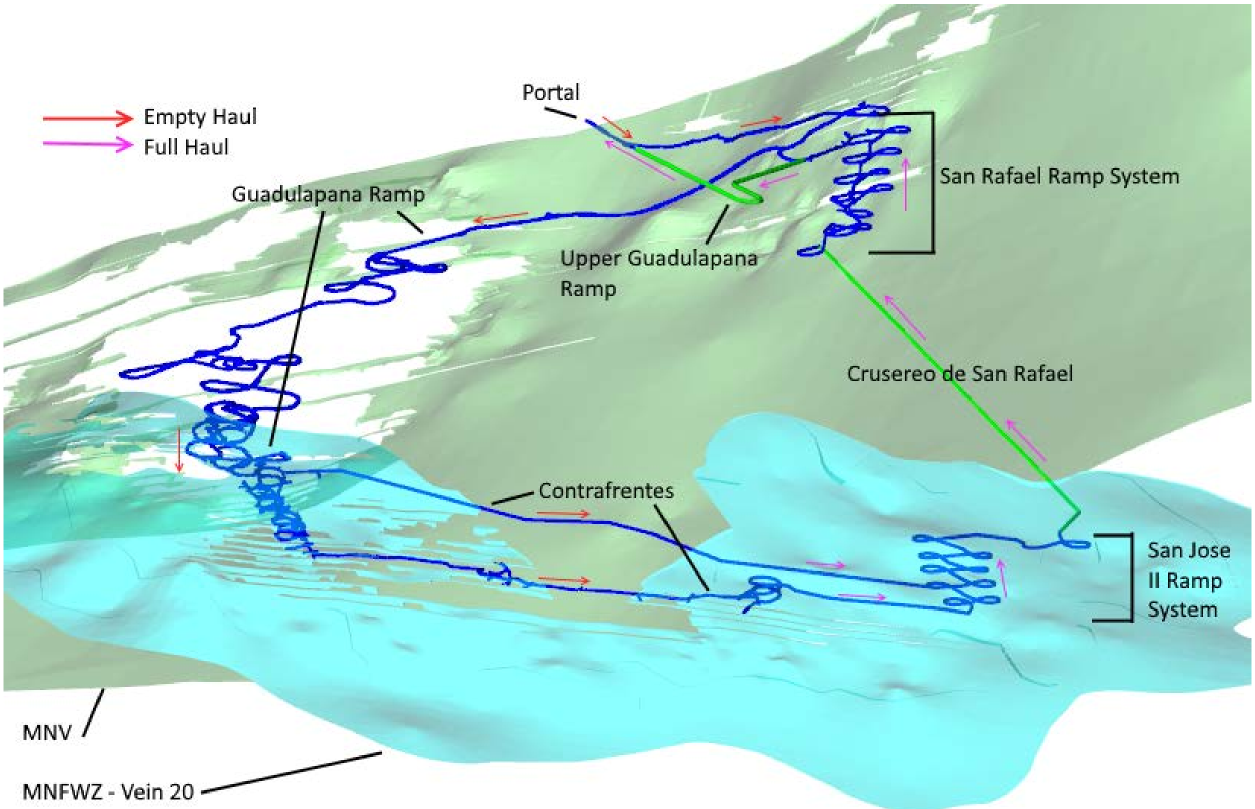


Figure 16-3: Conceptual One-way Haulage Loop

The combined effort to develop both the San Rafael and San Jose II ramp systems and develop the 1,600 m considered in the MHS requires approximately 5.3 km of capital development, including ~500 m of off-centerline support development (i.e. muckbays, electrical substations, pump stations, etc.). The development schedule is expected to take ~23 months and proceed at rates between 4 m and 9.5 m per day depending on the stage of the project and the number of available working faces. The schedule does not currently consider higher mining rates which would be possible with on-shift blasting and independent ventilation, however such systems are conceivable. Mining at accelerated rates could dramatically shorten the time to finished the project and could allow for an increase in mining rates sooner than proposed in Section 16.7 During the construction period, development of intra-mine accesses and preparation of ready-to-blast mineral inventory will be prioritized to allow a production increase of approximately 30% to 3,870 tpd upon the completion of the Crucero de San Rafael and the Upper Guadulapana Ramp.

16.5 Mine Ventilation

The underground workings are ventilated using a push pull system with intake and exhaust fans located on surface, and booster fans underground delivering 884,000 CFM (378 m^3/s) of fresh air. Fresh air enters the mine through the San Roberto shaft, Guadalupana ramp, San Ernesto ramp and other smaller raises. Underground booster fans, internal raises and ventilation doors transport the fresh air to the specified locations.

There are currently three dedicated exhaust fans. Exhaust routes are configured to serve the different areas of production. A 650 HP Zitron exhaust fan at the Los Angles shaft is in use in the western regions of the mine, another 650 HP Zitron exhaust fan at the Robbins 10 raise is in use in the central zones, and a final 650 HP Zitron exhaust fan located in San Rafael is in use for the eastern zones. Additional fans and development of new raises are budgeted to increase ventilation capacity to 1.2 million CFM.

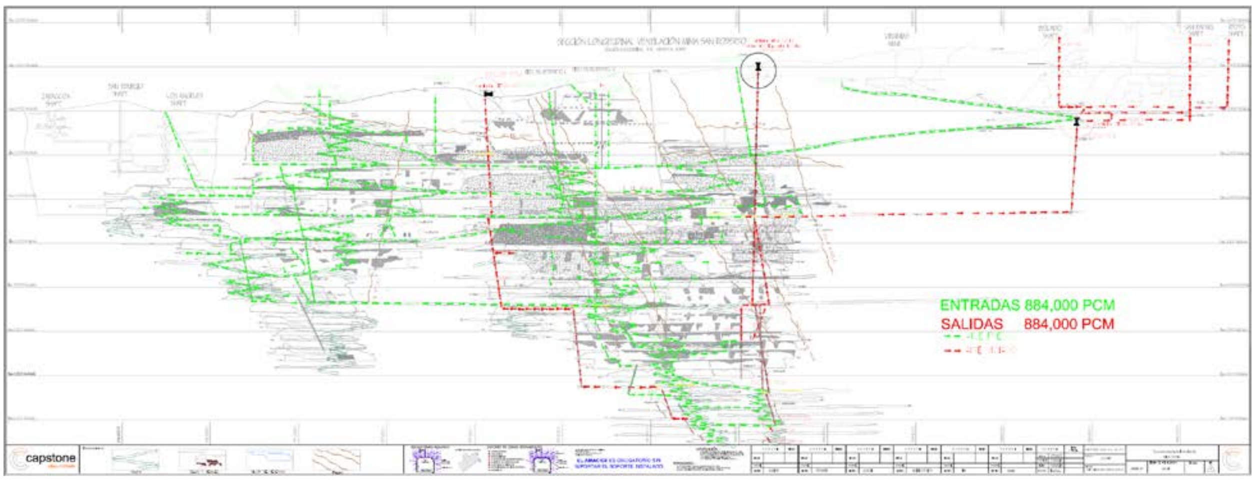


Figure 16-4: Cozamin Ventilation Network Section

No significant constraints relating to groundwater have been encountered, nor are they anticipated. The mine dewatering system is centrally located in the San Roberto mine. The system uses a series of sump levels to assist with the decantation process. The western regions of the mine use four submersible pump stations on different levels and transfer water along Level 10 to the central pump station. The San Roberto zone and MNFWZ use a combination of submersible and horizontal pumps to transfer water to Level 10. Level 10 uses a 150 HP submersible pump to transfer water to Level 8. Vertical pumps are located on Level 8 to transfer water to surface for process water. A small portion of water is recirculated back into the mine.

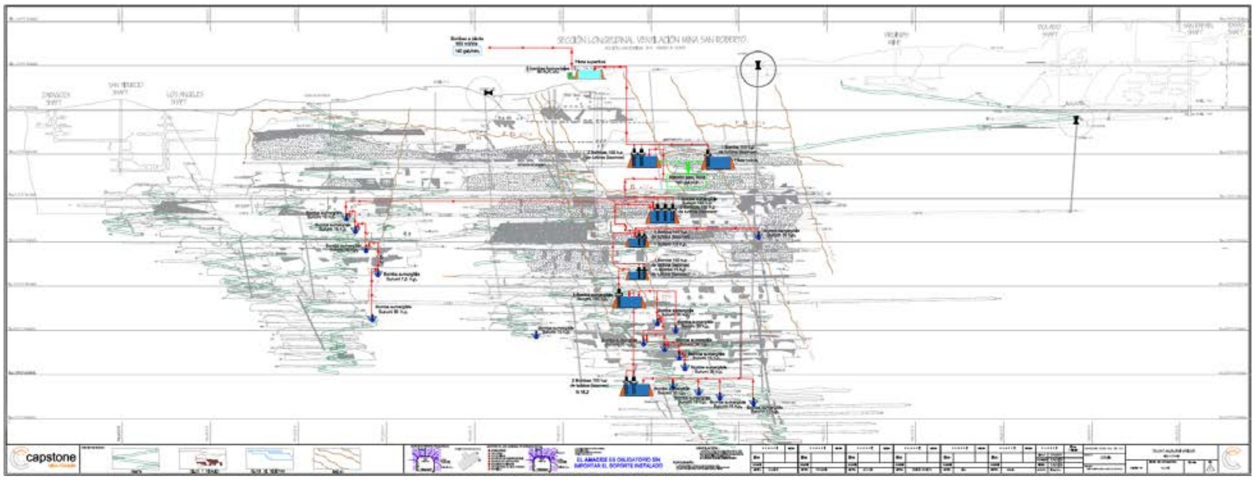


Figure 16-5: Cozamin Dewatering Network Section

16.6 Mobile Equipment

The mine has a fleet of modern mobile equipment that is sufficient for current production. The mine fleet is composed of Capstone-owned and contractor-owned equipment. Capstone personnel concentrate on production and internal mine haulage. Contractors are used on site for haulage and capital development that exceed the current Capstone fleet capabilities. Table 16-6 highlights the Capstone fleet.

Table 16-6: Major Underground Mobile Equipment (Capstone Fleet Only)

Equipment Type	Mode	No. of units
Load-haul-dump ("LHD")	LH 410 Sandvik (4.6 m^3)	8
Drills	Axera 5 Sandvik 16 ft	2
	DD-311-40 Sandvik 16 ft	1
	Stope Mate – Boart Longyear	1
	Cubex Aries	1
	DL310 Solo Sandvik	1
	DL311 Solo Sandvik	2
Haul Trucks	TH430 Sandvik – 18m^3	2
Rock Bolter	DS 311 Sandvik	4

16.7 Production Schedule

The Life of Mine ("LOM") plan does not include any significant stockpiling of low grade material. The LOM plan includes all Mineral Reserves reported in this Technical Report. Figures may not sum due to rounding.

Table 16-7 shows the mine schedule for the 2018 LOM plan.

Table 16-7: Cozamin LOM Production Schedule

Year	Tonnes (Kt)	Cu (%)	Ag (g/t)	Zn (%)	Pb (%)
2018	200	1.2%	44	0.8%	0.1%
2019	1,072	1.4%	42	1.1%	0.1%
2020	1,075	1.5%	40	1.1%	0.2%
2021	1,380	1.7%	42	0.4%	0.1%
2022	1,380	1.6%	46	0.6%	0.2%
2023	1,050	2.1%	46	0.3%	0.1%
2024	42	2.3%	53	0.5%	0.1%

17 Recovery Methods

17.1 Introduction

Mr. Gregg Bush in his previous capacity as SVP & COO of Capstone Mining Corp., visited the mill in June 2018. Mr. Bush has been in close contact with the mill throughout 2018, tracking the mill performance. The mill remains largely as described in previous technical reports.

The Cozamin mill has processed increasing tonnages from the San Rafael resource since the previous technical report effective March 31, 2018. The review of the process flowsheet focuses on confirming that the current flowsheet is capable of delivering the projected throughput requirements during the 2021 to 2023 fiscal year periods. An analysis of actual plant performance during the 2018 year during high throughput periods was also used to confirm the findings and to confirm that the actual recovery performance of the plant was consistent with the recovery projected by the algorithms provided by Blue Coast Metallurgy Ltd.

The mine production profile does not reach the projected maximum mining rates until early 2021. It is anticipated that minor modifications to the plant, as outlined below, will be required in order to sustain the peak milling rates required by that time.

17.2 Process Plant Overview

There is an existing process plant at Cozamin mine. Historical mill performance, together with the expected capacities achievable with the installed equipment, was used to assess the maximum practical sustainable mill throughput target for this study. The Cozamin mill has historically been constrained by the maximum achievable mining rates. However, improved materials handling now possible with the increased Reserves and favorable Reserves geometry, will allow that constraint to be removed or increased as mine improvements are implemented. The maximum mining rate that is expected in the new mine plan is 3,780 t/d beginning in January 2021.

The evaluation consisted of a review of the process flowsheet for any potential bottlenecks at the expected peak mining rates from 2021 onwards and assessing the feasibility of removal of those bottlenecks with minimal capital expenditure. The evaluation is broken down by unit process in the mill, including the crushing plant, the grinding plant, flotation, concentrate filtering and tailing handling. A mass balance based on a mill throughput rate of 180 tonnes per hour (“tph”) (3,990 tpd calendar or 4,320 tpd nominal) based on a projected 92.5% availability. This would provide a one standard deviation over the average mill throughput needed to sustain the peak mining rates based on current mill operating variability. The output of this mass balance was used to check against the capacity of the installed equipment.

In addition, the actual 2018 flotation recoveries of copper, zinc and silver on a shift-by-shift basis were checked against the algorithms developed by Blue Coast Metallurgy Ltd. to confirm the ability of the existing operation to meet the projected recovery targets. Copper and zinc recovery performance during the shifts where the hourly throughput approached the projected targets in 2021 onwards were isolated out to test against the recovery algorithms.

It is relevant to note that during late 2014 following the installation of the tertiary crusher that monthly production goals approaching those projected in 2021 were achieved with some weekly production metrics which exceeded those levels. Multiple seven-day periods with average milling rates in excess of 4,000 t/d were recorded in that period with copper and zinc grades at or above those projected in this study. Those production levels were not sustained due to the mining production rate limitations, but it is believed that those results are a reliable indication to support the conclusion that the existing plant is physically capable of processing 3,780 t/d on a sustained basis with very minimal debottlenecking.

17.3 Crushing Plant

The crushing process flow sheet is illustrated in Figure 17-1. Ore is presently trucked from the headframe bin and underground ramps to a surface stockpile for blending to produce a consistent copper feed grade. The surface stockpile of approximately 10,000 tonnes is reclaimed by a front-end loader that feeds the material to a 100-tonne bin. Ore reports to the 0.5 m x 0.9 m primary jaw crusher via belt feeder. A nominal crushing capacity of 280 tph would be required based on an 85% overall crushing plant availability and a 75% utilization. The existing primary crusher is not capable of sustaining this throughput rate. A second feed bin and feeder are installed that will allow the crushed underground ore, which will represents approximately 45% of the total feed at the increased production level, to bypass the surface jaw crusher. This would insure ample excess primary crushing capacity. A vibrating grizzly will be added to this feeder system to insure any oversize is by-passed to circulate back to the jaw crusher.

Primary crusher product is conveyed to the secondary 1.52 m x 3.66 m vibrating screen ahead of the 1.22 m secondary standard head cone crusher. Screen oversize is fed to the secondary crusher with screen undersize combined with secondary crusher product. This material is conveyed to a 1.83 m x 4.88 m vibrating screen with oversize material conveyed to the tertiary crusher (Metso HP4) and undersize material being conveyed to the fine ore bins, for the two main ball mill circuits and original ball mill circuit. Tertiary crusher product is returned to the 1.83 m x 4.88 m screen. The secondary/tertiary crushing plant has been audited at steady state with throughput above the 280 tph target demonstrating the capacity of the plant to operate at this level with all motors drawing loads well below their rated maximums. Two 1,200-tonne capacity fine ore bins are available each feeding one of the two primary grinding lines in the milling circuit. Each bin provides approximately 20 hours storage for the respective grinding line at the current milling rate. This would drop to approximately 12 hours at the projected rates. This would require all extended maintenance activities in the crushing circuit to be scheduled together will the mill maintenance program. In addition, spare bowls and mantles for the secondary and tertiary crushers would be required to insure rapid turn-around on steel changes.

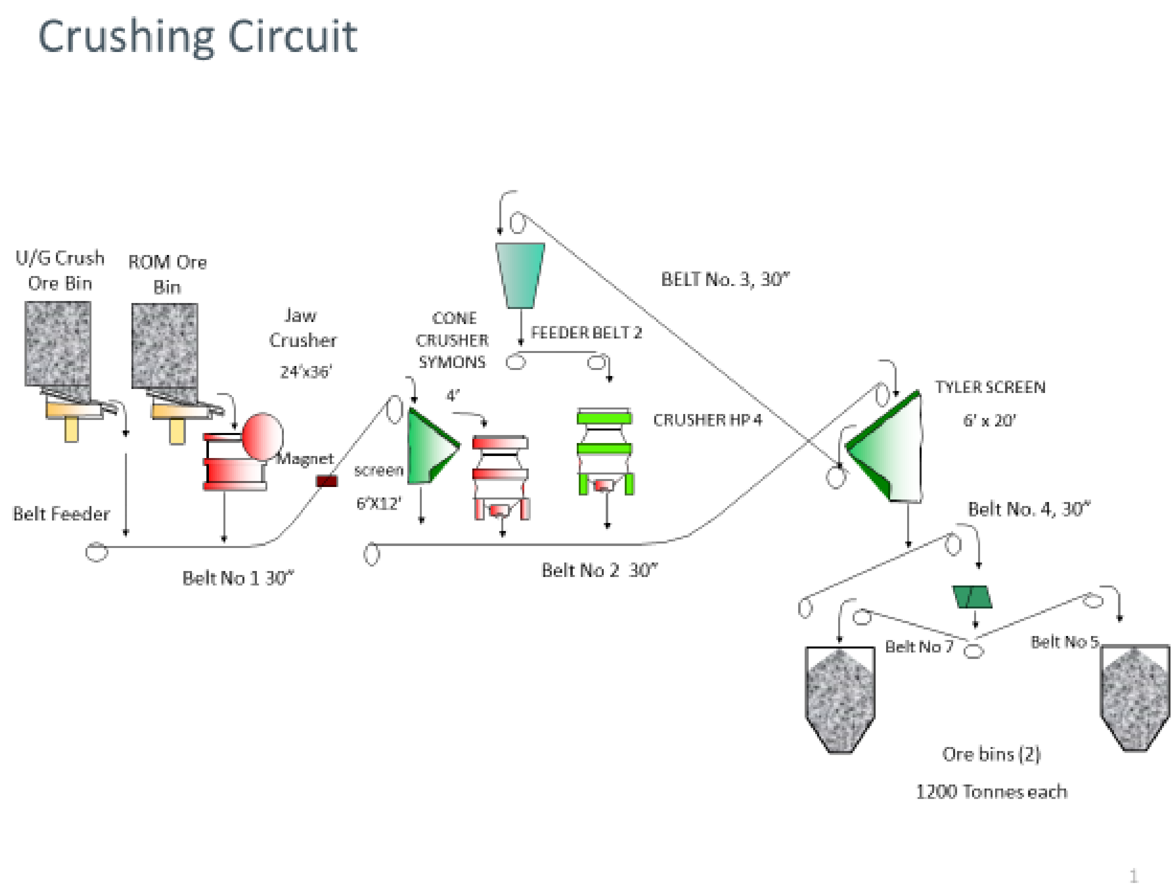


Figure 17-1: Crushing Flow Sheet

17.4 Grinding

The current milling process flow sheet is presented in Figure 17-2. The milling section is composed of two primary ball mills operating in parallel. Each mill is 3.65 m in diameter by 4.27 m long. The original ball mill (2.8 m in diameter by 1.6 m long) grinding circuit was recommissioned to provide additional grinding capacity when mining the Avoca zone in 2013-2014 but is not currently in use. It is believed that some additional capacity would be needed to meet the grinding rates projected from 2021 onwards. This could be achieved by bringing the third ball mill into production. A better alternative is to fully utilize the available power in the two primary grinding mills by modifying the discharge end configuration to provide an 8% volume increase in the mills. Both mills have 1,500 HP motors installed, but are operating at less than 1,000 HP draft with the current internal configurations. This modification would not require any capital investment and would be adsorbed as a liner operating cost in the year prior to the throughput increase.

Grinding product size is an 80% passing (P80) 100 mesh. Each ball mill is operated in closed circuit with a cyclone pack composed of 0.66 m diameter cyclones. Cyclone under flow reports back to the respective grinding mill with the cyclone overflow from both circuits reporting to a common flotation conditioning tank.

Lime is added to the grinding circuit for pH control throughout the circuit. Flotation reagents including a zinc depressant and a potential modifier are also added to the grinding circuit.

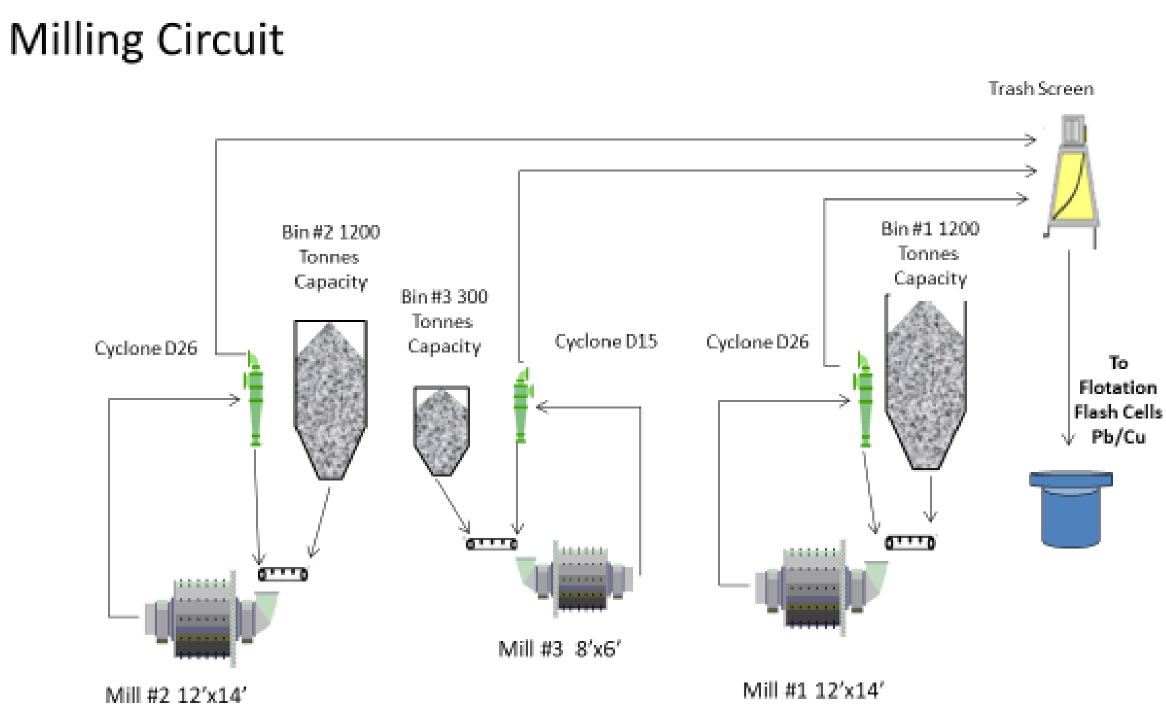


Figure 17-2: Milling Flow Sheet

17.5 Flotation

The original process flow sheet has been expanded to include a tank flotation cell for the recovery of copper and lead for each grinding line. Figure 17-3 illustrates the current flotation flow sheet at Cozamin. Slurry from the grinding circuit is transported to the tank flotation cells for initial copper and lead flotation. Concentrate from this initial stage of flotation reports directly to the copper and lead separation flotation.

Tailings from the tank cells report by gravity to banks of rougher and scavenger flotation cells (6-OK 16 cells) for additional recovery of copper and lead. The copper-lead rougher concentrates report to a two-stage cleaning system. The original second stage cleaner cells have been replaced with a column cleaner which has improved the overall concentrate grade.

Copper-lead rougher flotation tailings report to the zinc conditioner tank prior to zinc rougher flotation, where reagents are added to depress deleterious minerals and activate the zinc mineralization. The zinc rougher concentrate reports to a closed circuit regrind for additional liberation of zinc mineralization. Products from the regrind circuit reports to two stages of zinc concentrate cleaning. A column cell has been added to the circuit to improve zinc concentrate grade. Tailings from the first cleaner stage report to final tails.

Individual copper and lead concentrates are produced from the copper-lead cleaner concentrate via selective flotation. Reagents are added to promote lead mineral flotation and suppress the flotation of copper mineralization. The copper-lead flotation rougher tails (copper concentrate) reports directly to the copper concentrate thickener. The lead concentrate undergoes two stages of cleaning before being transferred to the lead concentrate thickener.

The capacity of the existing flowsheet was confirmed by comparing calculated residence times at the projected nominal throughput with standard laboratory depletion times. The retention times are 2.5 times the laboratory requirement at 180 tph. In addition, actual shift results from 2018 with throughput rates at those levels were checked against the recovery algorithms provided by Blue Coast Metallurgy Ltd. and are in line with those projections. Copper grades going forward are consistent with those in the updated mine plan. Zinc grades were limited in the mine scheduling to not exceed 1.5% Zn for any seven-day period to insure sufficient capacity in the zinc flotation and concentrate handling circuits.

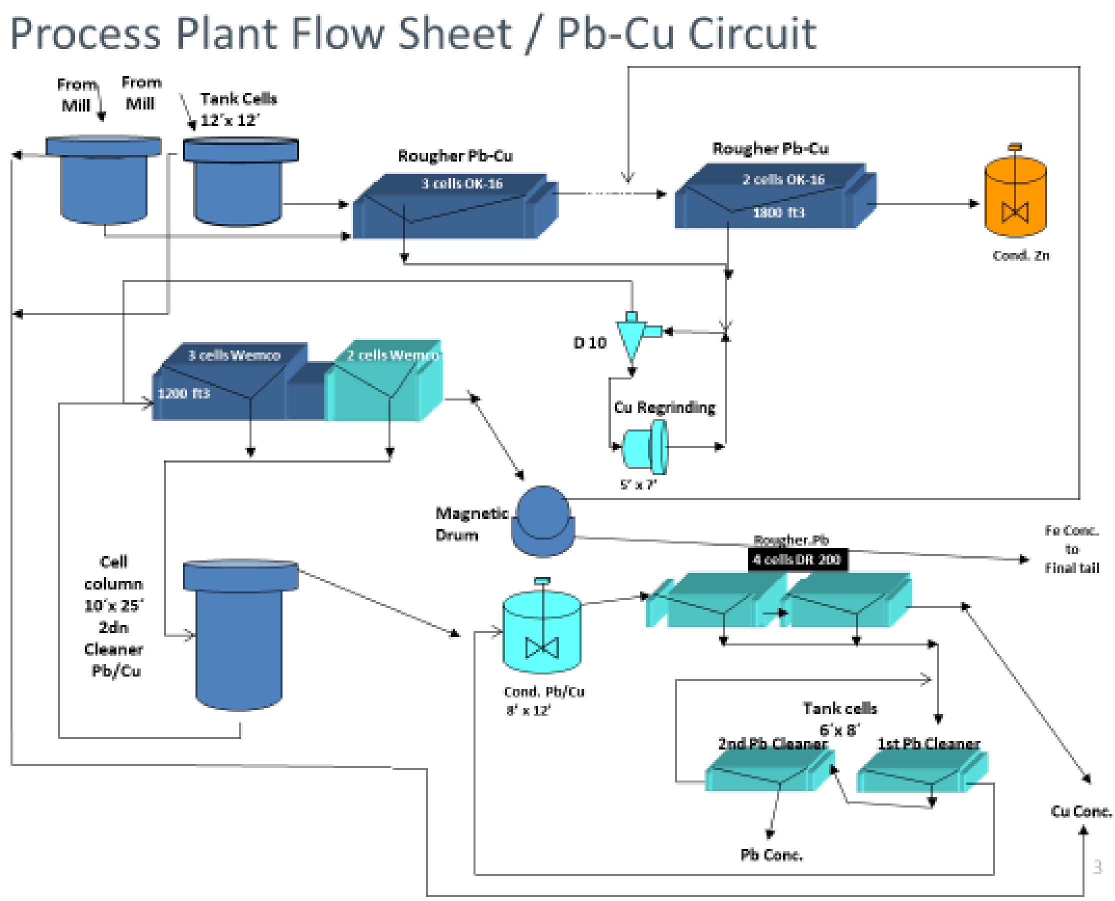


Figure 17-3: Cu-Pb Flotation Flow Sheet

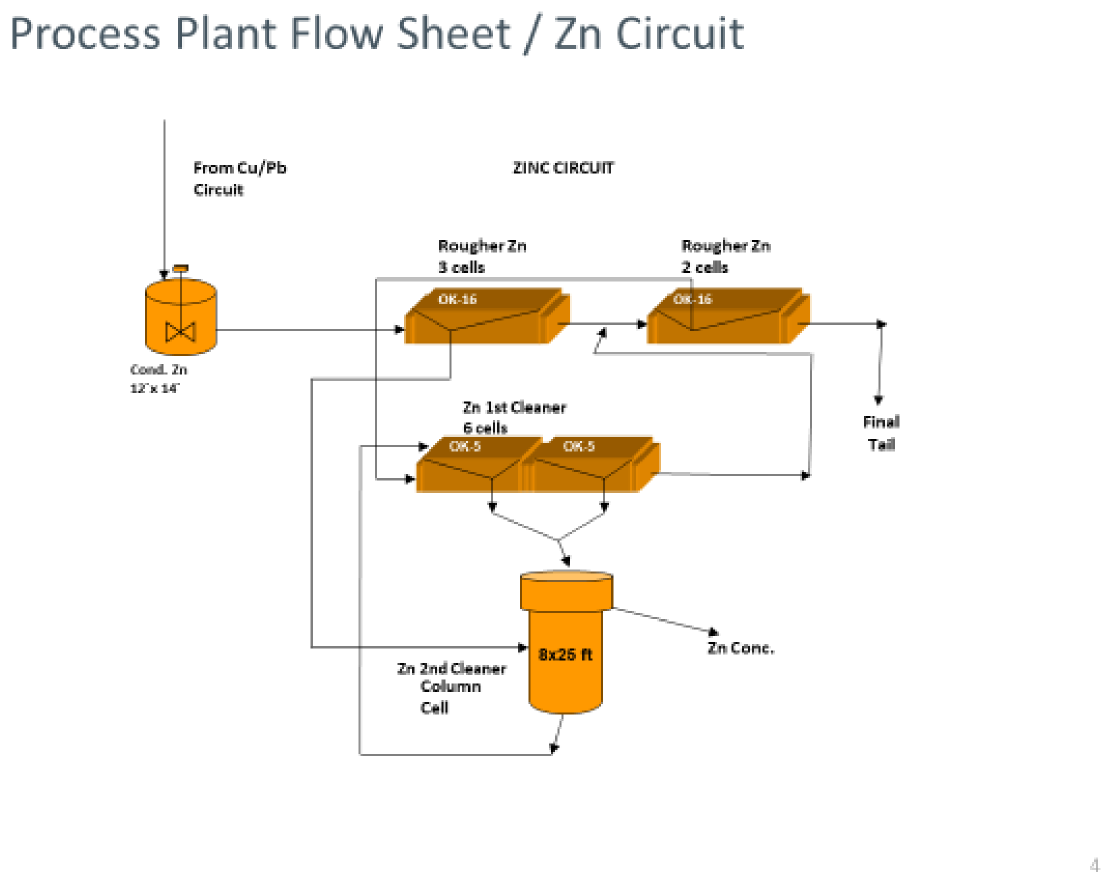


Figure 17-4: Zn Flotation Flow Sheet

17.6 Concentrate Dewatering and Filtration

Copper concentrate is pumped to the 16 m diameter concentrate thickener. Underflow from the thickener is pumped to a holding tank and then filtered in a Larox pressure filter (Figure 17-4). Product moisture is approximately 10%. Copper concentrate can be stored in the inside bins (capacity 1,500 tonnes) or outside on a concrete pad (capacity 4,000 tonnes). Concentrate is trucked to port daily (approximately 600 km) and sampled as the material is transferred to the port warehouse and becomes the property of the buyer.

Zinc concentrate is pumped from the 8 m diameter thickener to the 1.3 m diameter x 4 m disc filter. Product moisture is approximately 10% and is stored in the inside bins with a capacity of 1,000 tonnes. The material is then transported to the port and sampled the same as the copper concentrate.

Lead concentrate is pumped from a 4 m diameter thickener to a 1.3 m diameter x 2 m long drum filter. The final moisture is approximately 8% and this material is stored inside (capacity 400 tonnes) prior to shipment by truck to the port. All concentrate trucking is done by third party. All trucks are weighed both empty and full at the mine site and the port.

With the zinc grade restriction applied, all concentrate handling equipment is capable of handling the increased flow projected in this mine plan.

The concentrate trucks are all equipped with GPS to monitor progress between the mine site and the port. The concentrate trucks are scheduled to operate in a convoy to maximize security.

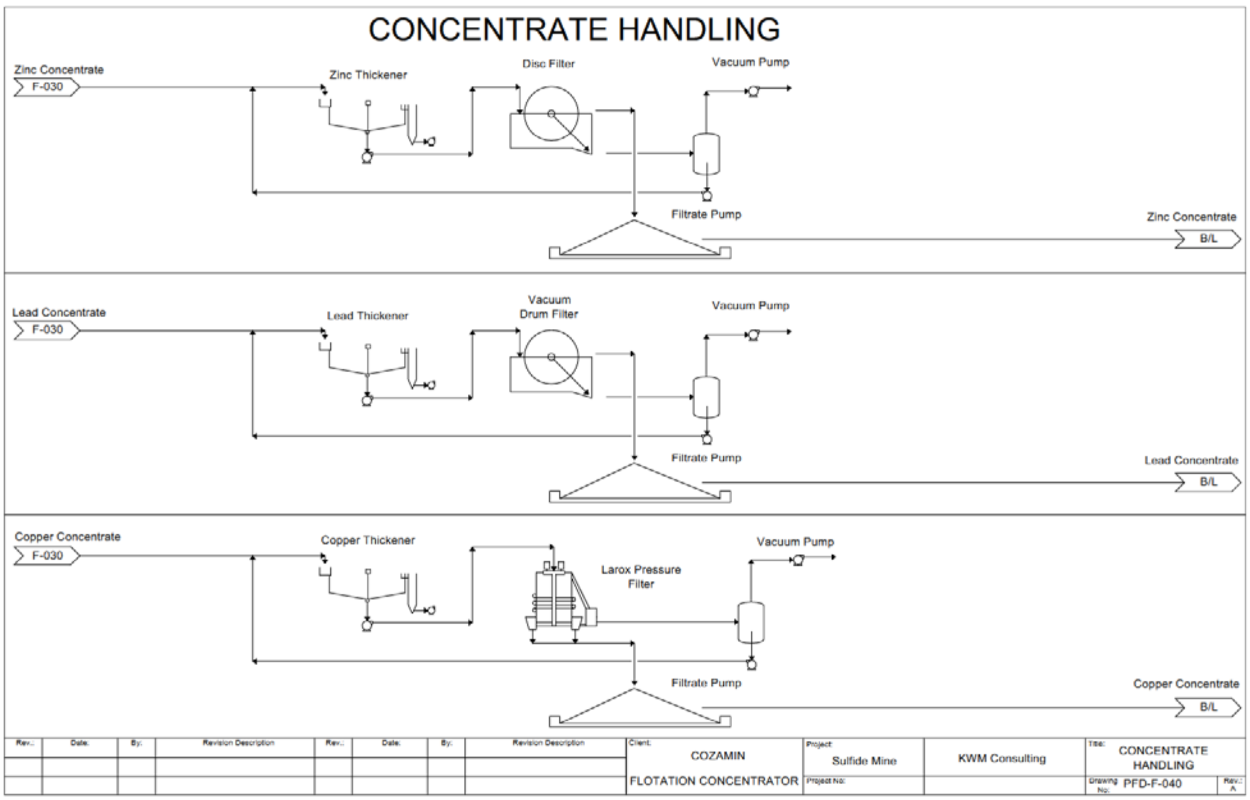


Figure 17-4: Concentrate Handling Flow Sheet

17.7 Tailings Handling

Tailings are pumped from the plant at approximately 32% solids to the thickener, where tailings achieve about 40-42% solids and are subsequently pumped up to the TSF for disposal (Figure 17-5). Cozamin TSF maintenance personnel deposit tailings in the TSF via D-20 and D-10 Krebbs cyclones in paddocks of about 50 m long (normal to the dam crest) and 25 m wide (parallel to the dam axis). The paddocks allow operations personnel to limit the embankment length over which the beach is constructed, mitigating the risk for slimes and water accumulating along the embankment crest. The deposition method allows for better water management and higher overall tailings densities.

When tailings segregation using cyclones is not possible, the tailings by-pass the thickener and direct tailings discharge takes place in the southwestern portion of the TSF. Following discharge into the impoundment, the coarse tailings particles settle out of the slurry in the beach area while the water with slimes continues to flow towards the reclaim pond area at the lowest point in the southeastern portion of the impoundment. Water pooled within the tailings pond is either evaporated on surface or reclaimed and sent back to the mill facility for re-use via a barge pumping system and water return pipeline. At present, there is sufficient capacity within the TSF to store all of the mineral reserves assuming proper tailings management continues and allows for construction of competent coarse tailings beaches for subsequent upstream raises.

The rated capacity of the tailings thickener is 168 tph of tailings (180 tph of fresh mill feed) at a target 68% solids underflow. The actual operating range below 50% solids would provide upside to this limit. In current operation the system operates at less than 15% of the rated torque and is not considered a risk at the future throughput rates.

As the tailing impoundment height is increased additional pumping capacity will be required. This will be achieved by installing a booster station on the existing sixth level to provide additional capacity for the increased elevation and higher flows.

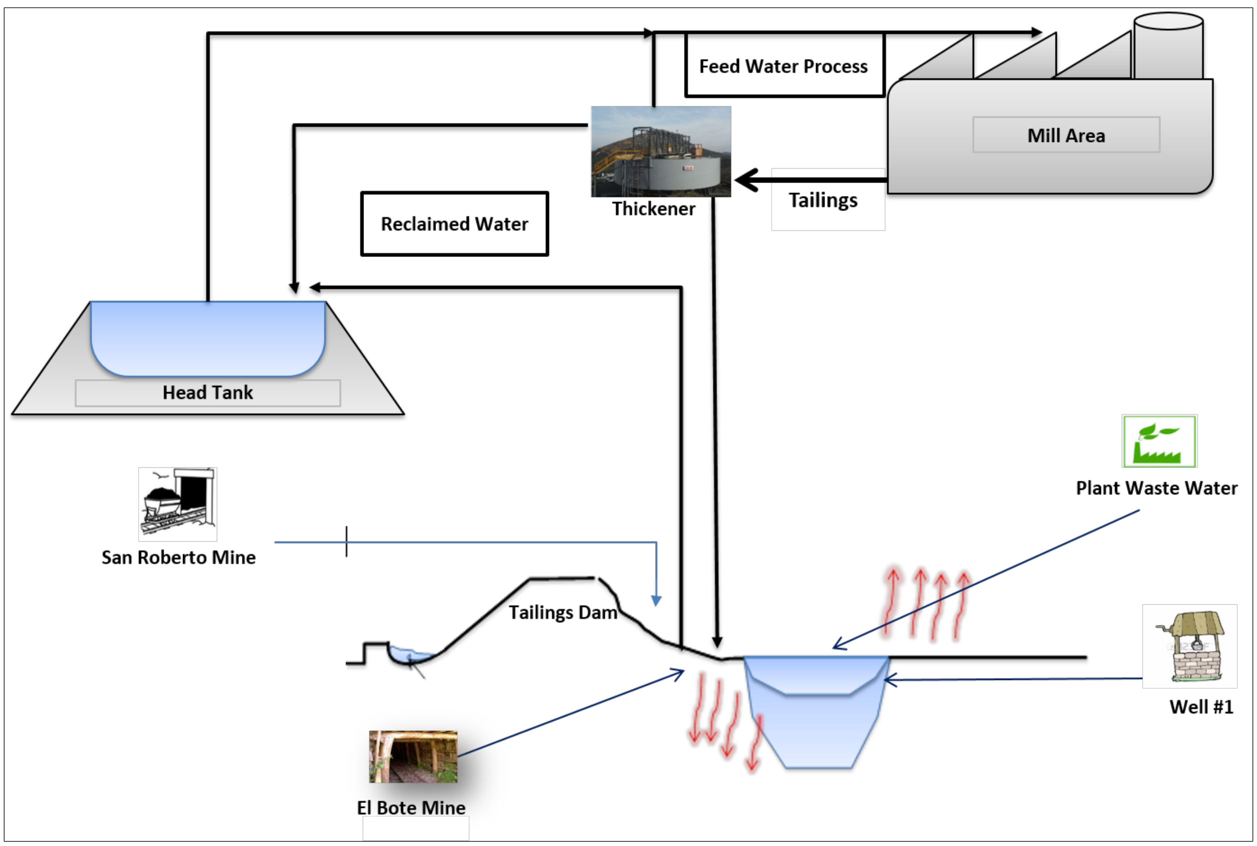


Figure 17-5: Tailings Handling Flow Sheet

18 Project Infrastructure

As an operating mine, all project infrastructure is presently in place at Cozamin including power, pipelines, crushing and conveying facilities, all milling and processing infrastructure, tailings impoundment dam with related infrastructure, maintenance facilities and roads.

The buildings and infrastructure facilities at Cozamin include all buildings, pipelines, pump stations, electrical systems, laydowns, ore storage pads and roads shown in Figure 5-1. The principal facilities at Cozamin include:

- Process Plant;
- Site Laboratory;
- Power Sub Station;
- Plant Maintenance Building;
- Mine Entrance Building;
- On Site Back-up Generators;
- Stockpiles;
- Guadalupana and San Ernesto Ramps;
- San Roberto Shaft and Hoist Room;
- Mine and Geology Offices;
- Waste dump;
- Tailings Storage Facility;
- Administrative Offices;
- Dining Areas; and
- Recreational Complex / Auditorium.

18.1 Power and Electrical

Power is currently being supplied to the mine site from the national power grid with a current approval to draw 7.5 MW. Cozamin has requested an increase to 9.5 MW and is awaiting approval from CENACE. All electrical infrastructure onsite is capable of handling the increased capacity. Generators (both operating and back-up) on site have a capacity of 1.0 MW to back up critical mill and mine plant components.

18.2 Water Supply

There are three primary sources of water at Cozamin: permitted wells, permitted groundwater from nearby underground mines and discharge water from a local municipal water treatment facility. The existing baseline information and site water balance suggests that the current sources and operational water management will be sufficient for the current LOM plan.

Although the existing baseline information indicates water sources are sufficient for continuing operations, Cozamin has taken steps to improve its water management systems including a tailings thickener installed in 2014 to increase water recovery in tailings. This increased water recycled back to the mill and reduced water loss due to evaporation in the tailings storage facility.

Table 18-1 provides the current and pending annual water rights at Cozamin. The water sources described are accessible year-round and do not include seasonal rainfall or mine dewatering requirements which do not require permitting. In 2018, water consumption for processing at Cozamin was approximately 2,702,273 m^3. Cozamin used approximately 777,168 m^3 of water from its permitted water sources (29% from fresh water sources excluding rainfall).

Table 18-1: Primary Water Sources at Cozamin Mine

Source	Annual Water Rights Allocation (m^3)	Notes
Water Wells/Monarca Agreement	276,000	Well 1, 4 - Permitted
Permitted Underground mine sources	352,800	San Bartolo Shaft - Permitted
Municipal Water Treatment Plant	566,784	Under agreement with municipal government - Permitted
Current Water Rights Subtotal	1,195,584	Permitted Subtotal
Other Water Rights Pending	134,000	Los Carrera well - pending
Permitted and Pending Water Rights	1,329,584	

18.3 Tailings Storage Facility

The design of the Cozamin TSF up to Stage 5 consisted of a modified center-line raise. Given the restrictions downstream to continue expanding the embankment with a center-line concept, it was decided to shift to an upstream dam raise concept. Currently, two upstream raises have been constructed (Stages 6 and 7) up to elevation 2,512 masl. Additionally, a conceptual design of 13, three-meter high lifts has been developed up to the elevation 2,545 masl. Each raise would be constructed over compacted cyclone sand from the tailings beach, with a starter berm constructed using compacted locally available materials or compacted tailings for future lifts if their material properties indicate that they can be compacted to achieve a suitable shear strength.

Each 3-metre-high starter berm has a downstream slope of 2 to 1 (horizontal to vertical) and upstream slopes of 1.5 to 1. Most of the starter berms would have a crest width of 6.5 metres with a 2-metre overlap creating 4.5-metre-wide benches. At various elevations the design calls for wider benches. The benching creates an overall downstream slope of approximately 3.9 to 1 up to elevation 2,545 metres from the 30 m offset starting at Stage 6. The plan view and section through the deepest portion of the dam are shown in Figure 18-1 and Figure 18-1, respectively. The maximum elevation of the water pool is maintained at least two metres below the dam's crests – allowing for a minimum of two metres of operational freeboard per the original design of the dam and requirements by the Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT).

Tailings are pumped from the plant at approximately 32% solids to the thickener, where tailings achieve about 40-42% solids and are subsequently pumped up to the TSF for disposal. Cozamin TSF maintenance personnel deposit tailings in the TSF via D-20 and D-10 Krebbs cyclones in paddocks of about 50 m long (normal to the dam crest) and 25 m wide (parallel to the dam axis). The paddocks allow operations personnel to limit the embankment length over which the beach is constructed, mitigating the risk for slimes and water accumulating along the embankment crest. The deposition method allows for better water management and higher overall tailings densities.

When tailings segregation using cyclones is not possible, the tailings by-pass the thickener and direct tailings discharge takes place in the southwestern portion of the TSF. Following discharge into the impoundment, the coarse tailings particles settle out of the slurry in the beach area while the water with slimes continues to flow towards the reclaim pond area at the lowest point in the southeastern portion of the impoundment. Water pooled within the tailings pond is either evaporated on surface or reclaimed and sent back to the mill facility for re-use via a barge pumping system and water return pipeline, also described in Section 17.7. At present, there is sufficient capacity within the TSF to store all the mineral reserves assuming proper tailings management continues and allows for construction of competent coarse tailings beaches for subsequent upstream raises. As additional lifts are added to the TSF, the berms steadily encroach the reclaim pond area, limiting the water storage capacity and increasing risk due to unexpected water inflows during periods of high precipitation. To mitigate the shrinking safe water storage capacity, Cozamin staff are actively permitting a mill water reservoir shown in Figure 18-3. The costs of the permitting, engineering, and construction of this reservoir are included in the capital estimates of this Technical Report.

18.3.1 Recommendations

The qualified person of this section recommends that Cozamin staff continue working on the trade-off study evaluating alternative tailings management solutions that is currently underway, analyzing the various TSF site options shown in Figure 18-4, continued expansion of the current TSF, and a potential conversion of the upstream tailings dam to a filtered tailings dry stack, Figure 18-5 with the following goals:

- Prepare for additional tailings storage capacity in the event that on-going Resource and Reserve growth continues
- Consider options that reduce closure costs and reclamation obligations
- Mitigate risk in the continued operations of the current upstream TSF

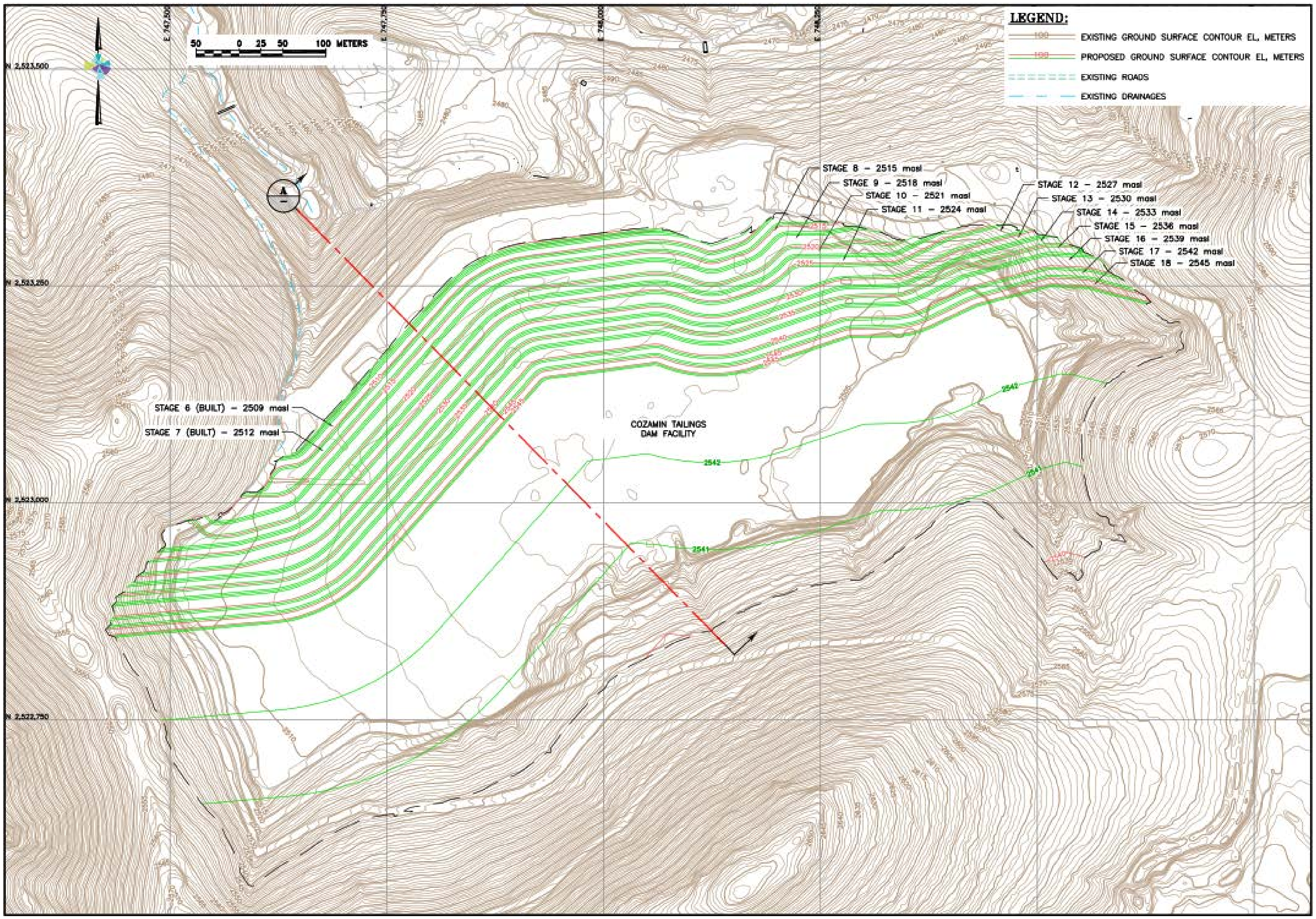


Figure 18-1: Stages 6 through 18 Expansion Evaluation Plan View (AmecFW, 2016a)

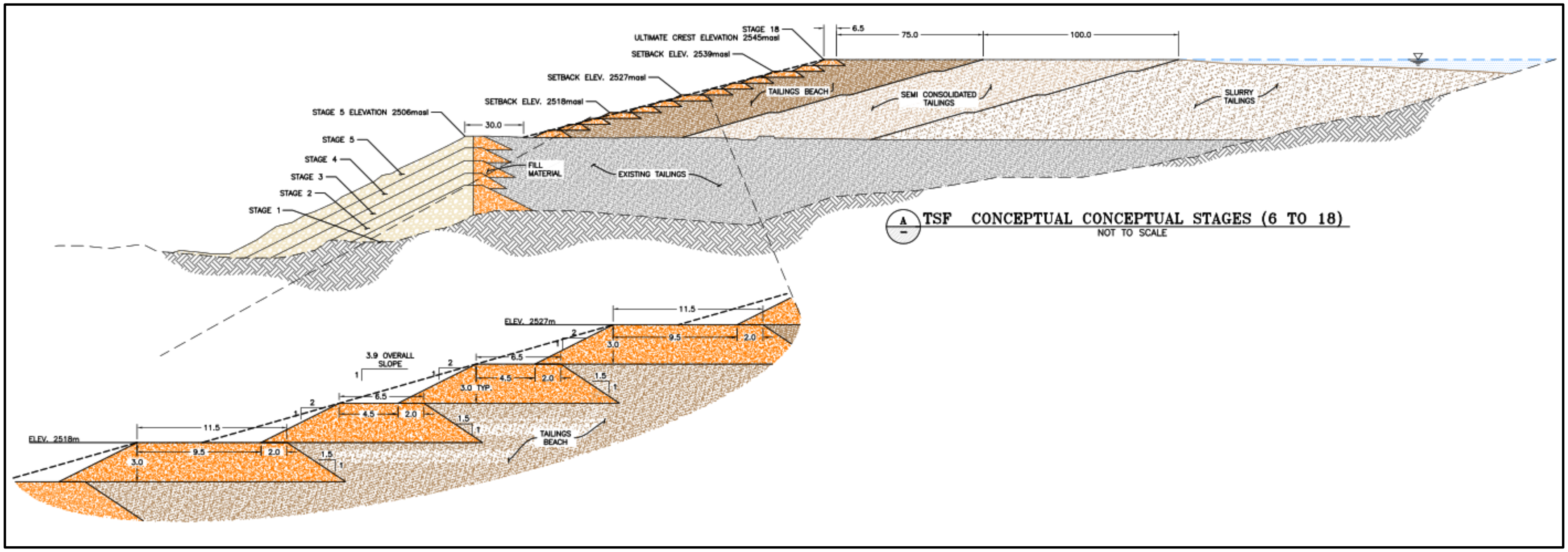


Figure 18-2: Stages 6 through 18 Expansion Evaluation Section View (AmecFW, 2016a)

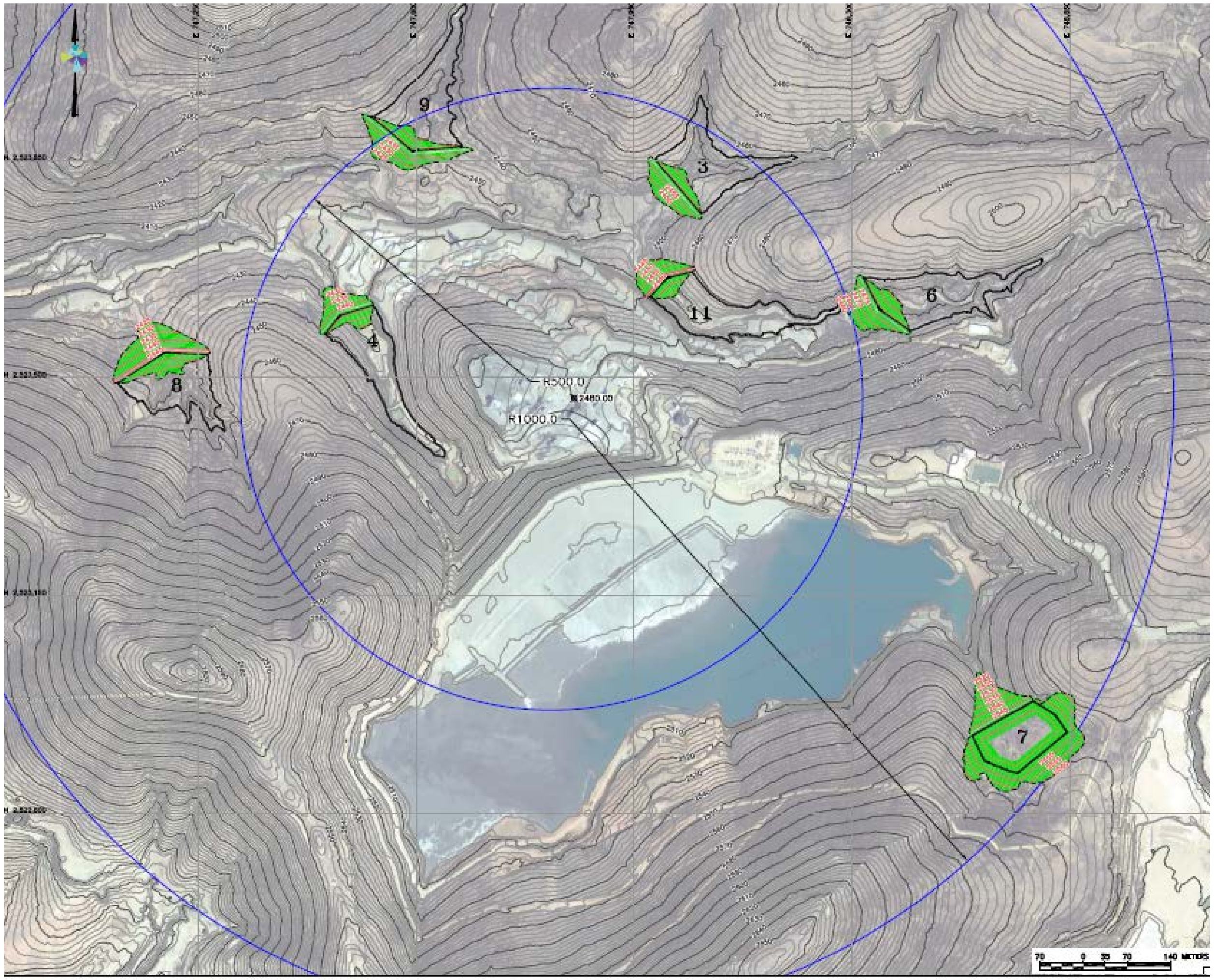


Figure 18-3: Water reservoir options being considered to limit water storage in the Cozamin TSF (AmecFW, 2016b)

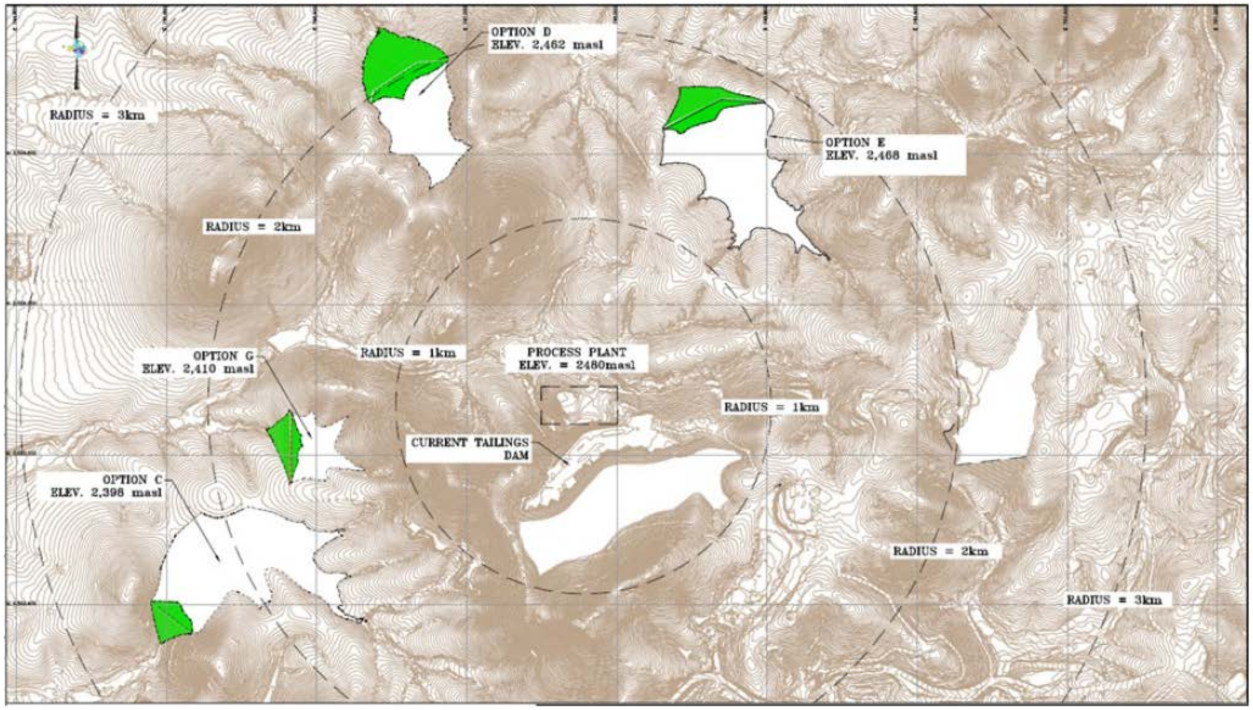


Figure 18-4: Conceptual Locations for a Second TSF (Wood 2019)

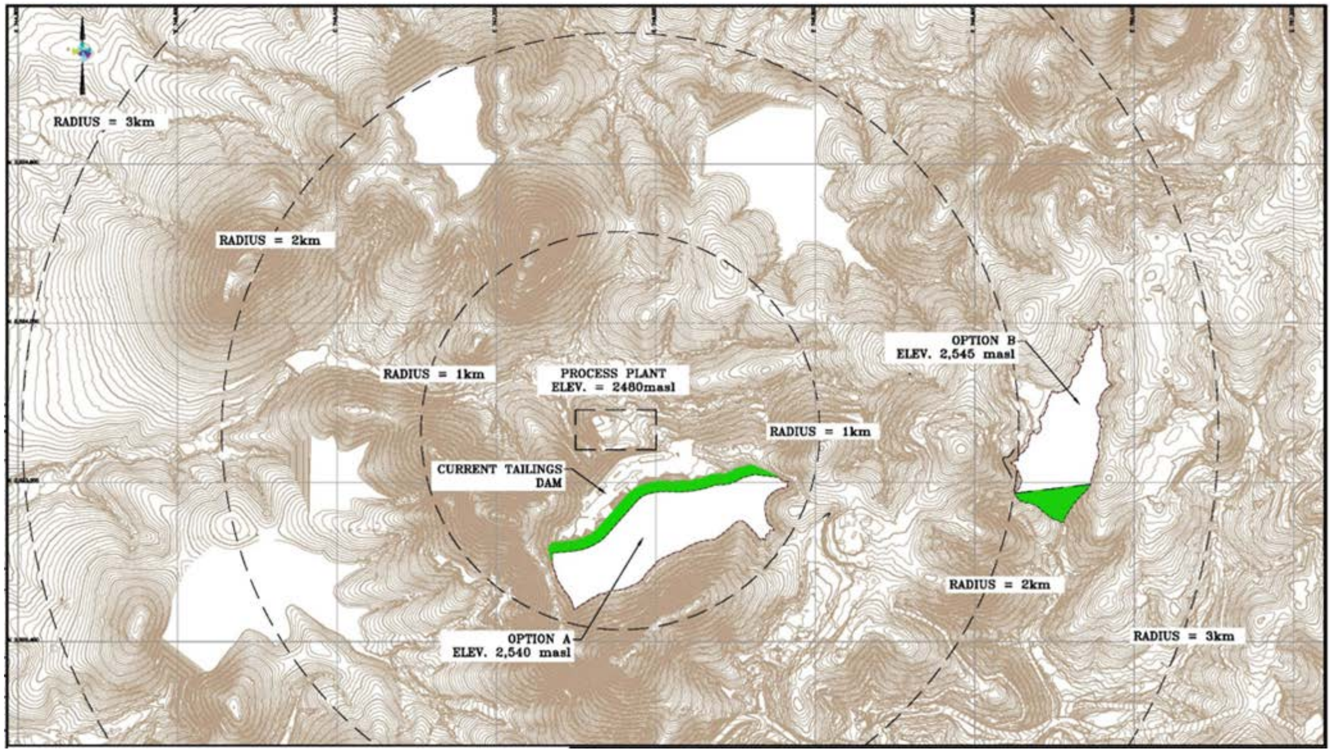


Figure 18-5: Location of potential sites for the construction of a Filtered Tailings facility (Wood 2019)

19 Market Studies and Contracts

19.1 Markets

The Cozamin mine has been selling metal concentrates since the start of production. The main commodities produced at the mine are copper, zinc, and lead concentrates, and silver contained in each of the three concentrates. The metal prices used in this Technical Report and in the Resource and Reserve Estimates can be found in Table 19-1. The assumed metal prices are based on internal studies of the concentrate markets, metal supply/demand and supply balances. Additional comparisons to prices used by our peers and analyst forecasts are annually reviewed to ensure that the prices used are appropriate.

Table 19-1: 2018 Metal Price Assumptions

Metal	Unit	Reserve	Resource
Copper – Cu	US$ / lb	$ 2.75	$ 3.50
Silver – Ag	US$ / oz	$ 16.00	$ 18.00
Lead – Pb	US$ / lb	$ 0.90	$ 1.00
Zinc – Zn	US$ / lb	$ 1.10	$ 1.20

The copper concentrate is considered a high-quality concentrate with low deleterious element levels and has been sold at high demand for use as a blending component by the purchasing trading company to improve lower quality concentrates from other sources. The zinc concentrate is lower quality due to high Cadmium concentrations, limiting its global marketability. Lead concentrate is considered to be of average quality.

The metal concentrates produced at Cozamin are sold to reputable trading companies on annual contracts. Demand for the concentrates has maintained stability throughout the life of the project. Currently, three annual contracts are active and in good standing. The concentrate contracts are considered within accepted industry practice by the QP of this section.

All three concentrates are sold domestically, delivered on a DAP (delivered at place) basis, negating the need to secure storage facilities or arrange ocean shipping for export. The zinc concentrate can be delivered domestically, by truck, to either domestic smelters or to storage/blending facilities near the port of Manzanillo (as directed by the buyer for the monthly quotas). Lead and copper concentrate are typically delivered to facilities located in Manzanillo for blending or direct export. Transportation agreements are negotiated for a fixed price per wet metric tonne for a prescribed period (usually annually) and transported by truck to the port under contract. Cozamin's current concentrate sales agreements are summarized in Table 19-2.

Table 19-2: Metal and Concentrate Purchase Contracts

Metal (Concentrate)	Purchaser	Contract Period	% of Production	Metal Price
Copper Concentrate	Trafigura Mexico S.A. DE C.V.	2019	100%	Cu: LME Cash Settlement Ag: London Silver Spot
Zinc Concentrate	Trafigura Mexico S.A. DE C.V.	2019	100%	Zn: LME Cash Settlement Ag: London Silver Spot
Lead Concentrate	IXM S.A.	2019-2020	100%	Pb: LME Cash Settlement Ag: London Silver Spot

19.2 Contracts

In addition to the concentrate sales contracts mentioned in Section 19.1, the Cozamin mine relies on several contractor relationships for services and supplies. The complete list of contracts in place at Cozamin can be found in Table 19-3, however, the material contracts are:

- Mineral Hauling - Various Ejido Contractors
- Mine Development - Servicios Mineros de México S.A. de C.V., Cominvi S.A. de C.V.
- Raisebore Services - Master Drilling México S.A. de C.V.
- Diamond Drilling - Patpa Distribuciones S. de R.L. de C.V.
- Concentrate Transportation - Transportes Mineros del Cobre S.A. de C.V., Transportistas Unidos Ejido Morelos, S.A de C.V
- Sampling and Laboratory - Alfred H. Knight de México S.A. de C.V., SGS de México S.A. de C.V.

It is the opinion of the QP of this section that these contracts are within industry norms.

Table 19-3: Contracts at the Cozamin Mine

Company	Contract #	Contractor	Contract Subject	Start Date	End Date	Status
CG	ACA001-2018-20	Eulalio Medellín Medellín	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA002-2018-20	Lorena Ávila Sifuentes	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA003-2018-20	Mauro Gutierrez Castañon	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA004-2018-20	Sandra Robles Medellín	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA005-2018-20	Luis Adrián Olvera Medellín	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA006-2018-20	Felipe Avila García	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA007-2018-20	Juan Manuel Gutierrez Villalobos	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA008-2018-20	Juan Javier de León Medellín	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA009-2018-20	Juan Manuel Mireles Olvera	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA010-2018-20	Construcciones e Innovaciones Delgado SA de CV	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA011-2018-20	Julian Gutierrez Hernandez	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	ACA012-2018-20	Juan Medellín Cardona	Mineral Hauling	01-Jan-18	31-Dec-20	Valid
CG	CCO001-2019	Antonio Sanchez Murillo	Vent Fan Maintenance	10-Dec-18	18-Jan-19	Valid
CG	CCV001-2018-19	Rock-Bolt de México SA de CV	Mesh Recycling	01-Jul-18	30-Jun-19	Valid
CG	CP001-2011-21	Grupo Gasolinero Rivas SA de CV	Diesel supply	11-Jul-11	11-Jul-21	Valid
CG	CPO002-2019	Fabrica de Implementos Mineros S.C. de R.L. de C.V	Process Plant Equipment Leasing	07-Jan-19	07-May-19	Valid
CG	CPO003_2019	Seguridad Industrial Del Bajío, S.A. de C.V	PPE Supply	01-Jan-19	31-Dec-19	Valid
CG	CPO004_2019	Octavio Hernandez Lara	Paints and Epoxies	01-Jan-19	31-Dec-19	Valid
CG	CPO005_2019	Alfred H. Knight de México SA de CV	Concentrate Sampling	01-Jan-19	31-Dec-19	Valid
CG	CPO006_2019	Moly Cop Mexico SA de CV	Forged Ball Supply	01-Jan-19	31-Dec-19	Valid
CG	CPO007_2019	PQM SA de CV	CC-585 Foam Supply	01-Jan-19	31-Dec-19	Valid
CG	CPO008_2019	Promotora de productos metálicos AZTLAN SA de CV	Pplymetallic Depressor Supply	01-Jan-19	31-Dec-19	Valid
CG	CPR001-2017-19	Arnulfo Hernandez Perea	Fire Suppression Supply and Maintenance	01-Jun-17	31-Dec-19	Valid
CG	CPR002-2017-19	Boart Longyear de México SA de CV	Service and Steel Provider	01-Jun-17	31-Dec-19	Valid
CG	CPR003-2017-20	Centro Diesel Profesional SA de CV	General Materials and Supplies	01-Apr-17	30-Mar-20	Valid
CG	CPR004-2018-21	Grupo Industrial Leijer S.A. de C.V.	Ammonium Bisulfate Supply	01-Sep-18	31-Dec-21	Valid
CG	CPR005-2017-20	Implementos Mineros S.A. de C.V.	Explosive Device Supply	01-Jun-17	31-May-20	Valid
CG	CPR006-2017-19	Mallas y armex de Aguascalientes SA de CV	Wire Mesh Supply	09-Feb-17	31-Dec-19	Valid
CM	CPR007-2017-19	Marubeni México S.A. de C.V.	Tire Distribution and Support	01-Jan-17	31-Dec-19	Valid
CG	CPR008-2017-19	Minsec SA de CV	Dry Casting Concrete Supply	24-Jan-17	31-Dec-19	Valid
CG	CPR009-2017-19	Nitro Explosivos de Ciudad Guzman SA de CV	Explosives Supply	01-Jan-17	31-Dec-19	Valid
CG	CPR010-2017-19	Rock-Bolt de México SA de CV	Rock Anchors and Cement	09-Feb-17	31-Dec-19	Valid
CM	CPR011-2017-20	Sandvik Mining and Construction de México S.A. de C.V.	Spare Parts	01-Jan-17	31-May-20	Valid
ASSET	CPR012-2018-21	Sandvik Mining and Construction de México S.A. de C.V.	Equipment Supply	01-Aug-18	31-Jul-21	Valid
CG	CPR013-2017-19	SGS de México SA de CV	Sampling and Monitoring	01-Jan-17	31-Dec-19	Valid
CG	CPR014-2017-20	SNF floerger de México SA de CV	Reagent Supply	01-Aug-17	31-Dec-20	Valid
CG	CPR015-2017-21	Técnica Eléctrica de Parral S.A. de C.V.	Electrical Hardware Supply	01-May-17	31-Dec-21	Valid
CG	ECO001-2019	Transportes Mineros del Cobre S.A. de C.V.	Concentrate Carriers	01-Jan-19	31-Dec-19	Valid
CG	ECO002-2019	Transportistas Unidos Ejido Morelos, S.A de C.V	Concentrate Carriers	01-Jan-19	31-Dec-19	Valid
CM	MME001-2019	Cinthia Margarita Figueroa Flores	Vehicle Maintenance	01-Jan-19	31-Dec-19	Valid
CM	MME002-2019	Raymundo Hernández Quiroz	Tire Maintenance	01-Jan-19	31-Dec-19	Valid
CG	OMI001-2019	RO-K SA DE CV	Shotcrete	01-Jan-19	31-Dec-19	Valid
CG	OMI002-2019	Servicios Mineros de México SA de CV	Development Mining	01-Jan-19	31-Dec-19	Valid
CG	OMI003-2019	Master Drilling México SA de CV	Vent Raise Drilling	01-Jan-19	31-Dec-19	Valid
CG	OMI005-2016-19	Cominvi SA de CV	Development Mining	01-Aug-16	31-Jul-19	Valid
CG	SEM001-2019	Lorena Ávila Sifuentes	Ramp Maintenance Services	01-Jan-19	31-Dec-19	Valid
SVSR	SEP001-2019	Daniel Esparza Gutierrez	Translation Services	01-Jan-19	31-Dec-19	Valid
CG	SGE002-2018-19	Patpa Distribuciones S de RL de CV	Diamond Drilling	01-Nov-18	31-Dec-19	Valid
CG	SMA001-2019	Fojesa Servicios Sanitarios SA de CV	Septic and Protable Restrooms	01-Jan-19	31-Dec-19	Valid
CG	SMA002-2019	Ingeniera y Servicios en Control Ambiental Industrial SA de CV	Environmental Remediation Program	01-Jan-19	31-Dec-19	Valid
CG	SMA003-2019	Laboratorios ABC química, investigación y análisis SA de CV	Sampling and Enviromental Studies	01-Jan-19	31-Dec-19	Valid
CG	SMA004-2019	Sara Abigail Hernández Urenda	Special Waste Management	01-Jan-19	31-Dec-19	Valid
CG	SMA005-2019	Victor Daniel Velazquez Ortiz	Water Transportation	01-Jan-19	31-Dec-19	Valid
SRHRC	SPE001-2018-19	Laura Amparo Huizar Lona	Temporary Accomodations	06-Mar-18	05-Mar-19	Valid
CG	STE001-2019	Antonio Sanchez Murillo	Technical Services	01-Jan-19	31-Dec-19	Valid
CG	STE002-2019	Estructuras y Edificaciones Sanchez SA de CV	Plant Maintenance	01-Jan-19	31-Dec-19	Valid
CM	STE003-2019	Antonio Sanchez Murillo	Mining Equipment Maintenance	01-Jan-19	31-Dec-19	Valid
CM	STE004-2019	Estructuras y Edificaciones Sanchez S.A. de C.V.	Plant Maintenance	01-Jan-19	31-Dec-19	Valid
CM	STE005-2019	Grupo Marro SA de CV	Vibration Analysis	01-Jan-19	31-Dec-19	Valid
CG	STE006-2019	Eulalio Medellín Medellín	Explosives Transportation	01-Jan-19	31-Dec-19	Valid
CG	STE007-2019	Jose Kiyoshi Konishi Verastegui	Machining and Civil Construction	01-Jan-19	31-Dec-19	Valid
CG	STE008-2019	Terp SA de CV	Software Technical Consulting	01-Jan-19	31-Dec-19	Valid
CG	STE010-2018-19	Oscar Manuel Torres Ortíz	IT Maintenance	01-Aug-18	30-Jul-19	Valid

20 Environmental Studies, Permitting and Social or Community Impacts

Requirements and plans for waste and tailings disposal are described in Section 18 of this Technical Report. The present section discusses information on environmental assessment, permitting, site monitoring both during operations and mine closure, and social or community factors related to the project.

20.1 Environmental Assessment and Permitting

This summary of the environmental assessment and permitting requirements is based on work undertaken for Capstone under the supervision of Nimbus Management Ltd., Jenna Hardy, P.Geo., Principal.

The Cozamin mine lies within a regionally mineralized area that has seen extensive historic mining over more than 475 years. Host rocks surrounding the mineralized vein systems are anomalous in base and precious metals, providing a halo of elevated metals values that extends a considerable distance beyond known workings.

Numerous old mine workings, excavations and dumps, as well as some historic tailings are present, both on, and adjacent to, the Cozamin mine site. Some lie on mining concessions where surface rights are held by Capstone and others are held by third parties.

Environmental impacts within the mine site resulting from historic activities are evident. As well, there are obvious impacts from the present day (though sometimes intermittent) operations of surrounding mines and processing operations by third parties. The impacts have been discussed, though not necessarily completely documented, in historic reports, as well as in more recent reports completed by Capstone.

Though local and state permits are also required, mine permitting in Mexico is regulated and administered under an integrated regime by the government body, Secretaría de Medio Ambiente y Recursos Naturales (“SEMARNAT”), the federal regulatory agency that establishes the minimum standards for environmental compliance. The federal level environmental protection system is described in the General Law of Ecological Equilibrium and the Protection of the Environment (Ley General de Equilibrio Ecológico y la Protección al Ambiente or “LGEEPA”). Under LGEEPA, numerous regulations and standards for environmental impact assessment, air and water pollution, solid and hazardous waste management and noise have been issued. Article 28 of the LGEEPA specifies that SEMARNAT must issue prior approval to parties intending to develop a mine and mineral processing plant.

SEMARNAT also regulates the use of “forest” resources and promotes sustainable development of “forest” ecosystems under the General Law of Forest Development (Ley General de Desarrollo Forestal or “LGDFS”) which establishes the regulation for the Change of Use of Soils in Forested Lands (Cambio de Uso de Suelos en Terrenos Forestales or “CUSTF”) authorization. This applies to removal of all types of vegetation in areas which have potential to be used for forest activities. An Economic-Technical Study (Estudio Economico-Tecnico or “ETE”) is required to demonstrate that proposed activities will not compromise biodiversity, cause soil erosion, deterioration of water/air quality or reduction of water catchment, and that in the long term the proposed alternative use will be more productive.

Environmental regulations are promulgated through various “Official Mexican Standards (“Normas Oficiales Mexicanas”), knows as “NOM’s” or “normas”, which establish specifications, procedures, standards, ecological criteria, emission limits and general guidelines that apply to particular processes or activities.

Prior to Capstone’s involvement in the Cozamin mine, several environmental studies had been carried out by previous owners. The San Roberto mine had been fully permitted to operate at 750 tpd. Capstone completed the following to support permitting and regulatory approvals with a view to re-open the mine and expand tonnage throughput to 1,000 tpd in 2006:

- an environmental impact assessment, known in Mexico as a Manifestación de Impacto Ambiental (“MIA”), which describes potential impacts to the environment that may occur in all stages of the operation as well as the measures to prevent, control, mitigate or compensate for these impacts;
- a detailed study of new lands needed for use as part of an expanded mining operation, known as the Estudio Justificativo de Cambio de Uso de Suelos (“ETJ” or “ETJ”), which applies to all affected lands associated with the mining and processing operation; and
- a risk assessment to include all aspects of the operation, known as an Estudio de Riesgo (“ER”), that evaluates and ranks risks associated with activities which can impact human health and environment, and describes risk control and mitigation measures.

The original MIA was approved by SEMARNAT on August 29, 2005. It remained valid for a period of ten years, and can be renewed for additional periods of ten years on application. Capstone received approval for an additional ten years of operation on June 1, 2015.

Following significant exploration and operational success in succeeding years, Capstone has made a series of applications for eight modifications to the original operational MIA, followed by two additional MIA specifically to cover work, installations and activities complementary to those already approved, as well as the expansion of the tailings storage facility and associated infrastructure for the Stage 6/7 dam. In addition, there were various ETJ, to accommodate an expanded operation, changed operational conditions and optimized site usage. Five additional environmental impact assessments for exploration were also completed and approved.

The approved MIA include authorizations for: enlargement of operations for the underground mine, plant and surface support facilities; installation and relocation of new surface and underground facilities;

a self-serve diesel supply station; construction and relocation of surface access roads; a new design and expanded footprint for the tailings facility and its infrastructure; installation of sub-stations and power lines as well as water lines and pumping capacity for water sources; installation of playing fields and lunch rooms; and an expansion of the San Roberto shaft, mine deepening, underground pump installation, with improved underground ventilation and mine maintenance facilities.

In 2016, SEMARNAT streamlined the regulatory process by introducing a new submission and approval process known as a Technical Documento Tecnico Unificado ("DTU"). This combines an environmental impact assessment and a study detailing changes to use of soils in "forested" lands (Cambio de Uso de Suelos en Terrenos Forestales or "CUSTF") in project sites where additional lands are needed as part of an expanded operation and these had not been previously permitted.

With time four DTU were submitted and approved to cover ancillary and complementary mining and new exploration activities on forested lands. Permitted work included: increased waste rock storage; short term hazardous waste storage; infrastructure associated with the tailings storage facility; a second recreational facility as well as platforms and lay down areas for surface exploration drilling; an alternate access route into the mine property and storage facilities for drill core; internal access for surface drilling, temporary work areas for contractors; construction of three new Robbins raises for underground ventilation; and development of new accessways and additional drill core storage areas. Terms for the DTU authorizations vary from 2-10 years and depend on the estimated time frame for the proposed activities.

SEMARNAT approved the most recent of the MIA applications to add 12m to the existing Stage 5 dam for a Stage 6/7 facility (and beyond) on February 2, 2016. The most recent DTU to be approved includes a new surface waste dump downstream of the present TSF and an associated seepage recovery system, as well as new pads, work areas and accessways for surface drilling to evaluate the potential of previously identified veins within the broader mineralized zone at the Cozamin mine property. This was approved on July 16, 2018.

A new DTU application was submitted on August 27, 2018 and remains under evaluation by SEMARNAT. It would cover additional parking, materials handling areas, office, Robbins ventilation raises, etc.

The Cozamin mine is presently authorized to operate at up to 4,500 tpd of underground production and process plant operation, using two surface ramps and the principal San Roberto shaft, and to dispose tailings into the completed TSF. Additional ETJ authorizations have also been received for work which falls outside the standard threshold for disturbances of direct mineral exploration activities (NOM-120-SEMARNAT-2011). Surface exploration activities were authorized for a 2-year period beginning June 10, 2015, then extended until 2019.

The expanded operation required more workers and more sanitary facilities, necessitating improvement in downstream waste management. A new, separate MIA (with accompanying ETJ) for the construction and operation of a plant to treat residual water was granted on February 14, 2011. This authorization is good for ten years or until the site is abandoned.

SEMARNAT's statements of approval for these documents (known as a "Dictamenes") include detailed terms and conditions for compliance in protection of the environment, as well as an obligation to file operational reports every six months describing the Company's progress in fulfilling the terms and conditions. The Dictamenes provide authorization for Capstone to complete the proposed activities within the approved mine footprint subject to the terms and conditions outlined. These represent normal environmental and regulatory requirements as described in the applications, and all costs are included in the operating costs summary. Development of the required monitoring and mitigation plans, closure strategy and operational procedures is dynamic, with periodic review and updating to make sure they continue to meet permit requirements. Detailed reporting includes filing of mitigation and closure plans with SEMARNAT, as well as the results of ongoing dust and water quality monitoring.

Following a final inspection of verification by PROFEPA (Procuraduría Federal de Protección al Ambiente en el Estado de Zacatecas), the federal enforcement agency with respect to environmental protection of SEMARNAT, Capstone formally received its first integrated operating permit on October 20, 2006 (LAU-32/007-2006). This is known in Mexico as a Licencia Única Ambiental (LAU). The LAU is the main operational permit which provides Mexican federal environmental regulators with information on project environmental risk and impact, atmospheric emissions and hazardous waste, as well as details regarding wastewater effluent. It covers all procedures for environmental impact and risk assessment, emissions to the atmosphere and the generation, handling and reporting of hazardous wastes. The LAU also sets out the acceptable limits for air emissions, hazardous waste and water impacts, as well as the environmental impact and risk of the proposed operation based on the approved MIA or DTU, the environmental risk study, and the ETJ.

LAU's were received for the tonnage expansions to 2,600 tpd (March 25, 2008), 3,000 tpd (May 19, 2009), 4,000 tpd (January 13, 2012) and 4,500 tpd (June 15, 2015). Under the administrative reporting procedure of the LAU, all environmental data relating to air and water emissions are consolidated and reported on a single Annual Operations document known as a COA (Cedula de Operación Anual) to be submitted to SEMARNAT annually on April 30. This information is recorded in a publicly available Emissions and Transfer of Contaminants Register (RETC), fulfilling the Mexican government's commitment to transparency in the area of environmental regulation.

Wastes generated by the mining operations include waste rock and tailings as well as regulated and hazardous wastes. Capstone received authorization as a generator of hazardous wastes under the General Law for the Prevention and Comprehensive Management of Waste (Ley General para la Prevención y Gestión Integral de los Residuos or "LGPGIR"- articles 68, 69, 70, and applicable regulations), first registering its plan for management of wastes in 2009 (No. 32-PMM-I-0015-2009). In 2017, following a site visit and review by the regulator*,* Dirección General de Gestión Integral de Materiales y Actividades Riesgosas (or "DGGIMAR"), Capstone filed a revised plan with more focus on mining and metallurgical wastes which was authorized on December 3, 2017 for a 15 year term. Capstone submits regular updates with respect to the types of wastes generated and how they are managed; its integrated waste management plan is revised on an annual basis.

Capstone is certified under PROFEPA's National Environmental Auditing Program (Programa Nacional de Auditoría Ambiental) or Clean Industry (Industria Limpia) Program. This voluntary environmental audit program serves to promote self-regulation and continuous environmental improvement. Companies are certified after meeting a list of requirements including the implementation of international best practices, applicable engineering and preventative corrective measures; it is perhaps one of the most advanced programs of voluntary compliance in Latin America.

Companies entering the program contract third-party, PROFEPA-accredited, private sector auditors, considered experts in fields such as risk management and water quality, to conduct an "Industrial Verification" audit. PROFEPA determines the terms of reference of the audit, defines audit protocols, supervises the work through certification of the independent third party auditors, and supervises compliance with the agreed-upon actions. The audit determines whether facilities are in compliance with applicable environmental laws and regulations. It results in an Action Plan which defines a time frame and specific actions a site needs to take in order to be in compliance and solve existing or potential problems.

The Plan is included in an Environmental Compliance Agreement signed by PROFEPA and the Company. The Clean Industry Certificate recognizes operations that have demonstrated a high level of environmental performance, based on their own environmental management system, as well as total compliance with regulations. Apart from public acknowledgement of its clean status, benefits to Capstone include the assurance of legal compliance through the use of the Action Plan, agreement with its regulators on a defined program of remediation and mitigation, and the ability to participate in no-cost training programs established by PROFEPA. The audit Certificate is valid for two years and can be re-authenticated after renewal by an additional audit.

The Cozamin mine first registered for admission to the Clean Industry Program in late 2007. It successfully underwent the rigorous audit to assess compliance with a broad spectrum of local, state and federal environmental, mine and operational safety, health and occupational safety laws, norms and regulations.

Capstone identified areas for improvement and implemented a detailed Action Plan (with estimated costing) to achieve compliance within an approximate two-year period through the cooperative process described above. Work completed in support of the Plan was verified by the independent auditor. Capstone's renewal of its Clean Industry Certification in 2017 was delayed pending approval of its revised mining-metallurgical waste management plan by DGGIMAR. With receipt of this approval, on June 8, 2018, Capstone has received its third successful renewal of its Clean Industry Certificate; it is valid until 2020.

Overall, under Capstone's management, the Cozamin mine has a good environmental record and a generally good relationship with the environmental regulatory authorities. The company has an active and continuous corporate responsibility program focused on health and safety, positive community relations and protection of the environment.

At the present time, all environmental permits required by the various Mexican federal, state and municipal agencies are in place for the current Cozamin mine operations. The health, safety and environmental management system and integrated health, safety, environmental and social management plans have been developed in accordance with the appropriate Mexican regulations. Annual land usage/disturbance and half yearly environmental compliance reports are filed as required.

With respect to the implementation of any of the operational recommendations resulting from this Technical Report, Capstone will need to review these with SEMARNAT as soon as sufficient engineering and other necessary design information is available. This review would identify and flag for discussion any new proposed activities and/or modifications to current activities already authorized as described above, as well as any new activities which could be considered as new work on lands not included in the existing MIA, DTU, CUSTF and ETJ, or which would involve new disturbances, which once fully designed might require new authorizations.

Baseline studies required to support the original MIA, DTU, ETJ, CUSTF and their modifications have included detailed analysis of: soil, water quality, vegetation, wildlife, hydrology, cultural resources and socio-economic impacts. These investigations identified locally elevated heavy metals concentrations in soils, acid rock drainage and metal leaching as possible concerns potentially manageable with appropriate mitigation measures.

Static acid-base accounting showed that flotation tailings and some types of waste rock have the potential to generate acidic drainage. However, the country rocks surrounding the deposit have significant neutralizing capacity and show relatively low permeability. In addition, construction activities programmed as part of the expansions reduced the identified sources of acidic drainage associated with the historic tailings impoundment, as well as downstream contamination due to tailings spills by previous operators. Further, during ongoing operation both newly generated waste rock and waste rock from historic operations have to date been used as underground back fill.

Capstone's operation of the Cozamin mine had until recently assumed that over the life of the mine there would be no requirement for new waste dumps, and further that ongoing operational needs for underground fill and sterile waste material for surface construction would reduce the existing volumes of historic waste rocks on surface. The newly completed mine wide materials handling study covering current tailings and waste rock, as well as current and historic waste rock, maintains an overall objective (to the extent possible), to place material back into the underground mine or, assuming appropriate geochemistry, to put it to beneficial use for progressive reclamation/rehabilitation. The surface waste dump authorized downstream of the current TSF presently has a permitted capacity of 3.5 million tons

(1.85 million m^3). Mine planning and engineering design are still ongoing, additional mitigation measures are likely to include both engineering design and operational approaches.

An environmental management and monitoring program has been underway from the start of Capstone's renewed operation and will continue. Data collected are used to inform an ongoing operational environmental management and monitoring program, which includes appropriate environmental management and mitigation plans based on the principle of continuous improvement. These are reviewed and revised annually as necessary, with results reported as required to Mexican regulators.

Guidance documents for addressing historical environmental liabilities have recently been issued by the Mexican government based on the "polluter pays" principle embedded in LGEEPA and LGPGIR. The Mexican federal state coordinates with both state and municipal authorities to manage the environmental liabilities identified. In general terms, Mexican law lacks grandfathering provisions and it remains uncertain how much flexibility there will be in managing responsibility for restoration of areas with historic mining activities which are near or adjacent to operating mines.

Though some assessment and management planning remain to be completed (and planning to address environmental liabilities needs to be incorporated), work to date indicates that environmental impacts are manageable. It is expected that appropriate management and mitigation solutions to anticipated problems can be developed within the project schedule and time frames.

Apart from the issues identified above with respect to the locally elevated heavy metals concentrations, and the potential for acid rock drainage/metal leaching from tailings and waste rock and management of historic environmental liabilities, other issues of environmental concern relate to potential impacts as seen in comparable underground mines of similar size with flotation tailings impoundments. These include: dust, tailings handling/management, storm water diversion, combustibles and reagent management/handling, potential for aquifer contamination, waste management and disposal and noise.

In October 2015, as part of a state-wide regional scale review of identified historic disturbances (known in Latin America as "pasivos"), PROFEPA conducted a site inspection at Capstone in an area of historic workings which is known as Chiripa-La Gloria. This is located in an entirely separate catchment located north and east of Capstone's currently active mine and plant installations. Chiripa-La Gloria, which also lies outside of any of Capstone's permitted MIA or DTU authorizations, includes numerous and extensive old workings and waste dumps as well as the remnants of an historic process plant and several tailings dams/deposits. Significant tailings are dispersed into the arroyo downstream. On a voluntary basis following extended discussions with SEMARNAT, Capstone had previously undertaken agreed upon rehabilitation and reclamation activities to reduce further degradation of the ambient environmental.

PROFEPA initiated an administrative procedure (known as an "emplazamiento) in December 2015. In these situations, companies who own such the land over such areas of historical liability enter into a mine to government agreement with PROFEPA/SEMARNAT to define and fund agreed upon sampling programs which first evaluate and characterize the site and its elements of concern and then define suitable programs of remediation and rehabilitation to restore the environmental quality of the disturbance. Preference is generally given to quick start programs of physical stabilization and phased action plans which build upon the success of the earlier phases.

At Chiripa-La Gloria, after an initial characterization study which showed significant levels of arsenic and vanadium in soils and waste rock piles across a relatively wide area of the zone (with point highs for lead and cadmium) and historic tailings characterized as potentially acid generating, Capstone successfully completed the first phases of rehabilitation which included physical stabilization of the upper portion of the area in 2016 and 2017. Activities included: closure and capping of open workings, construction of diversion channels around the old tailings dam, recovery of spilled tailings to the historic dams, berming/resloping of waste dumps and placement of gabions in the arroyo below. A second, more detailed site characterization study submitted in August 2017 included an initial proposal for phased follow up remediation and rehabilitation using phyto-remediation was rejected by regulators in 2018.

Following a fourth quarter 2018 site visit and discussions with DGGIMAR, the lead regulator, Capstone engaged INSECAMI, a consultant recommended as experienced in remediating similar historic disturbances. INSECAMI is presently undertaking additional investigations to further characterize Chiripa-la Gloria and support Capstone in defining feasible alternatives for remediation and rehabilitation which would be acceptable to regulators. However, since the parties considered it likely that a confinement cell would eventually be needed at least to rehabilitate the most intensely affected portion of the area, and because (once approved) the agreed work program will be mandated by regulators to begin in 2019, Capstone included an allowance for such a cell into the 2018 year end closure cost estimate (see Section 20.2).

An on-going, internal high-level evaluation and trade off study considers combining the required remediation with reprocessing of the historic waste potentially containing base and precious metals in the Cozamin plant, as well as the possible use of the Chiripa arroyo for siting of a potential new dry stack tailings facility.

The ultimate scale and scope of required remediation and rehabilitation and the post closure land use which will be acceptable to regulators for the longer term remains to be defined. Importantly, because these administrative procedures are relatively new in Mexico (very few agreements have been finalized), the level of effort which will ultimately be required of Capstone, as well as likely time frames for completion of an agreement are difficult to establish. As the regulatory procedure stands, the physical limit for proposed activities is the edge of the property border though identified effects may extend beyond this point. Neither the eventual outcome of these discussions nor the results of additional studies can be predicted.

With the acquisition of additional water supplies for the Cozamin mine and installation of the tailings thickener (2015), as well as adoption of other operational water conservation practices at the present time it appears that the available water supply is adequate for future operations. Existing baseline data suggests current water sources from seasonal rainfall and catchment, the nearby municipal water treatment plant, the onsite treatment plant, and underground water (both at the mine and from permitted wells) and operational water management are sufficient to maintain operations as projected. However, studies to evaluate the potential for supply issues over the longer term have not been completed and it is recommended that these be appropriately scoped and carried out as soon as necessary supporting information is available (Section 26).

The successful implementation of measures which have already been undertaken provides reasonable expectation that longer-term water supply needs can continue to be met. However, for the purposes of contingency planning and risk analysis, additional investigation is recommended. The supply situation should continue to be actively monitored and as a matter of routine best management operational practice, site water retention, and conservation measures should be adopted where practical.

Within the local water supply area, water demand remains high and the regional aquifer shows a deficit for resupply. Further, the pressure for housing and other municipal development in the areas directly surrounding Cozamin is evident and is increasing. There is also renewed activity at several of the historic operations adjacent to Cozamin (e.g. past producers San Acacio and Veta Grande Mines, as well as at Endeavour Silver's leased El Compas mill and expansions at the Juan Reyes Cooperative Plant (toll processing predominantly by vat leach) which may impact both water supply availability within the basin, as well as potentially adding downstream effects to ground water.

20.2 Closure Plan

The Mexican government addresses reclamation and closure using broad standards set out under Article 27 of the Constitution from which the legal framework for environmental protection is derived under LGEEPA. Environmental regulations with respect to closure are promulgated through the various NOM's which establish specifications, technical standards, ecological criteria and general guidelines. At the present time, there are no formal reclamation and closure standards for mining, however Capstone's general obligation is to take mitigation measures which will protect natural and human resources and restore the ecological balance. Regulations do require that a preliminary closure program be included in the MIA and DTU and that a definite program be developed and provided to the authorities during mine operations as a supplemental submission to the project reporting. Plans typically use risk-based approaches which involve characterizing the existing concentrations of metals in the soils, waters and groundwater, and designing a plan to ensure that post closure risks to human health and the environment are acceptable and that the concentrations are no higher than the pre-mining baseline conditions.

Though the preparation of the closure plan and a commitment on the part of the mining company to implement the plan are needed, financial surety (i.e. bonding) has thus far been not generally been required. This may gradually be changing as some Canadian mining companies have recently been asked to prepare bonding estimates for SEMARNAT's review. Further, with implementation of the Federal Law of Environmental Responsibility (Ley Federal de Responsabilidad Ambiental - LFRA) in 2013, and new guidelines with respect to environmental liabilities, companies can anticipate that standards will evolve higher. The legislation as it stands firmly incorporates the principle that "those who contaminate will pay" ("el que contamina paga"), and it is clear that environmental damages, if not remediated by the owner/operator, can give rise to civil, administrative and criminal liability, depending on the action or omission involved. PROFEPA is responsible for the enforcement and recovery for those damages, but recent legal reforms have introduced the concept of class actions as a means to demand environmental responsibility for damage to natural resources.

Following from the terms and conditions of the various authorizations, as well as various obligations outlined for example in the various NOM's regulating tailings facilities and associated infrastructure (NOM-141-SEMARNAT-2003), management of hazardous wastes (NOM-052-SEMARNAT-2005, NOM-157-SEMARNAT-2009), and exploration activities (NOM-120-SEMARNAT-1997), Capstone re-started the Cozamin mine in 2006 with a proactive approach to closure. A conceptual closure plan described current and projected conditions of facilities, operating areas and storage sites. Specific activities for successful closure were identified and costs estimated based on the proposed mine and project development. Capstone submitted its first revised reclamation and closure plan to SEMARNAT as part of its six month reporting requirement in March 2009, applying the site-specific experience gained during progressive reclamation activities. The Plan has been revised and updated on an annual basis since 2016, with the support of independent consultants, Clifton Associates Ltd. Natural Environment SC ("Clifton"), who are well experienced in closure costing for underground mines in Mexico.

The key objectives of Capstone's reclamation and closure plan include:

- demonstrating compliance with relevant Mexican laws and regulations, as well as Capstone corporate standards;
- protecting public and employee health, safety and welfare;
- limiting or mitigating any residual adverse environmental effects of the project;
- minimizing erosional damage and protecting surface and ground water resources through control of natural runoff;
- establishing physical and chemical stability of the site and its facilities;
- ensuring that all process chemicals and hydrocarbon products are safely removed from the site at closure and equipment is properly decontaminated and decommissioned;
- properly cleaning and detoxifying all facilities and equipment used in the storage, conveyance, use and handling of process chemicals;
- establishing surface soil conditions conducive to the regeneration of a stable vegetation community through stripping, stockpiling and reapplication of soil material and/or application of waste rock suitable as growth medium;
  - repopulating disturbed areas with a diverse self-perpetuating mix of plant species to establish long-term productive communities compatible with existing land uses;

- mitigating socio-economic impacts of the project following decommissioning and subsequent closure as far as reasonably possible; and
- maintaining public safety by stabilizing or limiting access to landforms that could constitute a public hazard.

Capstone's most recent update to the closure plan in 2018 assumed progressive reclamation during operations, operational closure in 2025, and 10 years of post-closure monitoring, inspection and maintenance. It included consideration of certain new initiatives by the Mexican government which will develop a national program for site rehabilitation in areas of historic mining, as well as the potential for increased requirements for operating mines to consider more options for sustainable restoration of the visual landscape after final closure. As the Mexican government moves forward to advance these regulatory aspects, there may be increased requirements for reclamation and rehabilitation of the Cozamin site and bonding may be required. The closure plan will be reviewed and updated accordingly.

To date, a number of ongoing closure activities have been completed as part of the site program of progressive reclamation. These include: closure of historic workings; reclamation and re-vegetation of exploration drill pads and access ways disturbed historically and by Capstone; reclamation and re-vegetation of areas of historic waste rock dumps and mining activities; clean-up of historic tailings spilled downstream from the tailings impoundment; removal of historic waste rock for use as underground fill and current construction activities; and definition of diversion channels around the historic Chiripa impoundment, re-sloping, armouring and stabilizing the historic dam faces and installation new gabions as well as replacement of damaged gabions downstream.

Much of the site area has been previously disturbed from historic operations. Surface soils removed for site construction have been stockpiled for reuse in closure. Though detailed studies of the suitability of stockpiled soils for reclamation have not been completed, the undisturbed parts of the mine area which are not actively grazed support patchy plant cover and areas reclaimed during progressive closure already show good evidence of successful re-vegetation with local species.

Continued implementation of "best practices" operational management and a site wide initiative focused on continuous improvement, along with sequential progressive reclamation and closure planning, will over time significantly reduce new sources of contamination. Reclamation, post-closure monitoring and follow-up will require more detailed planning, but have the overall objective of leaving the land in a useful, stable and safe condition capable of supporting native plant life, providing appropriate wildlife habitat, maintaining watershed function and supporting limited livestock grazing; potential future industrial uses remain to be considered. General objectives include the removal of any environmental liabilities, minimization of potential acid rock drainage/metals leaching and the return of the site to a condition that resembles pre-mining conditions or restores productivity. Final land use after closure will need to be determined in consultation with neighbouring communities and Mexican authorities.

Once mining stops, surface equipment as well as surface and underground infrastructure will be removed and the mine will be allowed to flood. Mine entryways will be closed to restrict entrance. Surface accesses to the mine such as ramps will be closed and filled; apertures such as shafts and raises will be plugged. Access to mine areas, stopes, and raises will be stabilized and eliminated. Though additional ground water studies are needed, based on observations of historic mining, following cessation of operations ground waters are expected to return to their original phreatic levels in a short time, with no direct point source discharges to surface anticipated. All salvageable items will be removed from the site. Leftover quantities of chemicals, reagents, lubricants, combustibles, etc., will be returned to suppliers, vendors or sold to third parties. Any remaining non-hazardous waste will be removed to the municipal landfill. Hazardous waste will be removed and disposed of at an appropriately licensed waste management facility. Buildings, other structures and surface infrastructure will be dismantled, removed and sold (or donated) where practical.

Remaining disturbed areas will be re-sloped to re-establish natural landscape contours and (where applicable) pre-existing drainage patterns. In selected areas as-necessary erosion prevention measures will be implemented. The disturbed areas will be re-vegetated with natural species approved by SEMARNAT. Roads that will not be required after mine closure will be re-graded and re-vegetated to approximate pre-mining conditions.

The flotation tailings and certain waste rock piles located on surface are potentially acid generating and require careful management during operations and into closure and post closure to minimize potential impacts to the environment. Successful management will require combinations of mine waste handling, placement planning and evaluation of the need for treatment of existing acid generating surfaces to reduce infiltration by precipitation and therefore the volume of any contaminated water emanating from the site. The recent materials handling study considered certain options and alternatives for the future management of tailings and waste rock but these will need to be operationalized through more detailed planning. As required, these considerations will be incorporated into ongoing closure planning.

The closure plan identifies a number of final closure activities to maintain physical and geochemical stability including: diversion channels above the impoundment to limit fresh water flowing into the tailings from the upper watershed; re-contouring the surface of the tailings impoundment to prevent ponding and improve flow; and a final cover with downstream passive treatment system for seepage and infiltration yet to be designed. Before these can be fully evaluated and costed, Capstone will need to complete the ongoing materials management study as well as geochemical characterization and modelling for tailings and available waste rock before alternatives for longer term tailings and waste rock disposal can be fully defined. Depending on the results of ongoing water quality monitoring as well as the results of these studies planning for closure design may include installation of an engineered low permeability cover to limit oxygen entry into the tailings, restrict infiltration and minimize seepage with or without materials blending. Alternatively closure planning may involve use of an engineered store and release cover. With careful engineering design, modelling of water, waste and tailings geochemistry, as well as good quality control on construction these would appear to be reasonable concepts.

Reclamation obligations will be funded during mining operations, and are not anticipated to involve measures significantly different than would be expected for an underground base metal mining operation of this size and type processing by flotation, and located near centres of population.

An original preliminary closure cost estimate developed internally by the Cozamin projects and environmental groups was revised and updated most recently to December 31, 2018 year end with support from Clifton. The figures supporting the cost estimate were developed using the Open Pit / Underground Mine - Cost Estimator Tool updated to the most recent version CAL.V.Ago/2018. This Estimator was originally developed for arid climates in Australia by the New South Wales Government Industry & Investment (www.industry.nsw.gov.au). It is used in many mining regions internationally and has been well validated for underground metal mines.

The overall cost figure considers and incorporates the environmental conditions and those disturbances present at the Cozamin Mine to December 31, 2018 year end. Assumptions included continued operation at the current average operating rate of 3,300 tpd to March 2025, following by an estimated ten year period of post-closure monitoring to define an initial undiscounted estimate of US$12.4M. This amount is refined by the application of appropriate risk adjusted discount and exchange rates to present value of the final figure used in the corporate Asset Retiring Obligation ("ARO") for the Cozamin Mine.

The updated ARO to December 31, 2018 reflects necessary expenditures to achieve successful closure based on the existing disturbances and operational conditions. It does not contemplate or project those additional activities, facilities or disturbances which are, might be, or are likely to be required for the remainder of the life of the operating mine as outlined in this document but which are not yet authorized or constructed at the time of calculation of the ARO. This figure includes progressive reclamation during operations, clean up, rehabilitation and reclamation on closure as well as the projected 10 years of post closure inspection and monitoring, and uses actual site unit costs to third quarter 2018.

Funding of the progressive reclamation costs comes from operational cash flow. Post-closure monitoring and maintenance costs are accounted in the final year of operation. Reclamation and closure costs are capitalized and amortized over the LOM.

As Capstone continues with its exploration and development, mine life and resource potential are anticipated to change. For this reason, the closure plan for the Cozamin Mine remains a dynamic document. The costing is revised and updated on an annual basis to reflect the disturbances present to the current year end, the evolving knowledge of specific site conditions and their reclamation requirements, revisions to design requirements as engineering and materials handling studies are completed, changes in Mexican regulatory requirements and social obligations, and an understanding of the success of ongoing progressive rehabilitation, reclamation and closure activities, as well as prevailing costs for physical and other work related to closure.

20.3 Community Relations

Capstone has implemented a systematic approach to community relations with protocols in place to receive feedback from local communities. This includes a site-specific Social Responsibility Policy, which covers procedures for identifying and mapping stakeholders, planning formal engagement activities and collecting and responding to stakeholder feedback. The Company is committed to a variety of programs to give back to the local communities in Zacatecas, focusing on local hiring, training opportunities and contributions to the development of local infrastructure, as well as hosting local tree-planting events

Capstone was awarded the Empresa Socialmente Responsable (ESR) designation by CEMEFI, the Mexican Centre for Philanthropy in recognition of its success in meeting commitment to sustainable, social and environmental operations (2012-2018). The award acknowledges Capstone's efforts to assume voluntary and public commitments to implement socially responsible management and continuous improvement as part of its culture and business strategy. Capstone participates in periodic environmental leadership (Liderazgo Ambiental) programs organized by regulators in Mexico and received the Family-Responsible Company Accolade (2014 - 2018) which was developed by the Secretariat of Labour and Social Welfare (Secretaría del Trabajo y Previsión Social) to recognize a company bringing benefits to its partners, suppliers, the families of its workers, and to the environment.

Regular, proactive engagement with stakeholders is a component of daily activities at the mine creating respectful and productive two-way engagement.

21 Cost Estimation

21.1 Operating Cost Estimate

Cozamin staff developed the mine operating costs from first principles. Annual mine equipment utilization hours were derived from the forecast. Total operating costs were calculated using current unit operating costs. Contractor costs were derived from forecasted requirements and contract unit costs. Mine support functions were estimated based on historical unit costs against budget activities to produce the mine operating costs. The processing operating costs were derived using forecasted production and current unit operating costs. General Management and Administration costs were assumed to be fixed based on budget. Table 21-1 summarizes the mine operating costs for the duration of the forecast. Site operating costs were derived using budgeted operating costs based on historical actual costs.

Table 21-1: Expected Operating Costs

Cost Center	Unit Cost (US$/tonne milled)
	Cozamin Mine
Mining	31.11
Processing (Milling)	10.11
General and Administration	8.17
Strategy Adjustment	0.48
Total Cost	49.87

In late 2018, minor changes in mining strategies and procedures were implemented that affect the majority of future mining areas. These anticipated changes have been applied to the historical costs in Table 21-1 and amount to and adjustment of +$0.48/tonne milled, resulting in a final modeled cost per tonne of $49.87.

21.2 Capital Cost Estimation

Capital expenditures were developed in support of the life-of-mine plan and include the following:

- Purchase of new equipment;
- Mill debottlenecking and upgrades;
- Overhauls of existing equipment;
- Capital underground development and projects;
- Tailings dam expansion;
- Permitting, land acquisition, engineering, and construction of a new water reservoir;
- Capital infrastructure;
- Ongoing reclamation; and
- Sustaining capital requirements.

Table 21-2 summarizes expected full year capital costs over the LOM at Cozamin. The first five years are outlined in the Cozamin capital budget plan. Capital expenditures include mine equipment, plant upgrades, underground capital development, tailings management and surface infrastructure. The remaining years are based on ongoing capital infrastructure projects, progressive reclamation and a sustaining capital allowance for the mine and mill. The sustaining capital allowance is estimated to be 2% of operating budget that is carried forward to the life of mine plan.

Table 21-2: Summary of Capital Costs

Year	Cost Estimate (US$ x 1 Million)
2019	29.0
2020	28.3
2021	23.3
2022	18.8
2023	15.5
Total	**114.9**

22 Economic Analysis

As Cozamin is a producing mine and no material expansion of current production is proposed, an economic analysis is not required for this Technical Report.

23 Adjacent Properties

The Mala Noche vein is one of several main veins that have been exploited since pre-colonial times in the Zacatecas area. The Bote vein has recently been in production until 2003, but production on the Veta Grande, Panuco, Mala Noche, Cantera and San Rafael veins has varied with silver and base metal prices. The average ore grades for the Zacatecas district are reported to be 1.5 g/t Au, 120 g/t Ag, 3% Pb, 5.1% Zn and 0.16% Cu with total silver production to the end of 1987 estimated to be about 750,000,000 ounces (Ponce and Clark, 1988). The QP has been unable to verify this information and that the reported grades are not necessarily indicative of the mineralization on Cozamin mine that is the subject of the Technical Report.

24 Other Relevant Data and Information

There is no other additional data or information required to make this Technical Report understandable or not misleading.

25 Interpretations and Conclusions

The Cozamin mine has been successfully developed into a viable mining operation with 12 years of continuous operation by Capstone. Based on the findings of this technical report, the QPs believe the Cozamin mine and milling operation is capable of sustaining production through the depletion of the mineral reserve. Relevant geological, geotechnical, mining, metallurgical and environmental data from the Cozamin mine has been reviewed by the QPs to obtain an acceptable level of understanding in assessing the current state of the operation. The Mineral Resource and Reserve estimates have been performed to industry best practices (CIM, 2003) and conform to the requirements of CIM Definition Standards (CIM, 2014).

25.1 Conclusions

Capstone holds all required mining concessions, surface rights and rights of way to support mining operations for the life-of-mine plan developed using the October 24, 2018 Mineral Reserves estimates. Permits held by Capstone are sufficient to ensure that mining activities within the Cozamin mine are carried out within the regulatory framework required by the Mexican Government. No risk associated with permit extensions is anticipated. Annual and periodic land use and compliance reports have been filed as required.

The understanding of the regional geology, lithological, structural and alternation controls of the mineralization at Cozamin are sufficient to support estimation of Mineral Resources and Mineral Reserves. The Mineral Resources and Mineral Reserve estimates, NSR cut-off strategy and operating and capital cost estimates have been generated using industry-accepted methodologies and actual Cozamin performance standards and operating costs. Metallurgical expectations are reasonable, based on stable metallurgical performance from actual production and data from recently completed studies. Reviews of the environmental, permitting, legal, title, taxation, socio-economic, marketing and political factors for the Cozamin mine support the declaration of Mineral Reserves.

Cozamin water sources include purchase of additional water rights from the municipal authority in 2014, authorization to use treated water, water from underground mines held by various other parties, and new water supply wells constructed downstream from the mine and processing facilities in 2011 and 2012. Cozamin Mine is projected to have access to sufficient water resources to support a 4,000 tpd operation.

At present, there is sufficient capacity within the TSF to store all of the mineral reserves assuming proper tailings management continues and allows for construction of competent coarse tailings beaches for subsequent upstream raises. Alternative tailings management solutions are being studied and compared to mitigate the risk of long-term use of the current TSF and to include additional capacity should additional reserves be added in the future. This Technical Report considers the timing and cost of the permitting, land acquisition, engineering, and construction of a secondary TSF.

Based on current regulations and laws, Capstone has addressed the environmental impact of the operation, in addition to certain impacts from historical mining. Closure provisions are appropriately considered in the mine plan. There are no known significant environmental, social or permitting issues that are expected to prevent the continued mining of the deposits at Cozamin mine.

25.2 Risks and Opportunities

The QPs, as authors of this Technical Report, have noted the following risks:

- Exchange rates, off-site costs and, in particular, base metal prices all have the potential to affect the economic results of the mine. Negative variances to assumptions made in the budget forecasts would reduce the profitability of the mine, thereby impacting the mine plan. (Tucker Jensen, P.Eng.)
- The upstream tailings dam raise construction method is highly dependent on tailings management to keep the reclaim pond as small and as far as possible from the dam crest for proper tailings beach construction. This dependency has the potential to jeopardize the feasibility of subsequent upstream raises and limit the total waste storage capacity. These risks are currently mitigated with continuous tailings management, monitoring of the tailings storage facility performance, frequent site characterizations to monitor the progression of tailings beach strength, and audits from independent consultants. It is anticipated that an alternative tailings management solution may be required, and ongoing work is actively refining the alternative. (Humberto Preciado, PhD, PE)
- Mexican regulatory expectations for environmental and social responsibility continue to evolve. Since the first environmental impact assessment, Capstone’s property ownership has increased beyond the area of active mining and processing operations to encompass additional areas of historic mining and processing operations; particularly in the area of Chiripa-La Gloria arroyo. The path forward for remediating the environmental liabilities is not yet certain and may result in increased expectations and regulatory requirements. This has potential to increase costs for final closure and/or post closure monitoring, but these cannot be quantified at this time. (Jenna Hardy, P.Geo.)

The authors of this Technical Report have noted the following opportunities:

- A 40,400 m drilling program to test for further extensions to the MNFWZ and additional structures splaying from the main Mala Noche fault system or sub-parallel structures for economic potential is underway as of January 2019. Additional exploration drilling can also contribute to the geological understanding of the mine and assist in identifying future exploration targets. (Garth Kirkham, P.Geo., FGC)
- In addition to the above program, future drill programs are anticipated to upgrade the classification of a substantial portion of the current Inferred Resource to Indicated class by decreasing the drill hole spacing. (Garth Kirkham, P.Geo., FGC)
- The Mala Noche Vein and many adjacent and related structures are insufficiently tested at depth outside of the historical mining areas. Additional drilling can increase geological

understanding of the entire area and assist in identifying future exploration targets. (Garth Kirkham, P.Geo., FGC)

- Continue regional exploration and property evaluations within reasonable trucking distance of the plant. (Garth Kirkham, P.Geo., FGC)
- Continue to investigate opportunities to reclassify more of the San Rafael zinc deposit from mineral resource to mineral reserve (Tucker Jensen, P.Eng.), especially through increasing the metallurgical recovery of zinc (Chris Martin, CENG MIMMM) and developing strategies for mining the upper zinc lens. The structure hosting the deposit is also open along strike to the east and is insufficiently drilled in this direction. (Garth Kirkham, P.Geo., FGC)
- Conduct additional mineralogical evaluation of San Rafael ores in aid of ongoing metallurgical investigation to enhance zinc metallurgical recoveries. (Chris Martin, CENG MIMMM)
- Select a mining contractor for the Crucero de San Rafael that is capable of rapid development mining rates and shorten the time to completion. (Tucker Jensen, P.Eng.)
- Pursue novel procedures, methods, and technology to make mining narrow (<2m) veins economical and to incorporate them into reserves. (Tucker Jensen, P.Eng.)
- Proper tailings deposition and management options currently implemented can increase the storage capacity of the existing TSF postponing the need for additional storage facilities. (Humberto Preciado, PhD, PE)
- Capstone maintains a dialogue with regulators regarding potential changes to operations, as well as the immediately adjacent property owners and from time to time discusses potential exploration partnerships on their lands. (Jenna Hardy, P.Geo.)

26 Recommendations

The following recommendations have been identified by the authors of the Technical Report.

26.1 Recommendation Related to Mineral Processing and Metallurgical Testing (Section 13)

- Proceed with in-progress mineralogical studies to better characterize the zinc ore mineralogy to guide further metallurgical study.

26.2 Recommendations Related to Mining Methods (Section 16.1,16.3-16.7)

- Dilution and mining recovery factors need to be continuously validated through annual reconciliations and adjusted as required, especially in host lithologies where historical mining experience is low. This recommendation is being implemented on site and is included in the current operating cost model.
- Improve the short-term planning processes to ensure timely and complete backfilling. This recommendation is being implemented on site and is included in the current operating cost model.
- Continue to increase the blasted mineral inventory to mitigate unplanned production shortfalls when producing from areas of unknown geotechnical conditions at depth or in new and challenging lithologies. This recommendation is being implemented on site and is included in the current operating cost model.

26.3 Recommendations Related to Geotechnical Considerations (Section 16.2)

- Continue to track rock mass conditions underground and measure ground movements. Continue training of personnel to identify poor rock conditions and execute remediation work. Continue to conduct systematic bolting in new headings and adjust ground support in areas of weaker rock mass conditions or in higher ground stress zones. Upgrade ground support to current standards in permanent active areas such as ramps, main drifts and shops. This recommendation is being implemented on site and is included in the current operating cost model.
- Define local regional stress field characteristics to develop a reliable geotechnical numerical model and provide supporting data to define/cost at high level the technical requirements for underground stability to ensure safe support and closure approaches for Capstone's accesses and underground workings. This recommendation is being implemented on site and is included in the current operating cost model.

26.4 Recommendations Related to Recovery Methods (Section 17)

- Construct mill upgrades as described in Section 17, including a grizzly at the primary crusher and increased tailings pumping capacity before production rates increase in 2021. In addition, purchase spare sets of mantles and bowls for the secondary and tertiary crushing circuits to reduce maintenance downtime. The costs of these recommendations have been added to the capital estimate and sum to a rounded US$250,000 to be spent in 2020.

26.5 Recommendations Related to Tailings Storage Facility (Section 18.3)

- Continue tailings management and update site water balance to determine when construction of a water reservoir should be completed to keep the size of the tailings pond within the TSF as small and far away from the cyclone tailings beach as possible. The costs of permitting, engineering, and construction of a new water reservoir are included in the capital estimate and sum to a rounded US$1M to be spent over 2020 and 2021.
- Continue evaluating other tailings management solutions to allow for continued reserve expansion, a potential reduction of closing, rehabilitation and remediation costs, and risk management. Wood PLC is currently engaged in this evaluation and the cost of the current scope was accounted for in 2018. Additional analysis by Cozamin staff will be required and performed as part of regular duties.
- Increase pumping capacity from the TSF to be able to remove water to prevent a large storm event from undermining the specified minimum beach width. Spare pumps are available on site at no additional capital cost. Installation of the pumps will be performed by Cozamin staff during regularly scheduled maintenance activities.

26.6 Recommendations Related to Environmental Studies, Permitting and Social or Community Impacts (Section 20)

- Design an effective sampling and monitoring plan to further characterize current conditions of waste and tailings. This will support design of waste and tailings management plans and assist in the evaluation of alternatives for tailings and waste rock disposal during operations and into closure. Design of the plan is part of Cozamin's environmental department's on-going responsibilities.
- Continue to actively engage in community assistance and development programs with surrounding communities to ensure Capstone retains its social licence. This continued practice is included in Cozamin's current operating cost model.

27 References

AmecFW, 2016a; Design Report for the phase 6 expansion of the tailings storage facility. Amec Foster Wheeler Environment & Infrastructure Inc. Denver, CO December 23, 2016. Print.

AmecFW, 2016b; 50K m3 Pond Alternatives. Amec Foster Wheeler Environment & Infrastructure Inc. Denver, CO May 9, 2016. Print

Capstone Gold Corp. *Capstone Options Five Advanced Exploration Projects in Mexico*. Business Wire, Oct. 27, 2003. Web.

Capstone Gold Corp. *Capstone Acquires 90% Interest in Cozamin and enters into Transaction Agreements with Silverstone Resources*. Internet Archive, December 1, 2005. Web.

Capstone Gold Corp. *Barrenos 2014 – Reporte anual de QAQC*. Report. Zacatecas. February 19, 2015. Print.

Capstone Gold Corp. *March 2015 – acQuire DB Audit*. Report. Zacatecas. March 27, 2015. Print.

Capstone Gold Corp. *May 2015 – acQuire DB Audit*. Report. Zacatecas. May 20, 2015. Print.

Capstone Gold Corp. *June 2015 – acQuire DB Audit*. Report. Zacatecas. July 20, 2015. Print.

Capstone Gold Corp. *Reporte anual 2015 – QAQC Barrenos y canales*. Report. Zacatecas. January 18, 2016. Print.

Capstone Gold Corp. *Reporte de auditoria BD de barrenación Marzo 2015 a Marzo 2016*. Report. Zacatecas. May 9, 2016. Print.

Capstone Gold Corp. *Reporte anual de QAQC barrenos y canales 2016*. Report. Zacatecas. January 13, 2017. Print.

Capstone Gold Corp. *Reporte de auditoria BD de barrenación Abril a Dec 2016*. Report. Zacatecas. March 8, 2017. Print.

Capstone Gold Corp. *Reporte de auditoria BD de barrenación a Jul 2017*. Report. Zacatecas. December 27, 2017. Print.

Capstone Gold Corp. *Reporte anual de QAQC barrenos y canales 2017*. Report. Zacatecas. February 21, 2018. Print.

Capstone Gold Corp. *Reporte de auditoria BD de barrenación a Feb 2018*. Report. Zacatecas. March 6, 2018. Print.

Capstone Gold Corp. *Reporte de auditoria BD de barrenación a Oct 2018*. Report. Zacatecas. November 7, 2018. Print.

Capstone Gold Corp. *Reporte anual de QAQC barrenos y canales 2018*. Report. Zacatecas. January 16, 2018. Print.Cereceres, Rafael Ronquillo. *Legal Opinion on Mining Concessions*. Letter. Chihuahua. October 27, 2017. PDF file.

Capstone Mining Corp. *Capstone Mine Achieves Commercial Production*. Internet Archive, Sept. 12, 2006. Web.

Capstone Mining Corp. *Technical Report on the Cozamin Mine, Zacatecas, Mexico*. Rep. Sechelt, BC, 2014. Print.

Capstone Mining Corp. *Reanalysis of 2004-2013 Diamond Drill Samples within San Roberto Zone and Mala Noche Footwall Zone Modelled Solids, July 2014*. Memo. Vancouver: n.p., March 3, 2015. Print.

Capstone Mining Corp. *Annual Information Form: For the Year Ended December 31, 2017*. Publication. Vancouver: n.p., 2018. Print.

"Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines." *Canadian Institute of Mining, Metallurgy and Petroleum*. CIM Council, May 30, 2003. Web.

"CIM DEFINITION STANDARDS - For Mineral Resources and Mineral Reserves." *Canadian Institute of Mining, Metallurgy and Petroleum*. CIM Council, May 10, 2014. Web. June 5, 2014.

Davis, B. M. "Some Methods of Producing Interval Estimates for Global and Local Resources." *Society for Mining, Metallurgy, and Exploration, Inc.* 97.5 (1997): 1-5. PDF file.

BD Resource Consulting, Inc. *Cozamin QA/QC Performance*. Issue brief. Larkspur, CO: n.p., 2009. Print.

Journel, A. G., and Huijbregts, J. *Mining Geostatistics*. London: Academic Press, 1978. Print.

Mexico. Secretaria De Minas E Industria Basica. *Geological-Mining Monograph of the State of Zacatecas*. By J. Cardenas Vargas, J. De J Paraga Perez, R. Merida Montiel, R. Macedo Palencia, and J. De J Rodriguez Salinas. N.p.: Consejo De Recursos Minerales, 1992. Print.

Ponce S., B.F. and Clark, K.F. "The Zacatecas Mining District: A Tertiary Caldera Complex, Associated with Precious and Base Metal Mineralization." *Economic Geology* 83. 8 (1988): 1668-1682. Print.

Lions Gate Geological Consulting Inc. *Preliminary Results of the Drillhole and Chip/Channel Databases and QAQC Audit of Cozamin Mine*. Issue brief. Sechelt, BC: n.p., 2014a. Print.

Martin, Chris. *Cozamin San Rafael Amenability Testing*. Report. Parksville, BC: n.p., 2018. PDF File.

SRK Consulting (Canada). *Technical Report, Cozamin Mine, Zacatecas, Mexico*. Rep. Vancouver, 2009. Print.

Wood, 2019; Estudio Conceptual de Alternativas para Almacenamiento de Jales en la Mina Cozamín, Morelos, Zacatecas, México. Wood Environment & Infrastructure Solutions Denver, CO January 11, 2019

Zonge Engineering and Research Organization, Inc. *Interpretive Report (Addendum to the Phase I Report), Natural Source AMT Geophysical Survey with Ground Magnetics, Cozamin Project, Phase II*. Rep. Tucson: n.p., 2004. Print.

Zonge Engineering and Research Organization, Inc. *Dipole-Dipole Complex Resistivity Survey on the Cozamin Project, Zacatecas, Mexico*. Rep. Tucson: n.p., 2010. Print.