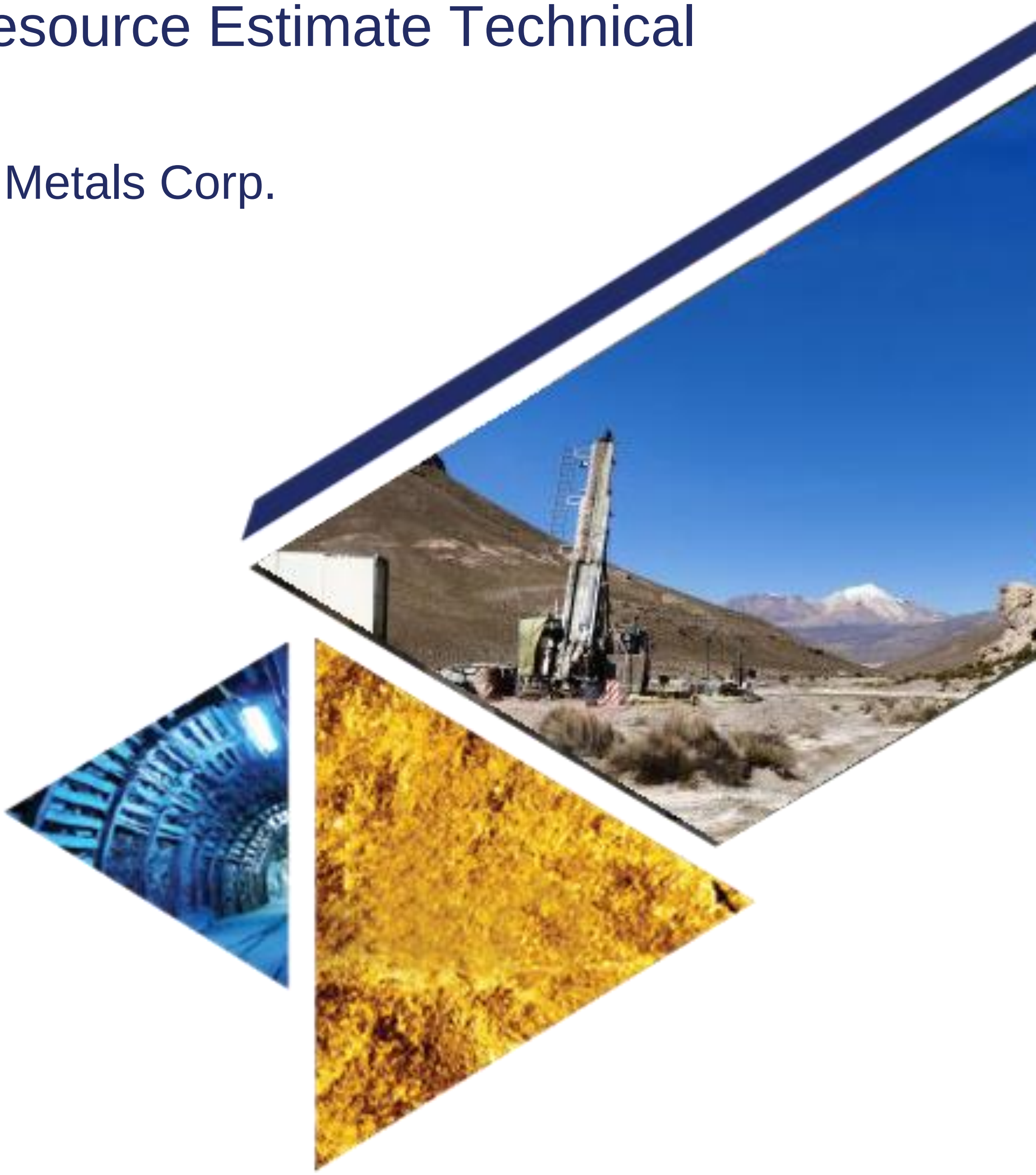
RPMGLOBAL

# Carangas Silver- Gold Project – Department of Oruro, Bolivia – NI 43-101 Mineral Resource Estimate Technical Report

## New Pacific Metals Corp.




**Qualified Persons:**

**Anderson Gonçalves Candido, FAusIMM**

**Marcelo del Giudice, FAusIMM**


**Job Number:** ADV-TO-00079

**Effective Date:** 25 August 2023

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I, Anderson Goncalves Candido, am working as a Principal Resource Geologist for RPM Global, of 8º floor,330 St Antonio de Albuquerque, Belo Horizonte, MG - Brazil. This certificate applies to the NI 43-101 Mineral Resources Technical Report on the Carangas Gold-Silver Project, Bolivia, prepared for New Pacific Metals Corp., dated effective as of 25 August 2023 (the "Technical Report"), do hereby certify that:

1. I am a Fellow Member of the Australasian Institute of Mining and Metallurgy ("FAusIMM").

2. I am a professional geologist having graduated with an undergraduate degree of Bachelor of Science (Geology Engineer) from the Ouro Preto Federal University in 2003.

3. I have worked as a geologist for a period in excess of 19 years since my graduation from university. I have been continuously and actively engaged in the geology discipline on assessment, development, and operation of mineral Projects.

4. I am a Qualified Person for the purposes of the National Instrument 43-101 of the Canadian Securities Administrators ("NI 43-101").

5. I visited the Carangas Gold-Silver Project site from March 27 to 30, 2023 to verify and have a good geology understanding and project perspectives.

6. I approved the preparation and compilation of the Technical Report.

7. I have had no prior involvement with the properties that are the subject of the Technical Report.

8. To the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading as of the effective date of the report, 25 August 2023.

9. I am independent of New Pacific Metals Corp. in accordance with the application of Section 1.5 of NI 43-101.

10. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Technical Report with any stock exchange or any other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their website and accessible by the public, of the Technical Report.

Dated at Brazil, 25 August 2023

*"Anderson Goncalves Candido"*

"Anderson Goncalves Candido" (QP)

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I, Marcelo del Giudice am working as a Principal Metallurgist for RPM Global, of 8º floor,330 St Antonio de Albuquerque, Belo Horizonte, MG - Brazil. This certificate applies to the NI 43-101 Mineral Resources Technical Report on the Carangas Gold-Silver Project, Bolivia, prepared for New Pacific Metals Corporation, dated 25 August 2023 (the "Technical Report"), do hereby certify that:

1. I am a Fellow Member of the Australasian Institute of Mining and Metallurgy ("FAusIMM").

2. I am a professional metallurgist with an undergraduate degree of Bachelor of Science (Metallurgical Engineering) from the Minas Gerais Federal University in 2009. I obtained a Master of Science degree in Chemical Engineering in 2014 from the University of São Paulo.

3. I have been continuously and actively engaged in the mineral processing, project development, and operation of mineral projects since graduation from university.

4. I am a Qualified Person for the purposes of the National Instrument 43-101 of the Canadian Securities Administrators ("NI 43-101").

5. I have not visited the Carangas Gold-Silver Project site.

6. I am author of this report and responsible for section 13 and parts of 1 and 26.

7. I have had no prior involvement with the properties that are the subject of the Technical Report.

8. To the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading as of the effective date of the report, 25 August 2023.

9. I am independent of New Pacific Metals Corp. in accordance with the application of Section 1.5 of NI 43-101.

10. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Technical Report with any stock exchange or any other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their website and accessible by the public, of the Technical Report.

Dated at Brazil, 25 August 2023

*"Marcelo del Giudice"*

"Marcelo del Giudice" (QP)

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# 1. SUMMARY

## 1.1 Introduction

RPM Global Limited ("RPM"), was engaged by New Pacific Metals Corp. ("NPM", the "Company" or the "Client") to complete an Independent Mineral Resource Estimate Technical Report ("Technical Report" or the "Report") of the Carangas Silver-Gold Project (the "Project", "Property" or "Relevant Asset"), located in Oruro Department, Bolivia. This Technical Report conforms to the NI 43-101 Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators ("NI 43-101").

## 1.2 Scope and Terms of Reference

RPM operates as an independent technical consultant providing resource evaluation, mining engineering and mine valuation services to the resources and financial services industries. This Report was prepared on behalf of RPM by technical specialists.

This Report includes an independent Mineral Resource estimate for the Carangas Silve-Gold Project completed by RPM. RPM considers that the Project has good potential for eventual economic extraction using open pit mining techniques and employing conventional mineral processing methods to recover the metals.

RPM's technical team ("the Team") consisted of geologists, metallurgists and mining engineers. The Qualified Person, Mr. Anderson Goncalves Candido, completed a site visit during March 27 to 30, 2023 to become familiar with site conditions, sampling and sample handling procedures and had open discussions with the Company personnel on technical aspects relating to the Project as a part of this Report. RPM found the NPM personnel to be cooperative and open in facilitating RPM's work.

In addition to the work undertaken by RPM to generate an estimate of Mineral Resources, this Report includes information provided by the Company and verified by RPM where applicable, either directly from the site and other offices, or from reports by other organizations whose work is the property of the Company. The data used for the Mineral Resource estimate completed by RPM and contained in this Report, has been provided by the Company and verified by the Qualified Persons ("QP"). All opinions, findings and conclusions expressed in the report are those of the Qualified Persons named herein and are not warranted in any way, expressed or implied. The Report specifically excludes all aspects of legal issues, marketing, commercial and financing matters, insurance, land titles and usage agreements, and any other agreements/contracts that the Company may have entered into except to the extent required pursuant to NI 43-101.

In RPM's opinion, the information provided by the Company was sufficient and nothing was discovered during review of the data and the preparation of the Report that indicated there was any material error or misrepresentation in respect of that information.

RPM has been paid, and has agreed to be paid, professional fees for the preparation of this Report. However, none of RPM's staff or sub-consultants who contributed to this Report has any interest in:

- the Company, securities of the Company or companies associated with the Company; or
- the Relevant Asset.

Drafts of the Report were provided to the Company, for the purpose of confirming the accuracy of factual material and the reasonableness of assumptions relied upon in the Report. This Report is mainly based on information provided by the Company, either directly from the Project site and other associated offices or from reports by other organizations whose work is the property of the Company. The Report is based on information made available to RPM as of June 1, 2023.

## 1.3 Technical Summary

The Carangas Property (the "Property") or the Carangas Project (the "Project") covers an area of 40.75 square kilometers ($km^2$), located in the South America Epithermal-Porphyry Belt in Western Cordillera of Bolivia. The Company, through its wholly owned subsidiaries entered into a joint venture agreement or Mining Association Contract ("MAC") with Mineral Granville S.R.L. ("Granville"), a private Bolivian company which owns the mineral right of the Carangas Property to acquire 98% profits generated from the Project by fulfilling the obligations outlined in the MAC.

Exploration at Carangas commenced in the late 1980's with mapping and channel chip sampling carried out in the old mining adits of San Jose and Orko Tonku at West Dome and the adits at East Dome. More than 350 samples were collected with an average grade of 64 g/t silver. Since 2021, exploration activities have focused on surface drilling. Drilling operations lasted until the end of April 2023.

The Carangas silver-gold polymetallic deposit is hosted in a volcanic caldera system centered by a diatreme of Tertiary age. Mineralization is controlled by geo-thermal gradient sourced from rhyolitic intrusions in the diatreme and zoned into three zones: an upper silver-dominated zone, a middle zinc-lead dominated zone and a lower gold-dominated zone. Accordingly, three mineralized domains are created for Mineral Resource estimation: Ag Domain, Zn-Pb Domain, and Au-Domain

### 1.3.1 Property Description and Location

The Carangas Property is located at Carangas, in the western portion of the Oruro Department in Bolivia. It is approximately 190 kilometers (km) southwest of Oruro City. The Property is presently held by Minera Granville S.R.L., a private Bolivian company, and comprised of three Prospecting and Exploration Licenses ("PELs"), namely Granville I, Granville II, and Colapso, covering a total area of 40.75 $km^2$.

New Pacific Metals entered the Mining Association Contract with Granville to jointly explore and develop the Property under applicable Bolivian laws and pursuant to the terms and conditions of the MAC. New Pacific will cover all costs related to the exploration, development and mining of the Project and will take 98% of the profits generated from the mining production of the Project with the remaining 2% of profits to be taken by Granville. As the holder of mineral title of the Property, Granville will be responsible for permitting matters to keep the Property in good standing by applicable Bolivian laws. The agreement has a term of 30 years and is renewable for an additional 15 years.

### 1.3.2 History

Mining activities in the Carangas district began in the late 16th century in the Spanish colonial era. During that time, mining activities were mainly focused on oxide materials and native silver. Currently, widespread ruins of historical mine workings are visible in the East Dome and the West Dome, historically known as San Antonio and Espiritu Santo hills.

Following the decline of the Spanish colonial era, mining activities in the Carangas area diminished. In 20th century, ownership of the Property was transferred between various international and Bolivian local mining companies. Notably, in the early 20th century, mining operations were revived by Moritz Hochschild and Federico Alhfeld, a German geologist regarded as the father of Bolivian geology was working on the Property in 1923.

There has been a very limited amount of historical mineral exploration at Carangas. The earliest recorded exploration was conducted by COMSUR, a local Bolivian mining company who carried out channel sampling in underground workings of the San Jose, Orcko Tunku, and San Antonio adits in 1985, and collected over 350 samples with an average silver grade of 64 g/t Ag. Llicancabur Mining Ltda., a local Bolivia mining company completed a total of 1,001 meters in 9 reverse circulation holes in 1995 and COMSUR drilled 914.2 meters in 6 diamond drill holes in 2000 (Lopez-Montaño, 2019).

### 1.3.3 Geology and Mineralisation

The Property sits in the South American Epithermal-Porphyry Belt, featuring a geological sequence that includes Jurassic granites and the volcanic rocks of the Negrillos Formation and the Carangas Formation of Tertiary age. The Negrillos Formation consists of eroded lavas, tuffs, and volcanic breccias from ancient volcanic cones. Above the Negrillos Formation, the Carangas Formation includes rhyolitic to rhyo-dacitic intrusive dykes, lithic tuffs, phreatomagmatic breccias intercalated with fluvial sediments in upper portion and andesitic volcanoclastic rocks in the lower portion.

The Carangas area is interpreted as a grand volcanic caldera system of Tertiary age. The Property is located at the southwest corner of the Carangas basin, and geomorphologically is comprised of two prominent hills namely the West Dome and the East Dome, and a fluvial valley in between called the Central Valley. In addition, there is a small hill known as South Dome near the south end of the Central Valley. At the surface of the Property, silver-lead-zinc mineralized vein structures predominantly strike in a West-Northwest direction with steep dips, either sub-vertically or slightly dipping to the south or the north. In addition, there are some vein sets trending in northerly and northeast directions. To depth below the shallow silver-lead-zinc horizon, mineralization is dominated by gold plus minor amount of silver and copper in the lower portion of the mineralized system.

Based on data obtained from drilling, the area of West Dome and Central Valley is interpreted as a diatreme structure with a shape of inverted cone filled with breccias of phreatomagmatic origin and rhyo-dacitic intrusive dykes. On the top of West Dome, unlithified sandy sediments with horizontal beddings intercalated with phreatomagmatic breccias of altered rhyolitic and older volcanoclastic clasts are well exposed on surface, evidencing a volcanic maar environment. The intrusion of magma, once reaching the meteoric water level near surface, led to a series of intense explosive eruption and fracturing, which in turn generated abundant open spaces including cracks and pores in breccias, favorable for the circulation of hydrothermal fluids and the deposition of sulfide minerals of metals.

Three zones of mineralization can be recognized as zoning of different metals. The Upper Silver Zone is near surface and dominated by silver plus moderate amount of lead and zinc. Below the upper zone, the Middle Zinc Zone is dominated by zinc plus minor silver and lead. The Lower Gold Zone is dominated by gold plus a small amount of silver, copper, and zinc.

### 1.3.4 Exploration Status

The Carangas project underwent a systematic exploration process, beginning with the Company's reconnaissance mapping and sampling in 2019. This initial phase was followed by detailed surface-underground mapping and sampling throughout 2020-2021. Exploration activities continued intermittently in 2022 and concluded with the sampling and mapping of previously inaccessible historical underground workings.

In 2020, New Pacific collected a total of 383 rock chip samples from 55 outcrops. The samples were taken at two-meter intervals approximately perpendicular to the strike direction of mineralization, covering a total length of 769 meters. Out of these samples, 117 returned grades ranging from 30 to 2,350 g/t Ag, with an average grade of 160 g/t Ag. Additionally, a total of 268 samples were collected from the dumps of historical mining activities. Among these samples, 233 (86.94%) returned assay results within the range of 30 to 1,950 g/t Ag, with an average grade of 270 g/t Ag.

The Property features historical underground mining workings. The company conducted surveys of all safe and accessible tunnels, totaling 2.4 kilometers, which are all developed within the Carangas Formation. To date, a total of 425 samples have been collected. Among these samples, 112 (26.35%) returned assay results ranging from 30 to 1,060 g/t Ag, with an average grade of 122 g/t Ag.

Furthermore, the company implemented systematic geophysical surveying programs, including a ground magnetometry survey and an Offset (3D) Bipole-Dipole Induced Polarization (IP)-Magneto-Telluric (MT) survey, from 2021 to 2023. The known mineralization system responds well to magnetic lows and IP chargeability highs and multiple additional anomalies were identified.

### 1.3.5 Drilling

The Company started exploration drilling in June 2021 and completed resource definition drilling at the end of April 2023. During that period, as many as five rigs were running at Carangas and a total of 81,145 meters were drilled in 189 holes. Maldonado Exploraciones, a contracted drilling company from La Paz, Bolivia, conducted all drilling which was roughly broken down to four stages.

- Phase I drilling: started on June 21, 2021, and concluded on September 24, 2021. Thirteen holes were completed, totalling 3,790.4 meters to verify historical drill results and to test the lateral and depth extent of the known mineralization exposed on surface at West Dome and East Dome.
- Phase II: drilling commenced on October 6, 2021 and completed on December 17, 2021. In this phase, 22 holes were drilled for a total of 9,420 meters with the objective to test mineralization covered by young sediments in the Central Valley area.
- The Phase III: a resource definition drill program, started on February 3, 2022, and completed on December 14, 2022. To rapidly define the mineral resource potential at Carangas, five drill rigs were employed for the drill program. During this period, a total of 50,311 meters were drilled in 115 holes on a drill grid of approximately 50-meter spacing and most holes intersected broad mineralization.
- Phase IV: drilling is a continuation of the 2022 resource definition drill program with the aim to infill areas drilled in 2021-2022 and step out beyond these previously drilled areas. As of the end of April 2023, a total of 39 holes were completed for a total of 17,623.5 meters in this phase of drilling.

### 1.3.6 Sample Preparation, Assay, and QA/QC

New Pacific has established a series of working procedures and protocols regarding core logging, sampling, core quality assurance/quality control (QAQC) and data validation, which include the regular submission of check samples to umpire Alfred H Knight laboratory in Lima, Peru.

All drill holes were geologically logged and sampled by New Pacific field personnel at the company's facilities in Carangas. Geological logging included detailed recording of lithology, alteration, mineralization, structure and RQD measurements. Drill cores are stored at a secure core storage at the Company's Carangas camp for future check and audit.

New Pacific personal oversees the delivery of drill core and rock chip samples from the Carangas camp to the ALS laboratories in Oruro, Bolivia for sample preparation, and then the pulp samples were shipped to ALS in Lima, Peru for geochemical analysis. ALS Oruro and ALS Lima are part of ALS Global, a commercial laboratory specializing in analytical geochemistry services, all of which are accredited in accordance with ISO/IES 17025:2017 and are independent of New Pacific.

All drill core, rock chip, and grab samples are prepared using the following procedures: (1) crush to 70% less than 2 mm; (2) riffle split of 250 g; and (3) pulverize the split to more than 85% passing a 75-micron sieve.

New Pacific has established comprehensive QA/QC procedures which cover every step of sampling, preparation and geochemical analysis, including insertion of certified reference materials (CRMs), blanks, and duplicates into regular sample sequences. The use of reasonable number of different control samples is robust and returns a good variety of verification through the whole process, and the umpire lab check analysis gives a good level of reproducibility of the database.

The insertion ratio of control samples is 24%, which is higher than the industry benchmark (15-20%).

In the QP's opinion, the data acquisition, analysis and validation comply with the best industry practices and are trustworthy for Mineral Resource Estimate and technical reporting.

### 1.3.7 Metallurgical Testing

A preliminary metallurgical testwork program was completed by Bureau Veritas Minerals (BV Minerals) in Richmond, British Columbia, Canada and ALS Metallurgy in Kamloops, British Columbia, Canada between June 2022 and May 2023 involving five composite samples. These five composite samples were prepared using the mineralized materials of assay sample rejects from six drill holes in the West Dome and Central Valley mineralized zones.

Among these five composite samples, two of them were gold mineralized samples (1.8 ~ 4.0 g/t Au). These two samples were subjected to bottle roll cyanide leach testing to recover gold. The results showed that these two samples were very amenable to cyanide leach and the preg-robbing issue was absent. Gold recovery was consistently above 97% under typical cyanide leach conditions. There were signs indicating that coarse gold particles might be present in these two samples.

The third sample was collected from the silver/lead/zinc mineralized zone near the surface of the deposit. This sample contained 167 g/t silver, 1.18% lead and 0.019% zinc. 69% of lead minerals in this sample were oxidized. The silver/lead concentrate produced by bulk flotation contained 7,788 g/t silver and 41.6% lead with corresponding 79.7% silver recovery and 60.1% lead recovery. One indicative cyanide leach test showed 96% of silver in this concentrate was leachable in cyanide solution in 24 hours.

The fourth sample was collected from the silver/lead/zinc mineralized zone close to the surface of the deposit. This sample contained 95 g/t silver, 0.85% lead and 0.48% zinc. 39% of lead minerals in this sample were oxidized. The silver/lead concentrate produced by sequential selective flotation contained 5,612 g/t silver and 35.2% lead with corresponding 91.1% silver recovery and 64.2% lead recovery. Further work is needed to produce a marketable zinc concentrate. One indicative cyanide leach test showed 94% of silver in this silver/lead concentrate was leachable in cyanide solution in 24 hours.

The fifth sample was collected at depth in the silver/lead/zinc mineralization zone. This sample contained 143 g/t silver, 0.84% lead and 1.27% zinc. Sequential selective flotation was successful in generating two marketable concentrates. The silver/lead concentrate contained 8,596 g/t silver and 52.1% lead with corresponding 90.9% silver recovery and 94.1% lead recovery, and the zinc concentrate contained 53.3% zinc with 80.4% zinc recovery. One indicative cyanide leach test showed 48% of silver in the silver/lead concentrate was leachable in cyanide solution in 24 hours. When cyanide leach retention time is extended, silver recovery is expected to increase.

### 1.3.8 Mineral Resources

RPM has independently estimated the Mineral Resources of the Carangas Project, based on the data provided by New Pacific Metals as of June 1, 2023. The Mineral Resource estimate and underlying data comply with the guidelines of the CIM Definition Standards under NI 43-101. RPM considers it suitable for public reporting. The QP, Mr. Anderson Goncalves Candido, completed the Mineral Resources Estimate.

Mineral Resources were reported using a cut-off value of 40 g/t AgEq and a conceptual open pit mining constraint, assuming that extraction will be conducted using open pit mining method. The cut-off value was determined using consensus five-year forecast of metal prices made by industry and banks.

Three zones of mineralization can be recognized as zoning of different metals. The Upper Silver Zone, the Middle Zinc Zone and the Lower Gold Zone, The Mineral Resources is stated in these three zones. The results of the Mineral Resource estimate for the Carangas deposit are presented in **Table 1-1**.

**Table 1-1 Carangas Deposit - Conceptual Pit* Constrained Mineral Resource as of 25 August 2023**

| Domain | Category | Tonnage | AgEq | | Ag | | Au | | Pb | | Zn | | Cu | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mt | g/t | Mozs | g/t | Mozs | g/t | Kozs | % | Mlbs | % | Mlbs | % | Mlbs |
| Upper Silver Zone | Indicated | 119.18 | 85.3 | 326.8 | 44.7 | 171.2 | 0.1 | 216.4 | 0.3 | 916.6 | 0.7 | 1,729.6 | 0.01 | 34.5 |
| | Inferred | 31.30 | 80.3 | 80.8 | 43.0 | 43.3 | 0.1 | 104.6 | 0.3 | 202.4 | 0.5 | 350.0 | 0.01 | 8.9 |
| Middle Zinc Zone | Indicated | 43.42 | 56.0 | 78.1 | 10.8 | 15.0 | 0.1 | 77.4 | 0.4 | 343.6 | 0.8 | 739.4 | 0.01 | 13.7 |
| | Inferred | 9.32 | 54.2 | 16.2 | 8.8 | 2.6 | 0.1 | 15.6 | 0.4 | 74.1 | 0.8 | 162.3 | 0.01 | 2.5 |
| Lower Gold Zone | Indicated | 52.28 | 92.1 | 154.9 | 11.4 | 19.1 | 0.8 | 1,294.4 | 0.2 | 184.7 | 0.2 | 184.7 | 0.06 | 64.4 |
| | Inferred | 4.37 | 91.1 | 12.8 | 12.6 | 1.8 | 0.7 | 97.5 | 0.2 | 21.4 | 0.2 | 21.4 | 0.06 | 5.4 |

Source: compiled by RPM GLOBAL, 2023

** Notes:*

1. *CIM Definition Standards (2014) were used for reporting the Mineral Resources.*
2. *The Qualified Person (as defined in NI 43-101) for the purposes of the MRE is Anderson Candido, FAusIMM, Principal Geologist with RPM (the "QP")..*
3. *Mineral Resources are constrained by an optimized pit shell at a metal price of US$23.00/oz Ag, US$1,900.00/oz Au, US$0.95/lb Pb, US$1.25/lb Zn, US$4.00/lb Cu, recovery of 90% Ag, 98% Au, 83% Pb, 58% Zn and Cut-off grade of 40 g/t AgEq and reported as per Section 14.*
4. *Mineral Resources are reported inside the claim boundary.*
5. *Drilling results up to June 1, 2023.*
6. *The numbers may not compute exactly due to rounding.*
7. *Mineral Resources are reported on a dry in-situ basis.*
8. *Mineral resources are not Mineral Reserves and have not demonstrated economic viability*

Below the conceptual pit constraint, there exists gold-dominated mineralized material of similar size and grade to the reported Mineral Resources of the Gold Domain within the conceptual pit. This mineralized material has the potential to be converted to Mineral Resource for underground mining after further studies in future Preliminary Economic Study stage. Gold mineralization remains open to the north and northeast at depth.

RPM considers that the reported Mineral Resources have reasonable prospects for eventual economic extraction using open pit mining methods.

### 1.3.9 Mineral Reserves

This section is not applicable.

### 1.3.10 Mining Method

This section is not applicable.

### 1.3.11 Project Infrastructure

This section is not applicable.

### 1.3.12 Market Studies

This section is not applicable.

### 1.3.13 Environmental, Permitting and Social Considerations

This section is not applicable.

### 1.3.14 Capital and Operating Cost Estimates

This section is not applicable.

### 1.3.15 Economic Analysis

This section is not applicable.

### 1.3.16 Interpretation and Conclusions

Carangas is a large silver-gold-lead-zinc polymetallic deposit hosted in caldera-diatreme volcanic complex of Tertiary age. Mineralization is controlled by the temperature and pressure of the underlying hydrothermal system and zoned into sperate zones: a near-surface Upper Silver Zone, a Middle Zinc Zone and a Lower Gold Zone. Gold mineralization remains open at depth to north and northeast directions. Beyond the drilled area, there exist multiple IP chargeability anomalies with similar geophysical signature to that of the known mineralization which constitute targets for future drill test.

The QP is satisfied with New Pacific's working procedures and protocols which follows the best practices of the industry, regarding core logging, sampling, core quality assurance/quality control (QAQC) and data validation.

The completed preliminary metallurgy and processing tests from selected drill core rejects identified the critical processing procedures for different types of minerals and provided vital information on the selection of proper processing flowsheets to maximize economic values of the Mineral Resources. The QP is satisfied with the testing procedures and the interpretations of the test results.

In the opinion of the QP, the data and information provided by New Pacific Metals was sufficient to compete this Technical Report, and there was no indication that suggested any material error or misrepresentation during the review of the data and the preparation of the Report.

### 1.3.17 Recommendations

Based on the results of the Mineral Resources estimate and the conclusions of this Report, following recommendations are made:

- Continue with drilling at Carangas Project for addition of Mineral Resources and for improvement of the confidence of Mineral Resources. A total of 12,000 m of drilling is recommended, including resource infill drilling and step-out drilling as well as regional exploration drilling on the IP chargeability anomalies.
- Continue with the existing joint research programs with local universities to better understand the mineralization control and genesis for guiding further exploration targeting.
- Initiate exploration programs of geological mapping and prospecting over the IP chargeability anomalies for refining targets of drilling test.
- Further processing and metallurgy tests to guide the upcoming advanced technical and economic studies of the Project.
- Conduct underground mining study to investigate the potential of conversion of the mineralized material below the conceptual open pit constraint to Mineral Resources for underground mining.
- Conduct a Preliminary Economic Assessment (PEA) study to understand the potential economics of the Carangas Project.

The total budget for above recommended work and programs is USD3,500,000.

# 2. INTRODUCTION

RPM Global Limited ("RPM"), was requested by New Pacific Metals Corp. ("NPM", "New Pacific", the "Company" or the "Client") to complete a Mineral Resource Estimate Technical Report ("Technical Report" or the "Report") of the Carangas Silver-Gold Project (the "Project", "Property" or "Relevant Asset"), located in Bolivia. This Technical Report conforms to the NI 43-101 Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators ("NI 43-101").

## 2.1 Terms of Reference

"NPM", "New Pacific", "the Company" and "the Client" refer to New Pacific Metals Corp.;

"RPM" refers to RPM Global Limited and its representatives;

"Project" refers to the Carangas Silver-Gold Project located in Bolivia which is owned and operated by NPM;

Silver and Gold are described in terms of grams per dry metric tonnes (g/t);

Lead, Zinc and Copper are described in terms of percentage;

Resource definitions are as outlined in the "Canadian Institute of Mining, Metallurgy and Petroleum, CIM Standards on Mineral Resource and Mineral Reserves – Definitions and Guidelines" adopted by CIM Council on May 10, 2014.

## 2.2 Sources of Information

The QP reviewed the available project data and incorporated the results thereof with appropriate comments and adjustments as needed in the preparation of this Report. Standard industry review procedures were used throughout the preparation of this Report. The QP used his experience to determine whether the information from previous reports was suitable for inclusion and adjusted information as required. This Report includes technical information which required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. The QP does not consider any such errors to be material.

The primary source documents for this report were as follows:

- Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects, ("NI 43-101"), 2011;
- CIM Definition Standards for Mineral Resources and Mineral Reserves, prepared by the CIM Standing Committee on Reserve Definitions, adopted by CIM Council on May 10, 2014;
- Carangas Project Technical Report, Bolivia, Birak Consulting LLC, November 2022.

The primary source documents for the Mineral Resource estimate were:

- Drill hole files (assay, collar, downhole survey, lithology, RQD, core recovery) in csv format;
- Density measurements from drill holes in csv format;
- QAQC control samples;
- An orthophoto file in tif format; and
- A topography file in dxf format.

## 2.3 Participants and Responsibilities

The Qualified Person, Mr Anderson Goncalves Candido, completed a site visit to the Project during the period from March 27 to March 30, 2023 to review field procedures of drilling, core logging, and sampling as well as previous work,. During this visit, RPM also observed and verified site geology, site conditions, , and data quality. In addition, open discussions took place with the Company personnel on technical aspects related to the Project.

RPM found the New Pacific Metals project team was cooperative and open in facilitating RPM's work.

Project participants included:

- Mr. Phillipe Baudry – Project Director;
- Mr. Brian Hartman – Principal Geologist;
- Mr. Anderson Goncalves Candido – Qualified Person for Statement of Mineral Resources and for the entire report;
- Mr. Marcelo del Giudice – Qualified Person for Section 13 of Mineral Processing and Metallurgical Testing;

## 2.4 Limitations and Exclusions

This Report was prepared by RPM for NPM and is subject to the terms and conditions of RPM's contractual engagement with NPM. This report must be read in its entirety and is subject to the disclaimers, limitations and exclusions contained in **Appendix B** of this Report. For the purposes of this Report, items 1-8 of the limitations and exclusions in **Appendix B** are incorporated as if they were included verbatim in the body of this report.

## 2.5 List of Abbreviations

Units of measurement used in this report conform to the metric system. All currency in this report is US dollars (US$) unless otherwise noted.

| Abbreviation | Unit or Term |
|---|---|
| A | Ampere |
| ARD | acid rock drainage |
| Ag | silver |
| Au | gold |
| AgEq. | silver equivalent |
| | |
| CAPEX | Capital expenses |
| CFM | cubic feet per minute |
| CoG | cutoff grade |
| COO | Chief Operating Officer |
| CST | cleaner scavenger tailings |
| Cu | copper |
| Chl | chlorite |
| | |
| dmt | dry metric tonnes |
| dst | dry short tons |
| | |
| EIA | Environmental Impact Assessment |
| EMP | Environmental Management Plan |
| EMS | Environmental Management System |
| EP | Equator Principles |
| EPC | Engineering, Procurement, Construction |
| EPCM | Engineering, Procurement, Construction Management |
| ESAP | Environmental and Social Action Plan |
| | |
| F&A | Finance and Administration |
| Feet | feet, ' or ' |

| | |
|---|---|
| FoS | factor of safety |
| FS | Feasibility Study |
| G & A | General and Administrative |
| g | grams |
| g/t | grams per tonnes |
| hp | horsepower |
| k | Thousand |
| klbs | thousands of pounds |
| km | kilometer |
| $km^2$ | square kilometers |
| koz | thousands of troy ounces |
| kt | kilo tonnes |
| kV | kilovolt |
| kW | kilowatt |
| kWhr | kilowatt hour |
| l | liter |
| l/s | liters per second |
| LAN | Local Area Network (computer communications system) |
| lb | pound |
| lbs | pounds |
| LOM | Life of Mine |
| m | meter(s) |
| $m^3$ | cubic meter |
| masl | meters above sea level |
| MDA | Mineral Development Agreement |
| MDE | maximum design earthquake |
| MDL | method detection limit |
| Mlb | Millions of pounds |
| M+I | Measured and Indicated (with respect to Resources) |
| Mm3 | million cubic meters |
| MSHA | US Department of Labor – Mine Safety and Health Administration |
| Mt | million tonnes |
| MW | megawatt |
| MWhr | megawatt-hour |
| Mw | movement magnitude (of rock, by seismic activity) |
| NPM | New Pacific Metals Corp. |
| NPV | net present value |
| NSR | net smelter return |
| OBE | Operational basis earthquake |
| OPEX | Operational expenses |
| oz. t | Troy ounces |
| opt | Troy ounces per short ton |
| P80 | 80-percent-passing size |
| PAG | Potentially acid generating |
| PELs | Mining Rights |
| PC | Principal Contractor |
| Pb | lead |
| PE or PEng | Professional Engineer |

| | |
|---|---|
| PFS | Prefeasibility Study |
| PG or PGeo | Professional Geologist |
| PGA | peak ground acceleration |
| PMF | probable maximum flood |
| ppm | parts per million |
| phl | phlogopite |
| QA/QC | quality-assurance/quality-control |
| Rec | recovery |
| RMR | Rock Mass Rating |
| ROI | return on investment (percentage, after tax) |
| RPM | RPMGlobal |
| S | sulfur |
| SAG | semi-autogenous grinding |
| SEIA | Social and Environmental Impact Assessment |
| SLOS | Sub-Level Open Stoping |
| tpd | metric tons per day |
| US$ | US dollars |
| WAN | Wide Area Network (computer communication system) |
| WRF | Waste Rock Facility |
| Wi | Work index (grinding characteristic of rock) |

# 3. RELIANCE ON OTHER EXPERTS

All Sections of this Report were prepared using information provided by the Company or other third parties and verified by RPM, where applicable, or based on observations made by RPM.

The Qualified Persons have relied on the contribution by Company and specialist consultants engaged by Company and believe there is a reasonable basis for this reliance. The Qualified Persons do not disclaim any responsibility for this information. RPM has relied on NPM for guidance on applicable taxes, royalties, and other government levies or interests, applicable to revenue or income from the Project.

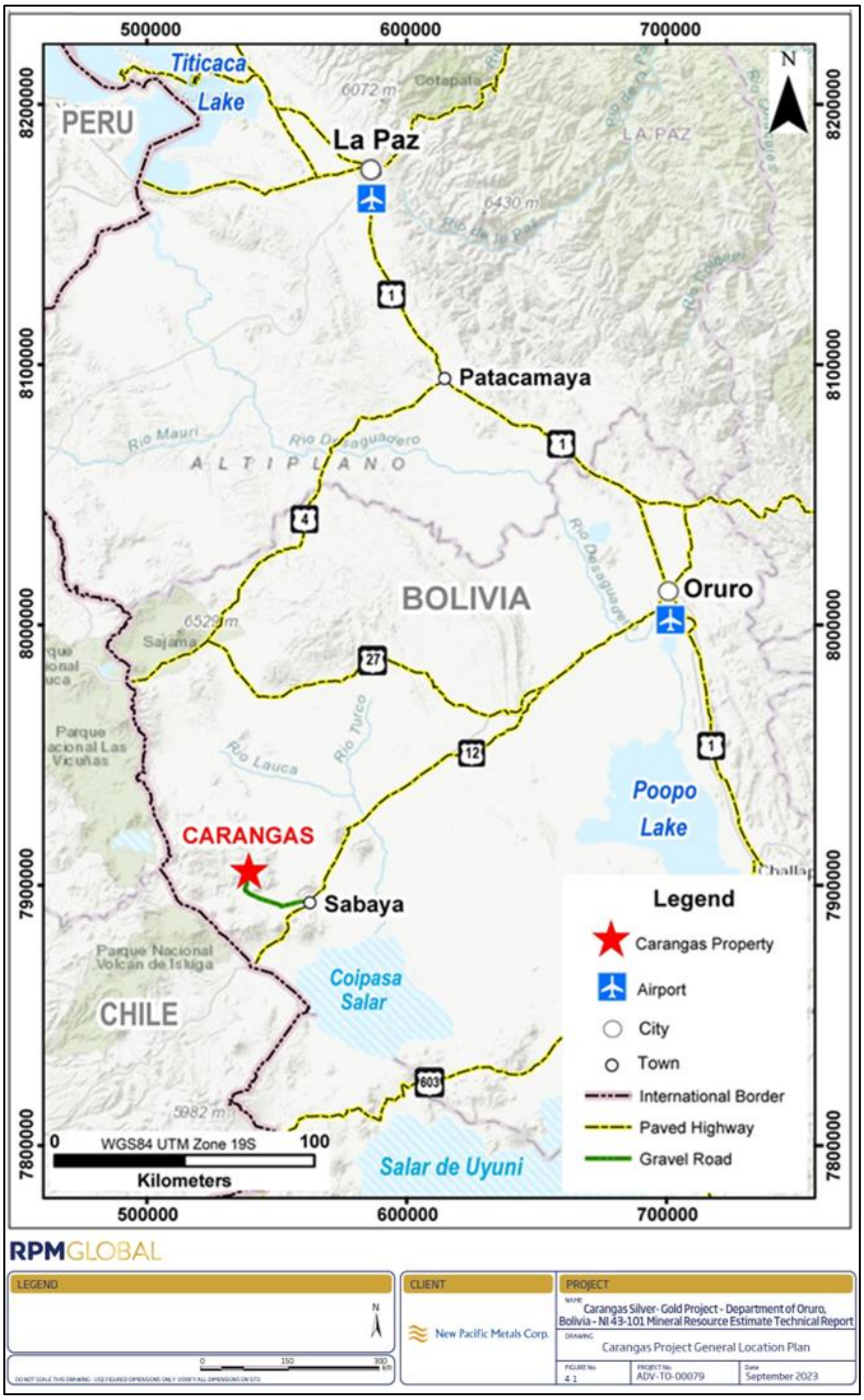
Regarding the background, history, ownership and tenure, RPM has relied on the information provided by the Company, including land ownership and tenure status. RPM's scope has specifically excluded all aspects of legal, political, land titles and agreements, excepting such aspects may directly influence technical, operational, or cost issues.

RPM has not researched property title or mineral rights for the Project and expresses no opinion as to the ownership status of the Property.

# 4. PROPERTY DESCRIPTION AND LOCATION

The Carangas Property is located at Carangas region in the western portion of the Department of Oruro, Bolivia, approximately 190 kilometres (km) from the Oruro city. The coordinates of the center of the Property are 7,906,871 Northing and 541,116 Easting (WGS84, UTM Zone 19S), corresponding to latitude 18°55'48.05" S and longitude 68°36'34.25" W. The average altitude is approximately 3,950 meters. The Property has a total area of 40.75 square kilometres (4,075 hectares). The location of the Property is shown in **Figure 4-1**.

**Figure 4-1 Carangas Project General Location Plan**



## 4.1 Prospecting and Exploration Licenses (PEL)

The Property consists of three mining rights (PELs) granted to Minera Granville S.R.L. by AJAM with the following details (**Table 4-1** and **Figure 4-2**).

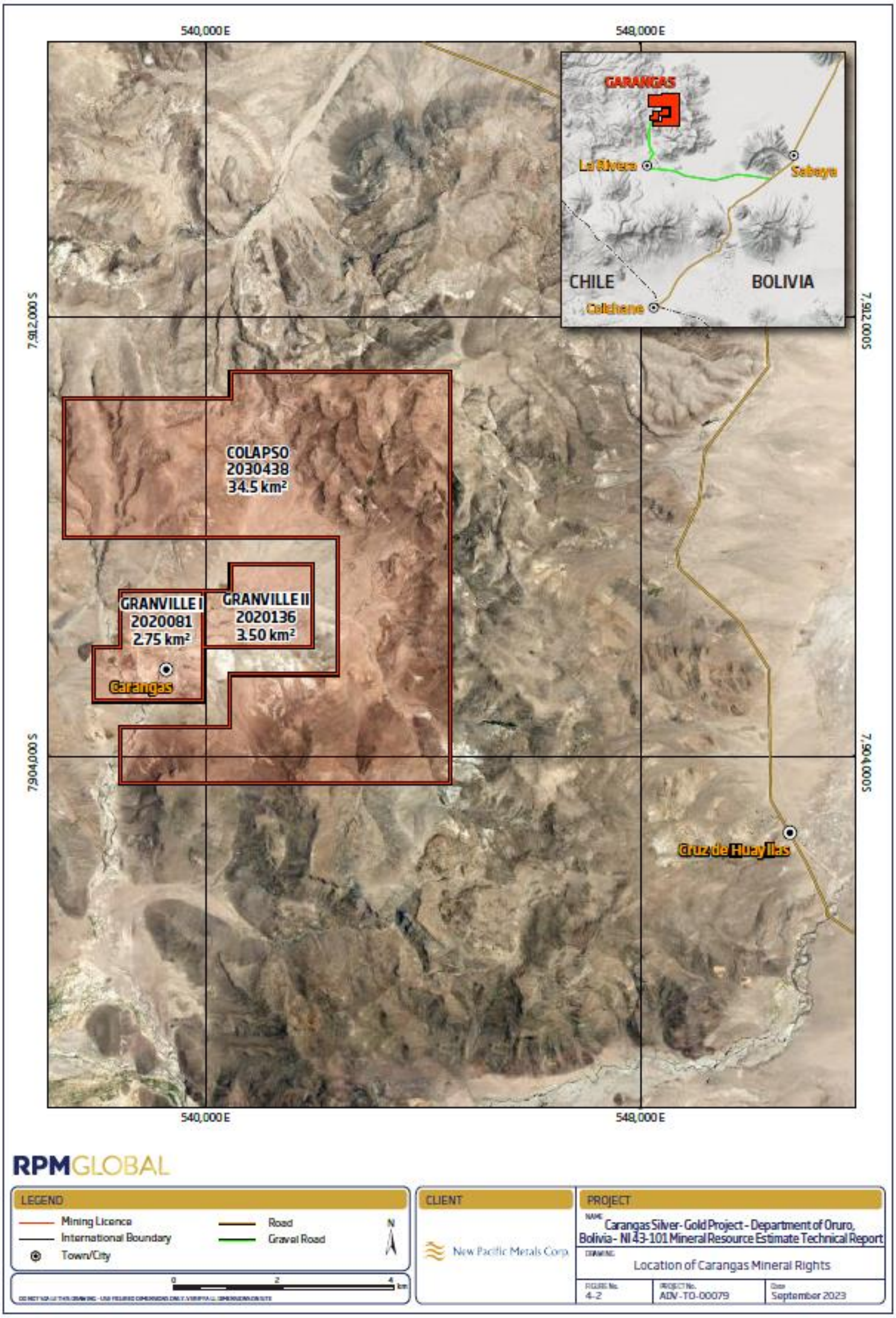
Each of the PELs in **Table 4-1** has a validity term of five years, with provisions for one extension of three years. Annual costs to maintain the PELs are managed by Minera Granville. As the Property is located within 50 kilometers from international border where foreign companies or foreigners are not permitted to have ownership of land and right of mineral, Granville remains as the holder of all licenses, permits and rights granted to it by Bolivian authorities. To the extent known, there are no other royalties, back-in rights, payments, or other agreements and encumbrances to which the Property is subject.

**Table 4-1 Mining Rights of Carangas Property**

| Concession Number | National Registry | Name | Concession type | Size in Km2 (hectares) | Title holder | Expiration Date |
|---|---|---|---|---|---|---|
| 2020081 | 4-02-2020081-0009-23 | Granville I | PEL | 2.75 (275) | Minera Granville S.R.L. | 20/11/2027 |
| 2020136 | 4-02-2020136-0088-21 | Granville II | PEL | 3.50 (350) | Minera Granville S.R.L. | 14/03/2026 |
| 2030438 | 4-02-2030438-0008-23 | Collapso | PEL | 34.5 (3450) | Minera Granville S.R.L. | 20/11/2027 |

Source: New Pacific, 2023

**Figure 4-2 Location of Carangas Mineral Rights**



As the holder of the PELs, Granville has the right to:

- Carry out mining exploration and prospecting activities in the mining area indicated in the licenses for a specific term.
- Have the possibility to commercialize the eventual mineral production that is obtained exclusively from the exploration activities.
- Have a preferential right (the "Preferential Right"), which allows the holder to request the signing of an Administrative Mining Contract on the mining area preferentially over any other interested parties.
- The rights of passage, which allow transit through the land and/or neighboring properties to access the holder's license area, under prior agreement with the landowner, and to build paths, roads, bridges, pipelines, aqueducts, power lines, railway lines and install the necessary basic services, at its own expense and cost.

To maintain the PELs in good standing, Granville shall:

- Commence exploration and prospecting activities within one year from the date of the grant of the license.
- Not suspend activities for more than one year without justifiable reason.
- Deliver reports each semester on the progress of activities to AJAM (Mining Administrative Jurisdictional Authority).
- Pay the corresponding mining patent fees every year in advance according to applicable Bolivian laws.
- Obtain the required environmental license before conducting prospecting and exploration activities in the area; and
- Follow the current exploration/mining Bolivian legislation and regulations.

## 4.2 Terms of the Joint Venture

The Company entered the Mining Association Contract to form a joint venture for development of the permitted mining activities under applicable Bolivian laws. The joint venture grants the opportunity to the Company and Granville to conduct mining activities within the mining area pursuant to the terms and conditions of the Mining Association Contract.

Terms of the joint venture were disclosed by the Company in its management discussion and analysis for the three and nine months ended March 31, 2022, as follows (New Pacific SEDAR issuer profile – MD&A, May 11, 2022):

> *"In April 2021, the Company signed an agreement with a private Bolivian company to acquire a 98% interest in the Carangas Project. The project is located approximately 180 km southwest of the city of Oruro and within 50 km from Bolivia's border with Chile. The private Bolivian company is 100% owned by Bolivian nationals and holds title to the two exploration licenses that cover an area of 6.25 km2. Under the agreement, the Company is required to cover 100% of the future expenditures on exploration, mining, development, and production activities for the project. The agreement has a term of 30 years and is renewable for another 15 years."*

On April 20, 2023, the Mining Association Contract was updated for inclusion of the PEL of Colapso which has an area of 3,450 hectares with all other terms of rights and obligations unchanged, bringing the total area to 40.75 square kilometers in three PELs.

To maintain the Property in good standing, the Company and Granville must comply with the agreement in relation to the development of the authorized mining activities.

## 4.3 Environmental Liabilities

According to applicable Bolivian laws and administrative resolutions, prior to conducting prospecting and exploration activities, the mining project or projects developed at the Property must have their corresponding environmental licenses. To date, the projects conducted on the Property have obtained the corresponding environmental licenses (Dispensing Certificates Category 3) granted by the government of the Department of Oruro.

The Qualified Person is not aware of any environmental liabilities at Carangas, other than the requirements to obtain permits to conduct work. To the extent known, there are no other significant factors and risks that may affect access, title, or the right or ability to perform work on the Property.

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

## 5.1 Physiography and Climate

The Project area is in the Western Andes Cordillera region of Bolivia, a rugged mountains region with elevation reaching 4,000-5,000 m. At the Project area, the elevation ranges from 4,074 m on top of the West Dome down to 3,904 m at the Carangas River running between the West Dome and the East Dome in the core of the Property.

Vegetation on the Property consists of low grasses and shrubs. The climate of the Western Cordillera is cool and dry, especially in winter months. In the Carangas area, high temperatures range from 12.4°C in July to 19.2°C in October and the low temperatures range from -3.5° C in July to 3.8°C in January (**Table 5-1**). Rainfall in the area is sparse and ranges from 2 mm in June to 162 mm in January. The local climate does not limit the length of the operating season.

**Table 5-1 Weather of Carangas Region**

| | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg. Temperature °C | 9.2°C | 9°C | 8.7°C | 7.8°C | 5.5°C | 4.5°C | 3.8°C | 5.3°C | 7.2°C | 9°C | 10.1°C | 10.4°C |
| Min. Temperature °C | 3.8°C | 3.8°C | 2.4°C | 0.3°C | -2.4°C | -3°C | -3.5°C | -2.9°C | -1.5°C | 0.2°C | 1.2°C | 3.3°C |
| Max. Temperature °C | 15.4°C | 15.1°C | 15.4°C | 15.7°C | 14.3°C | 13.1°C | 12.4°C | 14.2°C | 16.3°C | 18.1°C | 19.2°C | 18.3°C |
| Precipitation (mm) | 162 | 138 | 81 | 21 | 3 | 2 | 4 | 6 | 6 | 12 | 22 | 82 |
| Humidity (%) | 59% | 65% | 59% | 40% | 22% | 16% | 17% | 17% | 19% | 21% | 22% | 37% |
| Rainy days (d) | 15 | 13 | 11 | 4 | 1 | 0 | 1 | 1 | 1 | 2 | 3 | 9 |
| Avg. Sun hours (hours) | 8.6 | 7.9 | 8.7 | 9.8 | 10 | 9.8 | 9.8 | 10.2 | 10.7 | 11.1 | 11.5 | 10.6 |

Source: climate-data.org, 2023

## 5.2 Accessibility, Infrastructure and Local Resources

The Project area is accessible by vehicle from Oruro city, with approximately 197 kilometers of paved national Highway 12 leading to Sabaya., then a flat gravel road of 35 kilometers from Sabaya to Carangas (Figure 4-1).

The closest major population center is Oruro city, with a population about 260,000 people. Some small farming and grazing communities (pueblos) are scattered throughout the region, the closest being Carangas, situated between the two prominent hills – the West Dome and the East Dome – on the Property. The official population of the Carangas pueblo is 557 people but only a small number of people reside in the community on a regular basis with the majority living in Oruro. Oruro has a long history and culture of mining since the colonial era, and sufficient supply of skilled mining talents will be available once the Project evolves to mining production.

There are two small local rivers running through the Property with a flow rate of approximately 20 liters per second for each of them in dry season. This water supply is more than enough for water consumption of the Project during exploration and drilling stage and an agreement of water usage has been reached with local communities. Approximately five kilometers south of the Property, the small rivers join a much bigger river near La Rivera, the Todos Santos River which has a flow rate of more than one thousand liters per second in the dry season, which may provide adequate water supply for future mining stages of the Project.

A 220 volt, single phase electric power is available via an approximately 250 km long power line from Oruro running along the main road, Highway 12. A three-phase, industrial power is available about 5 km to the south of the Property near the community of La Rivera.

The Carangas community has its essential facilities such as medical clinic, school, church, soccer field and municipal offices as well as towers for mobile telecommunication.

The Company has set up its exploration camp facilities at Carangas, including exploration offices, accommodation and dining, core shack for logging and sampling, and storage. Most supplies for the Project are trucked from Oruro and La Paz.

The PELs grant the Company the right of exploration and small-scale mining only. Surface rights belong to the local communities. The Company has obtained permissions from the local communities to build drill roads and pads and other exploration infrastructures during the exploration stage. Agreements or permissions need to be secured from the local communities to build the mine and other facilities such as processing plant, tailing and waste storage as well as offices and accommodations in the vast open area surrounding the Property when it moves to mining production stage.

# 6. HISTORY

The Property has a long history of mining since the Spanish colonial period in the mid-1500s until the 20th century when intermittent mining was continuing. In the 1980s, Compañia Minera del Sur S.A. (“Comsur”) was active in the area and has collected 350 samples (surface dump and underground channels).

From 1985 to 2000, a limited amount of exploration and drilling were conducted, and most of the exploration activities were focused on investigating the geology and potential of the West Dome area. In 1995, Llicancabur Mining Ltda. (“Llicancabur”), a Bolivian mining company completed a total of 1,001 meters of reverse circulation drilling in nine holes.

In 2000, COMSUR drilled 914.2 meters of diamond core drilling in six holes. The results of these drill holes confirmed the significant silver mineralization previously reported from the earlier drilling program. Noteworthy intersections include 52 meters grading 103.4 g/t silver from a depth of 24 meters in hole DDH-1, and 30 meters grading 62.9 g/t silver from a depth of 8.0 meters in hole DDH-5.

In 2020, a Bolivian private company Minera Granville S.R.L. was granted the Prospecting and Exploration License in the area of Carangas.

In April 2021, New Pacific announced it entered an agreement with Mineral Granville to jointly explore and develop the Carangas Property. Per the agreement, the Company will cover 100% of the future expenditures of exploration, mining, development, and production activities and will take 98% of operating profits of the Project when it moves to mining production.

# 7. GEOLOGICAL SETTING AND MINERALISATION

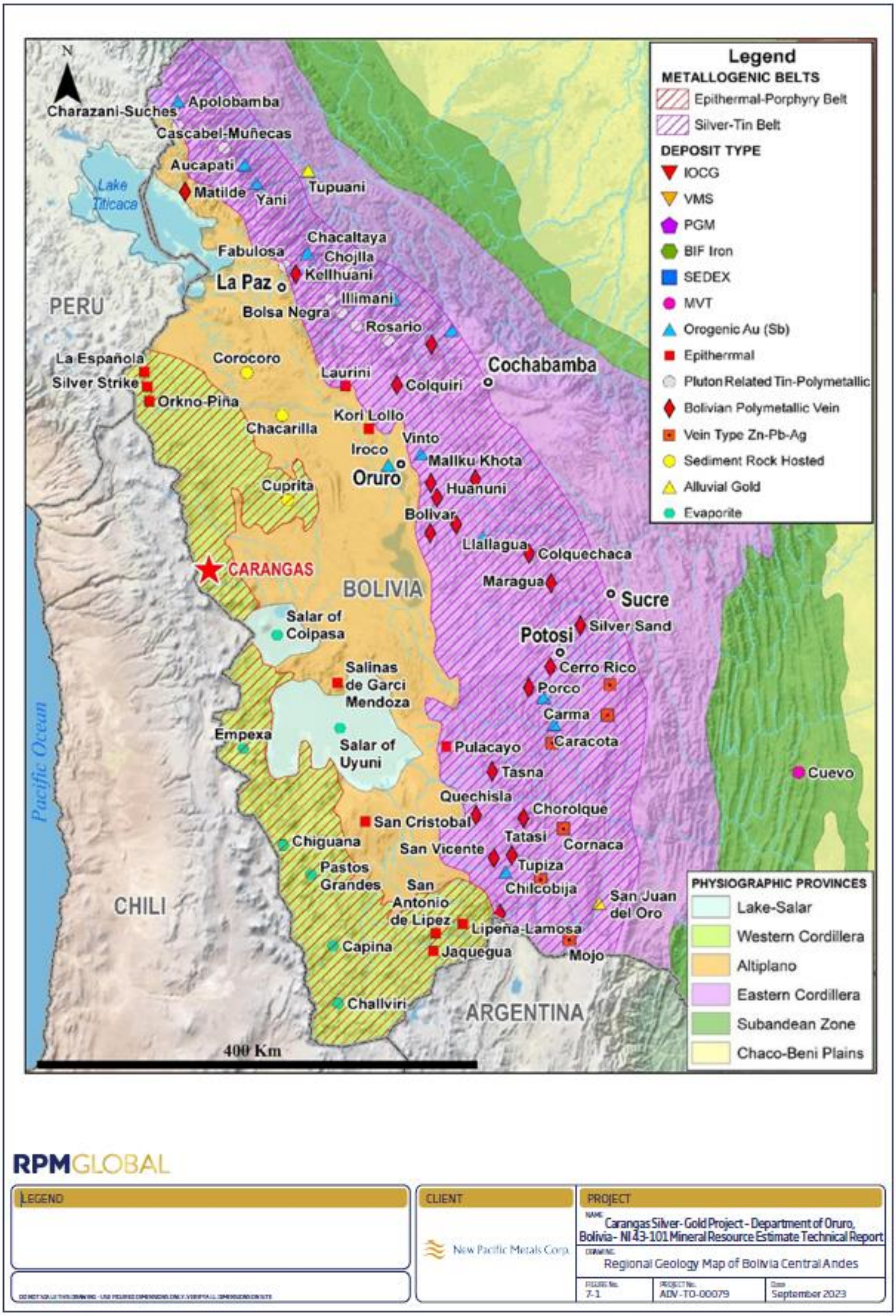
## 7.1 Regional Geology

The Bolivian Central Andes hosts a variety of mineral deposits grouped into distinct metallogenic belts (Figure 7-1). This region hosts epithermal deposits of silver, gold, lead, zinc and copper. From Western Cordillera to the east into the Altiplano, several small copper deposits are hosted in the red sandstones of Tertiary age, and some gold deposits associated with subvolcanic intrusions of Tertiary age are hosted in Paleozoic metasediments.

The Eastern Cordillera (or Cordillera Oriental) hosts numerous tin-silver-lead-zinc-tungsten-gold-antimony-bismuth deposits, traditionally known as the Bolivian Silver-Tin Belt which stretches more than 900 km in length from Peru in the north, through Bolivia to Argentina in the south, trending from northwest to north-south. The Bolivian Silver-Tin Belt is a significant metallogeny belt with lots of super large silver-tin deposits such as Cerro Rico, Silver Sand, Llallagua, Huanuni, Pulacayo, etc.

Mineral deposits in the Bolivian Central Andes are genetically related to Miocene and Pliocene subvolcanic intrusions of dacitic-rhyolitic composition. Mineralization occurs as veins, veinlets, stockworks, and dissemination hosted in Paleozoic and Mesozoic sedimentary rocks, Cenozoic volcanic rocks, and Paleozoic to Mesozoic plutons.

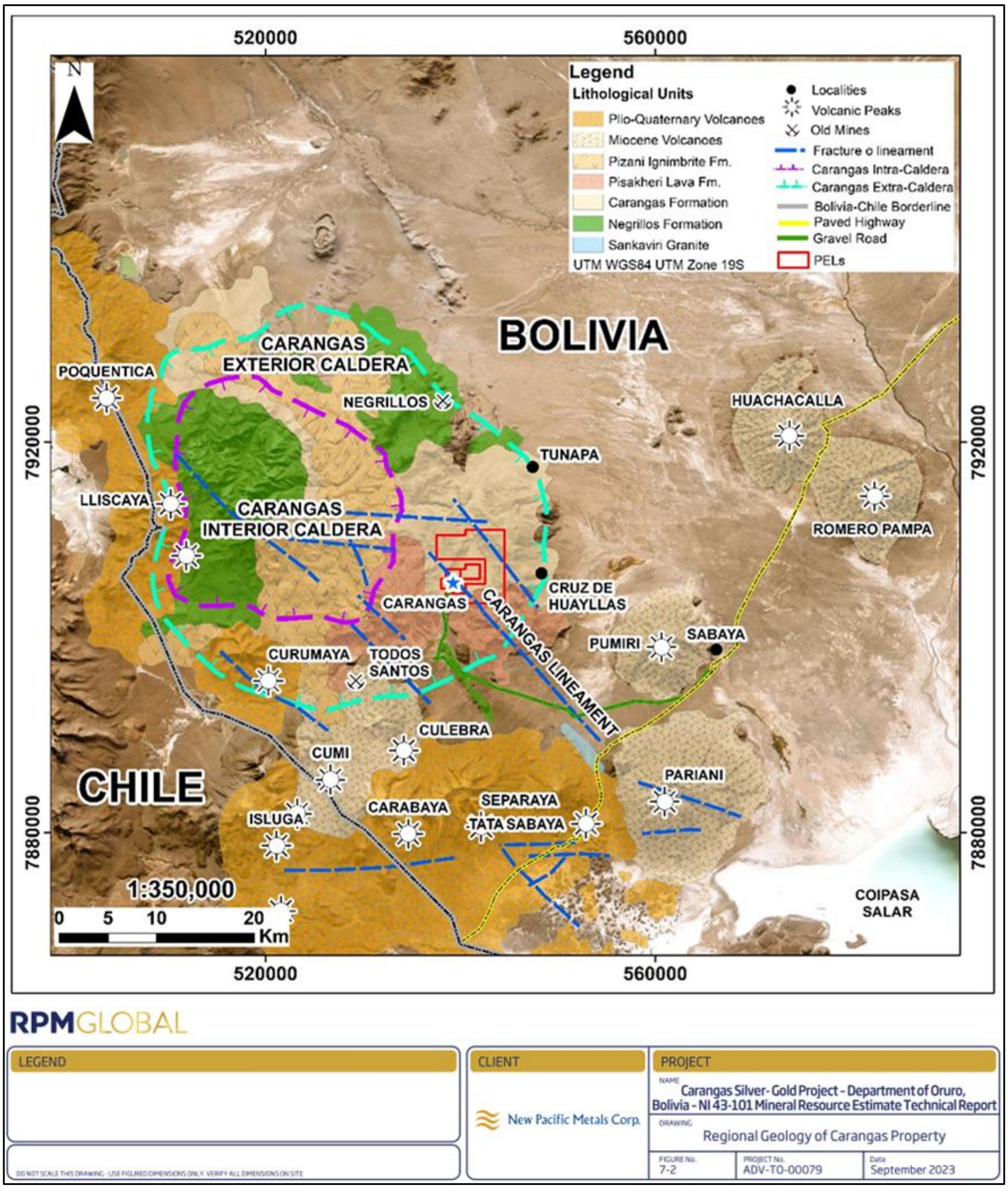
**Figure 7-1 Regional Geology Map of Bolivia Central Andes**



## 7.2 Geology of Carangas Property

The Central Andes hosts a higher density of volcanoes of ages from Tertiary to Quaternary than any other area in the world. The region of Carangas is interested as a caldera system of Tertiary age, which is formed over a basement consisting of a moderately deformed Triassic-Lower Jurassic crystalline bedrock and evolved from the Upper Oligocene to Lower Miocene period as indicated by radiometric dating (Ponce & Avila 1965). The proposed Carangas caldera is a circular structure with a central dome (Interior Caldera) approximately 20 km in diameter, surrounded by rings of lava domes 25 to 30 km from the center (Exterior Caldera) (Figure 7-2). The central dome is interpreted as a resurgent volcanic center with mineralization in the ring zone including mineralization systems of Carangas, Negrillos and Todos Santos.

**Figure 7-2 Regional Geology of Carangas Property**




The Carangas deposit is located at the southwest corner of the Carangas basin, a caldera in the Carangas Exterior-Caldera system. Geomorphologically, it consists of two prominent hills, namely the West Dome and the East Dome, and a valley in between called the Central Valley (**Figure 7-3**). The two domes are more than 100 m above the surrounding fluvial plains. Near the south end of the Central Valley, a small, outcropped hill is known as the South Dome. Historically, the West Dome is referred as Espiritu Santo Hill while the East Dome as San Antonio Hill.

Based on the results of detailed surface geological mapping and logging of drill cores by the project geologists of the Company, the Carangas deposit is interpreted as an epithermal silver-gold mineralization system centered by a rhyolitic diatreme filled with magmatic breccia in a shape of inverted conical structure spanning from the top of the West Dome to east in the Central Valley (**Figure 7-4**). The diatreme cuts through older country rock of volcanoclastic rocks or lithic tuffs of dacitic composition in the upper part and andesitic composition in the lower part of the Carangas Formation.

**Figure 7-3 Carangas Local Geology**

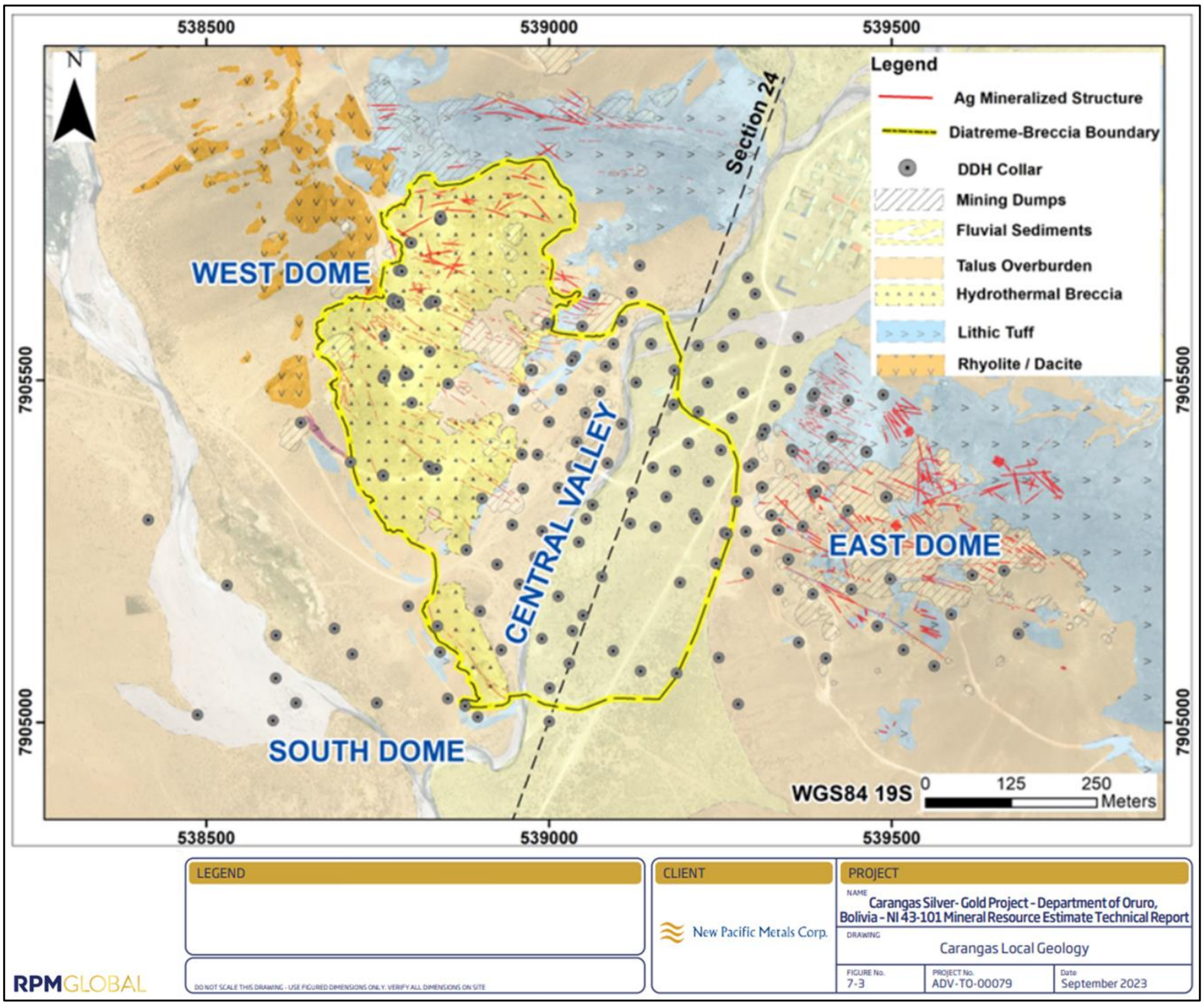
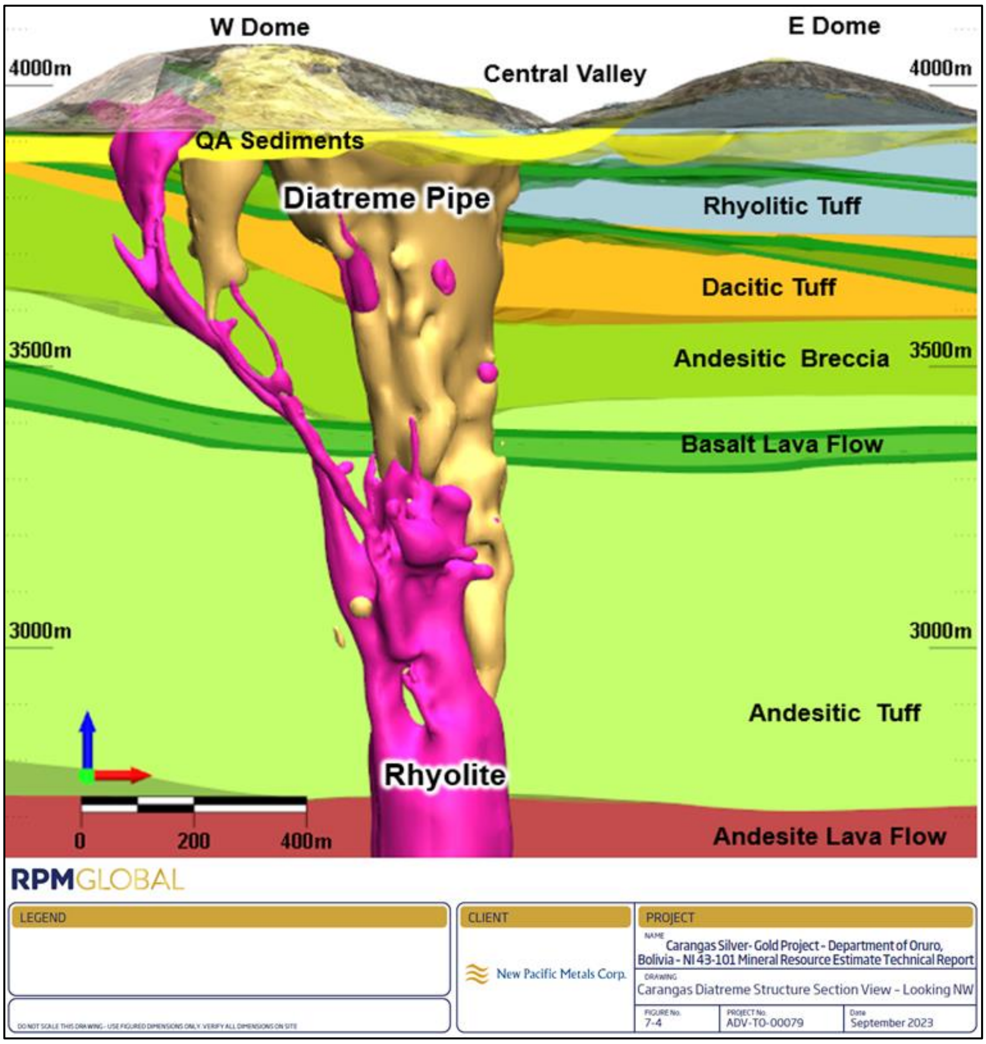


**Figure 7-4 Carangas diatreme structure section view – looking NW**




The upper part of the diatreme is exposed on the top of the West Dome and three types of rock were identified: hydrothermal breccia, heterolithic breccia and sandy tuff. To the west of the diatreme breccias, spotty outcrops of dacitic to rhyolitic dykes with flow banding textures are exposed on surface. The rhyolite dykes roughly strike north-northwest direction and the flow bandings generally dipping west at high angles.

The Central Valley is fully covered by young fluvial sediments from a few meters up to 50 m thick. Logging of drill cores indicates the rock types beneath the valley are mainly altered phreatic breccia and lithic tuff. To the south at the South Dome, the outcropped rocks are mainly altered phreatic breccia. Rocks in the East Dome are mainly altered lithic tuffs, likely the overlying phreatic breccias of diatreme already eroded away.

## 7.3 Project Mineralisation

The mineralization of Carangas consists of a diverse suite of metallic sulphide minerals and gangue minerals, occurring as veins/veinlets, breccia fillings and dissemination. The Company had a joint research program with the San Andrés Major University in La Paz (SAMU) to study the mineralization style and alteration of Carangas deposit. At least three hydrothermal mineralization phases and one supergene event are identified in the project area.

The mineralization is controlled by temperature and pressure of hydrothermal system, i.e., the depth from ground surface or the distance from the source of heat generated by rhyolitic intrusions. Three zones of mineralization can be recognized as zoning of different metals. The Upper Silver Zone is near the surface and dominated by silver plus moderate amount of lead and zinc. Below the upper zone, the Middle Zinc

Zone is dominated by zinc plus minor silver and lead. The Lower Gold Zone is dominated by gold plus small amount of silver, copper and zinc (**Figure 7-5**). The three mineralized zones are summarized in **Table 7-1**.

**Figure 7-5 Mineralized Zones by Metal Zoning- Oblique Section**

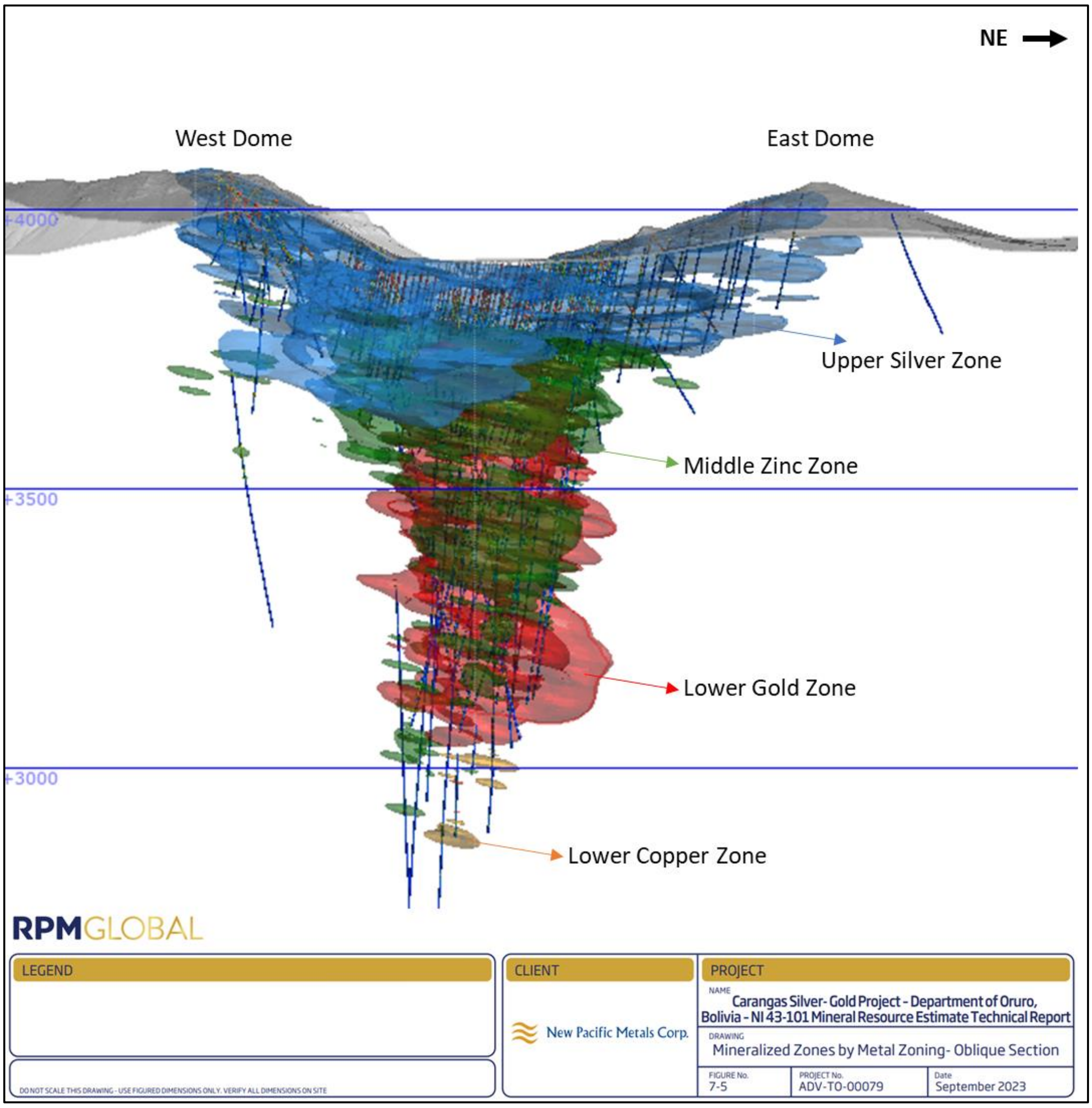



**Table 7-1 Summary of Carangas mineralized zones**

| Zone | Size | Style of mineralization | Mineralization |
|---|---|---|---|
| Upper Silver Zone | approximately within 200m from surface. Dimension: 1000m (L) by 800m(W) by 200m (T) | Disseminated silver+lead sulfides in the metrices of breccia in the top portion of diatreme (surface of W Dome) and veining plus stockworks of silver+lead+zinc sulfides hosted in diatreme breccia and older volcanoclastic rocks. | Silver (lead, zinc) |
| Middle Zinc Zone | 700 (L) by 600m(W) by 150m (T) | Disseminated sphalerite and veining of zinc plus minor amount of silver and lead sulfides hosted in the diatreme breccia and in the surrounding older volcaniclastic rocks | Zinc (lead, silver) |
| Lower Gold Zone | 400m (L) by 400m(W) by 600m (T) | Veining of copper-silver-zinc sulfides and disseminated pyrite hosted in diatreme breccia and rhyolitic intrusions as well as surrounding older volcaniclastic rocks | Gold (copper±silver-zinc) |

Source: New Pacific, 2023

### 7.3.1 Upper Silver Zone

The Upper Silver Zone is formed in a relatively low temperature and pressure environment approximately within 150 - 200 m from surface in an area of about 1,000 m long in east-west direction by 800 m wide in north-south direction, spanning across the entire area of West Dome-Central Valley-East Dome-South Dome of Carangas deposit. It is interpreted as the distal phase of hydrothermal alteration and mineralization system arising from the rhyolitic intrusions at depth of the Central Valley area.

At the top area of West Dome, there is a mineralized horizon of up to 50 m thick, composed of hydrothermal breccia of altered rhyolite clasts cemented by low temperature silica of chalcedony, heterolithic breccia comprised of clasts of various lithologies and a matrix of fine debris of similar lithology as the clasts as well as unlithified loose sandy tuff layers and lenses with sedimentary beddings. These three types of rocks are intercalated with each other. The hydrothermal breccia generally contains higher grade of silver compared to heterolithic breccia and sandy tuff. When the cementing chalcedony of hydrothermal breccia looks grey or dark in color, it may contain silver up to 1,000 ppm. Due to erosion, the current thickness of this silver-lead horizon is from a few meters up to 50 m thick.

### 7.3.2 Middle Zinc Zone

When temperature and pressure of the hydrothermal system becomes higher at depth below the Upper Silver Zone, grades of silver and lead in mineralization drop while zinc grades rise with low grades of copper and gold locally in the lower portion of the zone.

Mineralization in the Middle Zinc Zone is characterized by dissemination of marmatite and veining of honey sphalerite, galena, chalcopyrite, pyrite, siderite and small amount of silver sulfosalts. This zinc-dominated zone is generally from 150 m below surface with a thickness of tens of meters up to 150 m. The Zinc Zone is interpreted to be the peripheral zone close to the core Gold Zone formed in higher temperature/pressure environment in the vicinity of rhyolitic intrusions.

### 7.3.3 Lower Gold Zone

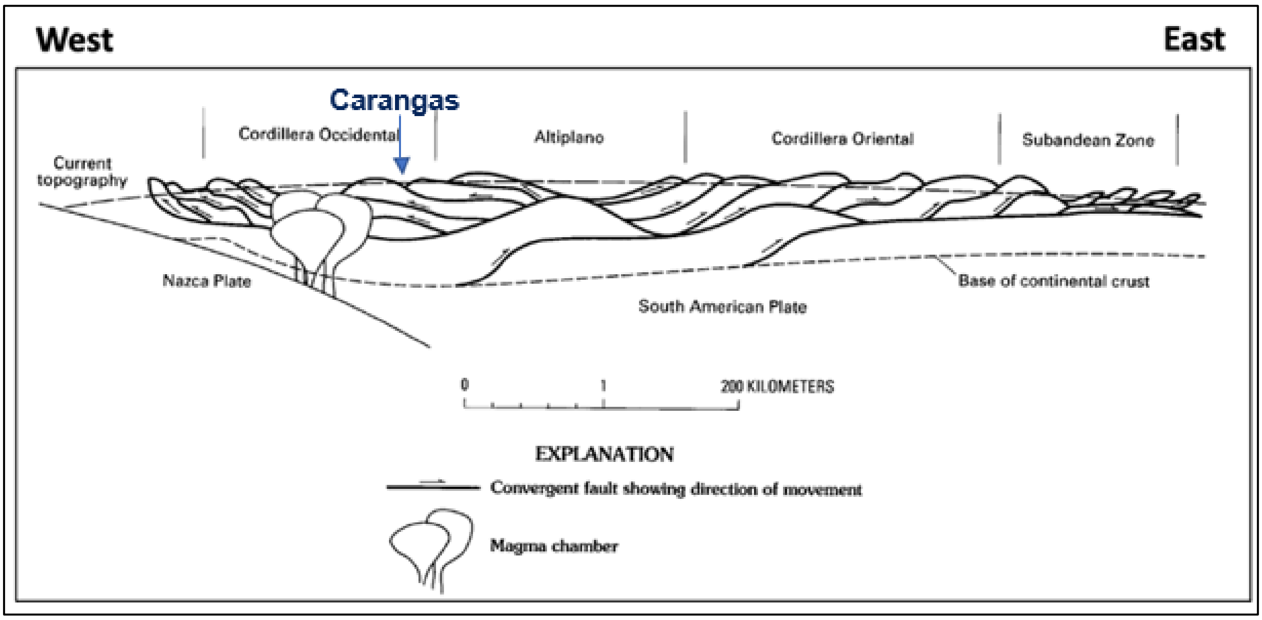
The Lower Gold Zone lies below the Middle Zinc Zone. Mineralization in this zone is characterized by dissemination of pyrite and sulfides veining of pyrite and chalcopyrite plus small amount of galena and sphalerite hosted in strongly argillic-sericitic altered phreatic breccia and rhyolite intrusions. This gold zone generally begins from depth from 200 m and extends to depth more than 800 m with a lateral extent up to 400 m wide, mostly confined to the diatreme pipe body and partially extending laterally into surrounding older volcanoclastic rocks. ASMIN lab studies indicate that gold occurs in form of mainly as free electrum, minor amount as native gold and very sparsely as Fe (Au) sulfides, Au-Ag sulfides and galena (Au). Grade of gold generally gets higher with depth, and highest around elevation of 3500 m in the middle part of the gold zone. To further depth, gold grade declines but copper grade gets relatively higher than in the upper portion. This zoning of metals is likely induced by the higher temperature/pressure environment of hydrothermal activities at depth.

Gold mineralization is fully controlled by the diatreme pipe structure, which is associated with rhyolitic dyke intrusions, perfectly overlay with the IP chargeability anomaly in the Central Valley area. This coincidence may imply that other IP chargeability anomalies beyond the drilled area could be good targets of additional mineral potential and warrant drill test in the future.

# 8. DEPOSIT TYPE

Carangas is located within the Cordillera Occidental belt close to its eastern limit with the Andes Altiplano. The Cordillera Occidental of Bolivia, along with the Altiplano and Cordillera Oriental, altogether known as Central Andes, is part of the Andean Cordillera, a convergent plate margin (USGS and GEOBOL, 1975). The Cordillera Occidental is defined by a chain of late Miocene to Recent volcanic peaks stretching more than 750 km in length and some 40 km wide (Arce, 2009) that straddles the Bolivia-Chile border. This volcanic arc and associated granitic plutonic rocks of the Coastal Batholith in northern Chile and southern Peru (USGS and GEOBOL, 1975) were emplaced in and cut a Jurassic-Cretaceous aged eugeoclinal-miogenclinal mélange of volcanic flows and ash flows with associated sedimentary rocks (sandstone, siltstone, conglomerates, tuffaceous sediments and tuffs (Arce, 2009) all developed over Paleozoic-aged basement rocks (**Figure 8-1**).

**Figure 8-1 Schematic cross section of Bolivia region**




Source: Arce, 2009

The project area mineralization is a silver-gold polymetallic epithermal deposit of low-intermediate sulfidation associated with a rhyolitic maar diatreme cutting into volcanic and volcaniclastic country rocks of Oligocene to Miocene age. The upper portion of the Carangas deposit represents a low sulfidation zone, characterized by argillic and propylitic alterations as well as mineralization of sulfide minerals of silver, lead and zinc featured by argentiferous galena, silver sulfosalts, minor native silver, galena, sphalerite, and various gangue minerals, including crustiform-coloform chalcedony, banded chalcedony, smectite, zeolites, carbonates, and chlorite.

To depth, the low sulfidation zone gradually transitions into an intermediate sulfidation zone at depth of approximately 200 m with sericitic and phyllic alteration and mineralization dominated by gold and a small amount of copper, represented by minerals of electrum, chalcopyrite, pyrite and native gold. Recent microscopic studies conducted in 2022 have further identified the presence of other copper minerals, including enargite ($Cu_3AsS_4$) and famatinite ($Cu_3SbS_4$). The zone of intermediate sulfidation extends from depth about 200 m to depth more than 700 m. The mineralization in this zone is mainly controlled by the diatreme structure and the intrusion of rhyolite.

# 9. EXPLORATION

## 9.1 Sampling and Mapping

Silver mining history of Carangas dates back to 16th century of the colonial era, which is evidenced by the widespread historical mining workings and dumps. Systematic exploration programs were completed at Carangas since 2019, including surface and underground (UG) geological mapping, rock chip sampling and mine dumps sampling, geophysical ground magnetometry surveying and induced polarization (IP) surveying. These exploration programs are summarized in **Table 9-1**.

At Carangas, 1,076 samples, have been collected from an area covering 2 $km^2$ including chip samplesand mine dump samples. The sample campaign covers the entire Carangas deposit. Anomalous silver results occur in zones on both domes and confirm the extensive silver mineralization at Carangas.

**Table 9-1 Summary of exploration programs at Carangas**

| Year | Type of Work | Conducted by | Description | Number of Samples Collected |
|---|---|---|---|---|
| 2019 | Surface and UG mapping | New Pacific | Grab mine dump samples | 268 |
| 2020 | Surface and UG Mapping | New Pacific | Grab dump, surface chip and underground channel sampling | 729 |
| 2021 | Surface and UG Mapping | New Pacific | Underground channel sampling | 79 |
| 2021 | Ground magnetometry survey | Arce Geofísicos | 309.8-line km, 67 N-S lines, 100 m line spacing | n/a |
| 2022 | 3D Bipole-Dipole IP-MT survey | Southern Rock Geophysics S.A. | 149.2-line km, approx. 10 $km^2$. | n/a |
| 2022-2023 | 3D Bipole-Dipole IP-MT survey | Southern Rock Geophysics S.A. | 28.6-line km, approx. 29 $km^2$. | n/a |
| 2022 | UG mapping | New Pacific | | n/a |

Source: New Pacific, 2023

During the due diligence study of the Property in 2019, reconnaissance geology mapping and an intensive sampling program of historical mine dumps were carried out to provide an initial understanding of the geology and mineralization of the deposit. Subject to the size of mine dump, grab samples of random selection at each mine dump were collected at a spacing of every ten meters. At least one grab sample was collected if the size of the mine dump is smaller than ten meters in diameter. The weight of each sample is between 2-4 kilograms. A total of 268 samples were collected, of which 233 samples (86.94%) returned assay results between 30-1,950 g/t Ag with an average grade of 270 g/t Ag.

During the detailed surface geology mapping in 2020, a total of 383 rock chip samples were collected from 55 outcrops by the Company. Chip samples were collected continuously at 2 m intervals of up to 5 cm deep and 10 cm wide along sample lines oriented approximately perpendicular to the strike direction of mineralized structures, for a total length of 769 m. Of the 383 chip samples collected, 117 samples returned a grade between 30 and 2,350 g/t Ag with an average grade of 160 g/t.

Most of the historical underground mining workings are located at the West Dome, and the Company surveyed and mapped all accessible historical mining adits, for a total length of 2.4 kilometers in six underground adits. Chip samples were taken continuously at every two meters along the wall of underground workings and weight of each sample is about 2-5 kg. A total of 425 samples were collected, of which 112 samples (26.35%) returned assay results between 30 and 1,060 g/t Ag with an average grade of 122 g/t Ag.

During the site visit, the QP examined the mineralized outcrops and sampling sites at Carangas and concluded that the sampling is representative of the mineralization. The QP did not identify any factors that could have resulted in sample biases.

## 9.2 Geophysics

The Company completed geophysical surveying programs including Ground Magnetometry surveying and Offset (3D) Bipole-Dipole Induced Polarization/Resistivity (IP) and Magneto-Telluric (MT) surveying at Carangas in years 2021, 2022 and 2023.

The Ground Magnetometry Surveying was conducted by Arce Geofiscos based in Lima, Peru from November 2021 until January 2022. A total of 309.8-line kilometers in 67 North-South lines (100m spaced lines) were completed to cover the entire Carangas area.

Results of the magnetometry survey at Carangas show a prominent low magnetic response approximately centered in the area of the Carangas village including the area with surface mineralization and alteration exposed at the West Dome-Central Valley-East Dome. Magnetic inversion modelling indicates the lower magnetic response extends down to more than 1,000 m depth. The vast magnetic low beyond and to the north of the drilled area of the West Dome-Central Valley-East Dome may imply potential of additional mineralization and justifies drill testing in future drilling campaigns.

The 3D Bipole-Dipole IP-MT Surveying at Carangas was conducted in two separate stages:

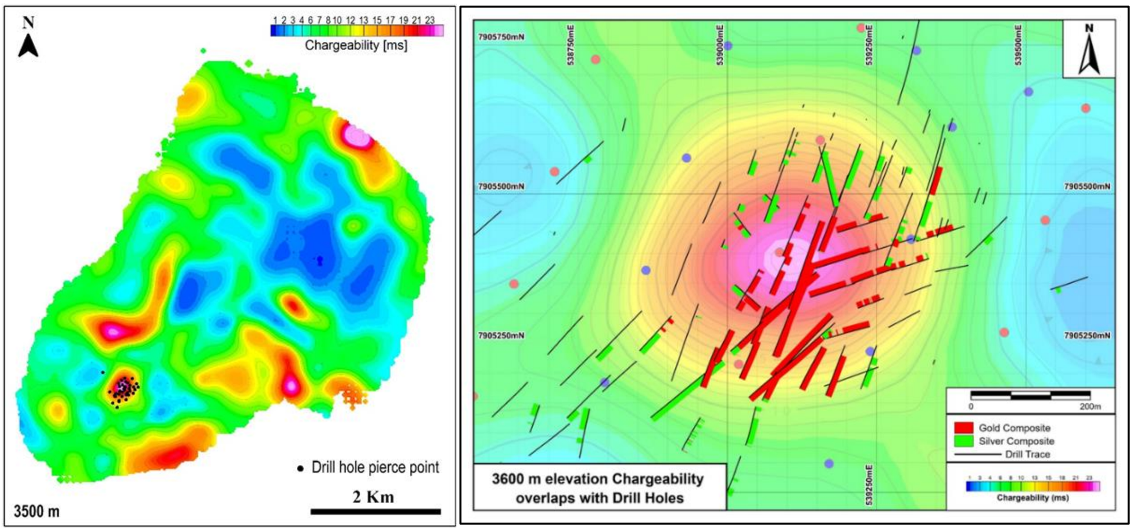
The first stage was a pilot test carried out in the period of July-September 2022 by Southern Rock Geophysics S.A. based in Santiago, Chile, centered in the drilled area for an area of approximately ten square kilometers, aiming to understand the geophysical signature of the known mineralization.

The results of the test surveying are very coherent in that multiple chargeability anomalies were identified in the surveyed area, especially with the strongest one perfectly overlaying with the known gold mineralization in the Central Valley (**Figure 9-1**), which may imply IP surveying is an effective method to identify targets of alteration and sulfidation at Carangas, and other chargeability anomalies beyond the Central Valley could be additional mineralization systems.

An expanded second stage surveying was conducted by the same contractor from October 2022 to January 2023 to cover the entire Carangas caldera basin area, for a total of 130,993 m line meters in an area of 29 square kilometers aiming to find more chargeability anomaly targets.

The expanded surveying confirmed the anomalies in central drilled area of Carangas and identified additional anomalies across the Carangas caldera basin. The most prominent anomaly of chargeability exists to the north of West Dome, trending roughly NWW parallel to the striking of the surface mineralized structures, with the intensity of anomaly increased from a depth of 200m from surface. (elevation 3700 m), similar to the geophysical response of the gold mineralization in the Central Valley area. This anomaly is a good target for future drilling campaigns.

**Figure 9-1 IP chargeability anomalies of Carangas Area**




Source: New Pacific, 2023

# 10. DRILLING

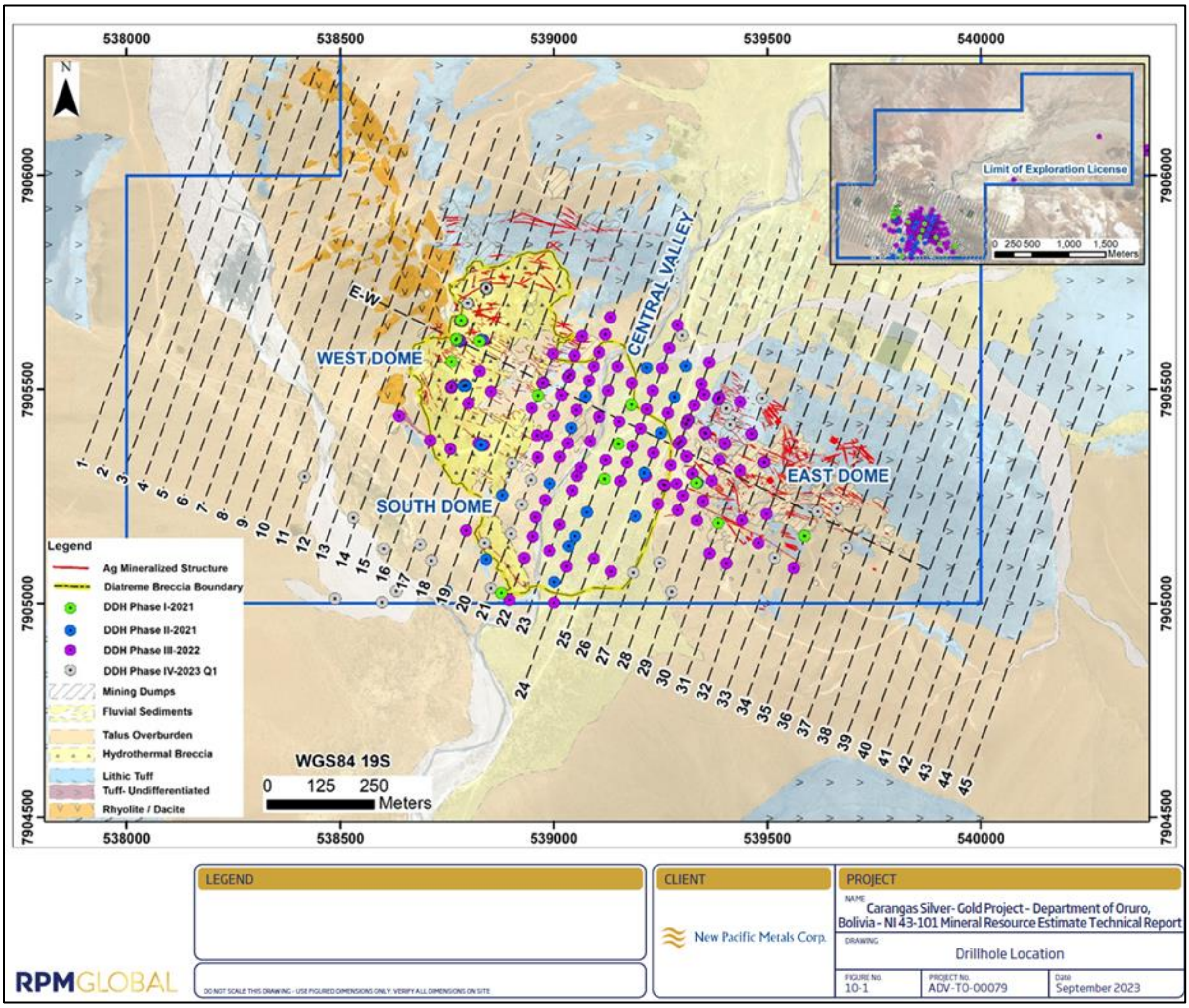
This section details all drilling activities completed on the Project and all the data provided to RPM to estimate the Mineral Resource. Since 2021, 189 boreholes were drilled at Carangas Project totalling 81,145 m of diamond core drilling. These drillholes were used to compile the Mineral Resource. Drill hole spacing averages 50 m by 50 m in the most densely drilled areas and spacing increases to 100 m by 100 m on the peripheries of the deposit and at depth. A summary of drilling data within the Carangas Mineral Resource area is tabulated in **Table 10-1**, and hole locations are shown in Figure 10.1.

**Table 10-1 Carangas Drilling History**

| Year | Drilling Phase | Carangas | |
|---|---|---|---|
| | | Holes | Metres |
| 2021 | Phase 1 - Discovery Drilling | 13 | 3,790.4 |
| 2021 | Phase 2 - Discovery Drilling | 22 | 9,420 |
| 2022 | Phase 3 - Resource Definition Drilling | 115 | 50,310.92 |
| 2023 | Phase 4 - Resource Definition Drilling | 39 | 17,623.5 |
| **Total** | | 189 | 81,145 |

Source: New Pacific, 2023

**Figure 10-1 Drillhole Location**



## 10.1 Drilling Type

Drilling was completed using a conventional wire-line diamond drilling technique with a triple tube core barrel inside the drilling rods to produce HQ, NQ or PQ size diamond core. Each drill run was 3 m in length. The drill core was placed in plastic/wood core trays (each holding around 4m of drill core) after extraction from the core barrel, where each run was marked and labelled.

## 10.2 Drilling Locational Data

All drill hole collar locations were surveyed by Company surveyors utilising the Real Time Kinematic (RTK) GPS method. RPM noted that all drill collars align well with the topography. The Client's drilling teams utilised a Reflex EZ-trackTM, SPT GyroMaster and SPT Core Retriever instruments to measure deviations in azimuth and inclination angles. The measurements were taken approximately every 30 m along the drill trace.

## 10.3 Drilling Sample Recovery

Core recoveries were calculated by measuring the length of core recovered from each 3m run. The average core recovery is higher than 95%. Recovery was low in the voids (historical mining activities) and overburden (mining dumps and fluvial sediments). More than 89% of core intervals have a core recovery equal to or greater than 95%. In the opinion of the QP, there are no known factors of drilling, sampling and core recovery that could materially impact the accuracy and reliability of the results.

## 10.4 Process Verification

During the site visit, RPM discussed the diamond drilling, core handling and drilling techniques and considered them appropriate and consistent for the Mineral Resource classification. Further information is provided in **Section 12**.

# 11. SAMPLE PREPARATION, ANALYSES AND SECURITY

The details of the sample preparation, analytical methodology and sample security protocols in place for core samples from the exploration programs carried out by New Pacific Metals are included in this section.

The 2021-2023 drill programs of the Carangas Project were managed by New Pacific in compliance with the CIM Mineral Exploration Best Practice Guidelines and internal working protocols. All drill cores of the Project were geologically logged and sampled by the Company's exploration team at its core processing facilities in accordance with the Company's core logging & sampling protocols. A total of 58,215 half-sawn core samples were taken and submitted for preparation and analysis.

## 11.1 Sample Collection

New Pacific systematically sampled and analysed all drill core from the 2021-2023 exploration drill programs. Core sampling totalled 58,215 half-swan core regular samples submitted for preparation and analysis. Contracted diamond drillers used HQ size coring equipment for 189 drill holes and various size tubes TS-HQ-NQ for deep drill holes exceeding 500 m length.

All drill holes were geologically logged and sampled by company field personnel at the Carangas facility in accordance with Core Logging & Sampling protocols. Geological logging includes the detailed recording of lithology, alteration, mineralization, structure and RQD measurements. Rock Codes were developed to increase the amount and quality of geological data to create a robust geological model of the deposit. Logging data was directly entered into MX Deposit software developed by Seequent. MX Deposit is industry standard software integrating drill core logging module, drill hole database and QAQC tool for real time monitoring of the analytical results quality.

Core boxes were transported to the core shed from the drilling site by driller contractor's staff. The core was cleaned or washed, core blocks were checked, and meter-marking was completed. Samples were generally 1 meter in length from one whole depth meter to the next, except for where a lithological contact or alteration change was noted. Samples were a maximum of 1.5 meters and a minimum of 1.0 meter (**Figure 11-1**). Geologists also mark noticeable geological, structural and alteration contacts, and intervals of poor core recovery (voids and core loss). The core was photographed wet, using a camera mounted in a framed structure to ensure a constant angle and distance from the camera.

**Figure 11-1 Drill core box example – drill hole DCAr0171**


Source: New Pacific, 2023

On completion of logging and sample selection, all core boxes were transported to the core saw shed. Core was cut using a diamond saw, and unconsolidated material was split using spoons or trowels. Each sample interval was placed in a plastic bag with a sample ticket. Sample intervals are cross checked with the sample tag book and the pre-labelled sample bag (**Figure 11-2**). The outer portion of the tear-off sample tag is affixed to the core box at the start of the sample interval and the inner tear-off tag is placed into the sample bag.

**Figure 11-2 Core cutting and sample bag**


Source: New Pacific, 2023

Once sampling is complete, geologists check the samples and seal the plastic sample bags with staples and tape. QA/QC samples are inserted into the sample sequence according to the Company's QA/QC protocols. Then every 8 to 12 sample bags are placed into a large poly-weave sample bag for shipping to the laboratory for preparation.

During the site visit, RPM found core sample preparation procedures to be well understood by company employees. RPM found all equipment used for core sample preparation to be of reasonable quality and in line with industry standards.

## 11.2 Assay Laboratory Sample Preparation and Analysis

All drill core samples collected by New Pacific between 2021-2023 were dispatched to ALS laboratory (ALS) in Oruro, Bolivia for sample preparation, and then to ALS in Lima, Peru for geochemical analysis. ALS Oruro and ALS Lima are part of ALS Global, an independent commercial laboratory specializing in analytical geochemistry services. Both labs are certified in accordance with the International Organization for Standardization (ISO) and International Electrotechnical Commission (IES) "General requirements for the competence of testing and calibration laboratories" (ISO/IES 17025:2017).

All samples are prepared in accordance with ALS preparation code PREP-31 an follows the main standard procedure as outlined below:

- Samples were dried and crushed to 70% less than 2 m.
- A 250 g riffle split was taken and pulverized to >85% passing 75 microns sieve prior to aliquot selection for digestion and analysis.

- The pulp samples are transferred to ALS Lima for geochemical analysis.

- Samples were submitted for trace level 51 elements analysis comprised aqua regia digest with Inductively Coupled Plasma - Mass Spectroscopy finish (ICP- MS) ALS Code ME-MS41. Over limit samples returning the results greater than Ag> 100 ppm, Pb >10,000 ppm, Cu > 10,000 ppm and Zn> 10,000 ppm were sent for ore-grade analysis by aqua regia digestion with Inductively Coupled Plasma - Atomic Emission Spectroscopy finish (ICP-AES or AAS) analysis ALS code OG46. Samples returning Ag assay results greater than 1,500 g/t were analyzed by fire assay and gravimetric finish ALS code Ag-GRA21. Samples returning values over 10,000 ppm Ag were analyzed by high precision analysis by Fire Assay and gravimetric finish ALS code Ag-CON01. Gold by Fire Assay and Atomic Absorption Spectrometry AAS analysis ALS Code Au-AA25 was performed on drill core samples selected from long drill holes exceeding 500 m in length.

For the 2023 drill program, no trace level multi-element ICP analysis of drill core samples was carried out in order to shorten turnaround time and to save costs.

## 11.3 Bulk Density

Specific gravity measurements are completed by company personnel as part of routine core processing procedures. A total of 5,367 measurements were completed with a mean SG of 2.19 for core intervals selected across various lithologies and alteration types in both mineralized and non-mineralized drill cores at a rate of 8-9% of the total core samples. Measurements are carried out at a dedicated density weighing station using the Archimedes principle, whereby water displacement is used to calculate approximate volume **(Figure 11-3**). To avoid water absorption by porous drill cores, core interval is waxed prior to immersion in water. Weighing scale calibration is carried out before measuring on daily basis.

The bulk density of a sample is calculated by multiplying the SG by the density of water 1 (g/cm3).

**Figure 11-3 Specific gravity Measurement**


Source: New Pacific, 2023

## 11.4 Quality Control Data

New Pacific has established comprehensive QA/QC procedures and protocols which cover the entire processes of sampling, preparation, and geochemical analysis. All drilling programs completed on the Project performed with mandatory insertions of certified reference materials (CRMs or standards), blanks, and duplicates into normal sample sequences on a batch-by-batch basis. New Pacific monitors Ag, Au, Pb, Zn, and Cu assay values in CRMs, blanks, and duplicates.

The Client provided QA/QC data for drilling completed by the company during the 2021 – 2023 exploration drilling campaigns. The QA/QC samples comprise 24% of all Carangas samples submitted to the laboratory. RPM is of the opinion that adequate QA/QC protocols were in place for entirely drilling used to compile the Mineral Resource estimate.

The QA/QC procedures utilized a variety of control samples which includes Certified Reference Materials (CRM), Coarse and Pulp Blanks, Coarse, Field (1/4 core) and Pulp Duplicate samples, and Umpire Pulp Duplicate samples. Detailed statistics of QAQC control samples is presented in **Table 11-1**.

**Table 11-1 QA/QC samples status**

| Type | Number of Samples | % of Total Primary Samples |
|---|---|---|
| Standards (CRMs) | 3,654 | 6% |
| Blanks (Coarse & Pulp) | 3,038 | 5% |
| Duplicates (Coarse, Pulp & Field) | 4,269 | 7% |
| Umpire Pulp | 3,573 | 6% |
| Total | 14,534 | 24% |

Source: compiled by RPM GLOBAL, 2023

### 11.4.1 Certified Reference Materials (CRMs)

Six different CRMs were used. Standards CDN-GEO-1901 (a certified blank material), CDN-ME-1501 and CDN-ME-1603 were discontinued in 2022. All CRMs were supplied by CDN Resource Laboratories of Langley, British Columbia, Canada with certified values of Ag, Au, Pb, Cu, and Zn. CRM statistics for Ag and Au are presented in **Table 11-2**.

**Table 11-2 CRMs of Carangas Project**

| CRM | Ag ppm | | Au ppm | | CRMs inserted |
|---|---|---|---|---|---|
| | Certified value | 2SD | Certified value | 2SD | 2021-2023 |
| CDN-GEO-1901 | 1 | 0.3 | 0.036 | 0.008 | 408 |
| CDN-ME-1501 | 34.6 | 2.3 | 1.38 | 0.11 | 288 |
| CDN-ME-1603 | 86 | 3 | 0.995 | 0.066 | 985 |
| CDN-ME-1707 | 27.9 | 2.9 | 2.02 | 0.214 | 893 |
| CDN-ME-1902 | 349 | 17 | 5.38 | 0.42 | 780 |
| CDN-ME-2003 | 106 | 9 | 1.301 | 0.135 | 300 |

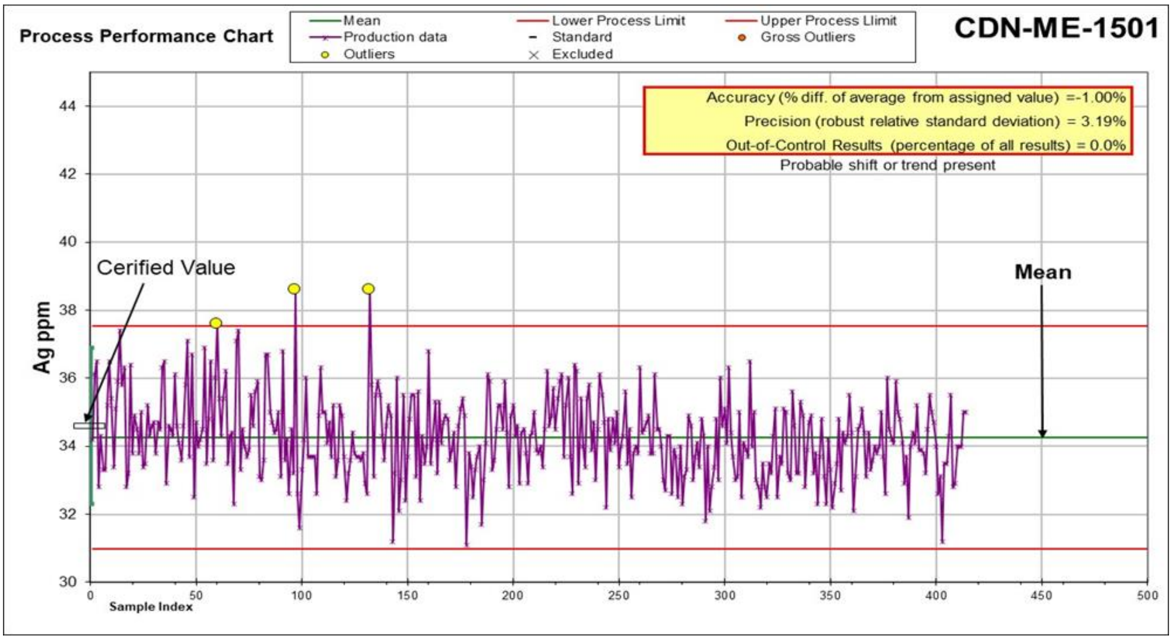
Source: compiled by RPM GLOBAL, 2023

New Pacific's internal procedures require that one CRM was inserted for every 20 samples or at a rate of 5% into a randomly insertion protocol. CRM performance is monitored on a batch-by-batch basis. A total of 3,654 CRM samples were submitted in 2021 – 2023, equivalent to a rate of 6.0%.

Control charts are used to monitor the analytical performance of individual CRMs over time. CRM assay results are plotted in order of date of analysis. Charts present certified CRM value, analytical mean line, and control lines for the upper and lower warning limits calculated as analytical mean of the CRMs plus or minus two standard deviations. The results outside the three standard deviations are considered as failures. These charts show analytical drift, bias, trends, and outside of tolerance outliers occurring at the laboratory over time. Analytical mean line shows the variability of analysed material.

**Figure 11-4** presents CRM control charts for silver by ICP- MS (AES or AAS) analytical methods. Sporadic outliers (yellow circle) that are slightly higher or less than warning limits don't affect the analytical mean, accuracy, and precision of the laboratory procedure. Failed standards were re-assayed and investigated by the laboratory. Comparison between original and re-assayed values proved the accuracy of laboratory's original assay results. Overall, the CRMs have a very good performance and support the sample database for resource estimation process.

**Figure 11-4 Control chart for CDN-ME-1501 (Ag) (July 2021 – November 2022)**




Source: New Pacific, 2023

Standard CDN-ME-1707 demonstrated relatively poor performance for gold compared with other CRMs. Failed samples were investigated and documented. Occasionally CRM material may have concentration of elements different from the certified values. It is possible to have precise results that are not accurate. All other CRMs inserted in the same batches passed control limits. CRMs used at Carangas to monitor Au show acceptable analytical accuracy and provide confidence in analytical results for the span of gold grades at the deposit. All major differences were investigated, and appropriate action was taken to fix it and return a robust data control.

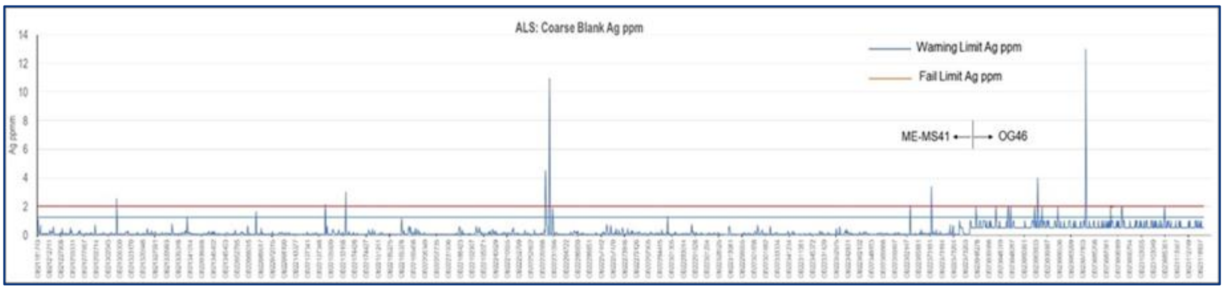
### 11.4.2 Blank Control Samples

Two types of blank material were inserted into the sample sequence prior to delivery to the lab. Coarse Blank is used to assess the potential contamination during sample preparation and Pulp Blank is used to assess the potential contamination during geochemical analysis.

The Coarse Blank material used at Carangas Project was taken from a quarry located near Oruro city. The rock is fresh andesite with porphyritic texture containing grains of quartz, plagioclase, biotite, and hornblende. The chemical validation of Coarse Blank was developed internally and certified that the material could be used to this purpose. The control limits were developed by the Company after review of the analytical data, removal of outliers, calculation of the analytical mean and standard deviation. The warning limit is set at two standard deviations. The failure limit is set at three standard deviations.

Overall, 99.5% of the coarse blanks are within the acceptable limits (**Figure 11-5**). Failed results exceeding three standard deviations were documented and investigated.

**Figure 11-5 Control chart for Coarse Blank Samples**



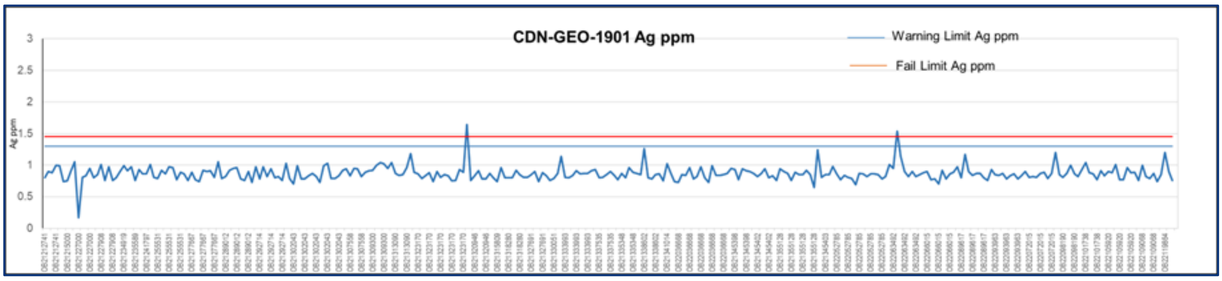

Source: New Pacific, 2023

The Pulp Blank is inserted every 50 samples or at a rate of 2%. A total of 1,031 pulp blank samples were inserted in the period July 2021 – April 2023, representing an overall insertion rate of 2.3%.

Certified pulp blank CRM CDN-GEO-1901 was used between July 2021 and April 2022. Unlike other CRMs, CDN-GEO-1901 didn't demonstrate high accuracy (-13.57% difference between analytical mean and certified value) for silver analysis. However, 99% of CDN-GEO-1901 samples were within the control limits (**Figure 11-6**).

Since April 2022, pulp blanks were produced from pulverized coarse blank material that has been employed to monitor potential contamination during the sample preparation.

**Figure 11-6 Control chart for Pulp Blank CDN-GEO-1901**




Source: New Pacific, 2023

Overall, 99.5% of pulp blanks samples for silver are within two standard deviations control limit. It is concluded that there is no systematic contamination during geochemical analysis.

A total of 981 coarse blanks were inserted into the sample sequences for gold fire assays in the period 2021-2023. Only eight coarse blanks returned results beyond failure the limit of Au=0.025 ppm. Every out-of-control event was documented and investigated. 97% of the coarse blank samples analyzed for gold returned with assay results equal or below 0.01 g/t Au (twice the detection limit of 0.005 ppm Au). No contamination was identified during sample preparation and analysis.

### 11.4.3 Duplicate Samples

Three types of duplicates were used to monitor the quality of the processes of the Carangas drill programs from sampling, preparation, and analysis: twin samples or field duplicates, coarse reject duplicates and pulp duplicates. A total of 4,269 duplicate samples were taken during the period July 2021 – April 2023. **Table 11-3** provides a statistical summary of the Relative Percent Difference (RPD) for the assay pairs between the original and the duplicate of each type of duplicate samples.

**Table 11-3 Statistical summary for duplicate samples July 2021 – April 2023**

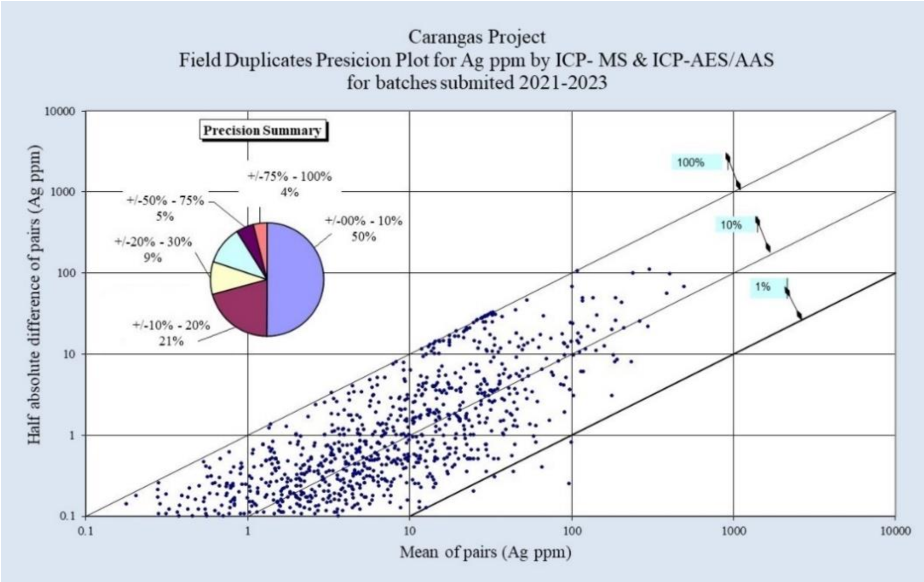
| Ag ppm | | | | |
|---|---|---|---|---|
| **Sample Type** | **Number of samples** | **Corr Coeff** | **≤ 10% RPD** | **≤ 20% RPD** |
| Field Duplicate | 1,463 | 0.939 | 50% | 70% |
| Coarse Duplicate | 1,425 | 0.997 | 79% | 89% |
| Pulp Duplicate | 1,381 | 0.997 | 80% | 91% |
| **Au ppm** | | | | |
| Field Duplicate | 683 | 0.95 | 55% | 66% |
| Coarse Duplicate | 670 | 0.982 | 62% | 72% |
| Pulp Duplicate | 671 | 0.984 | 63% | 72% |

Source: compiled by RPM GLOBAL, 2023

Field Duplicates are generated by quarter core to monitor the representativeness of the sampling process. The insertion rate is 2% according to the protocols of quality control and a total of 1,463 quarter core duplicates were taken during the 2021-2023 drilling campaigns.

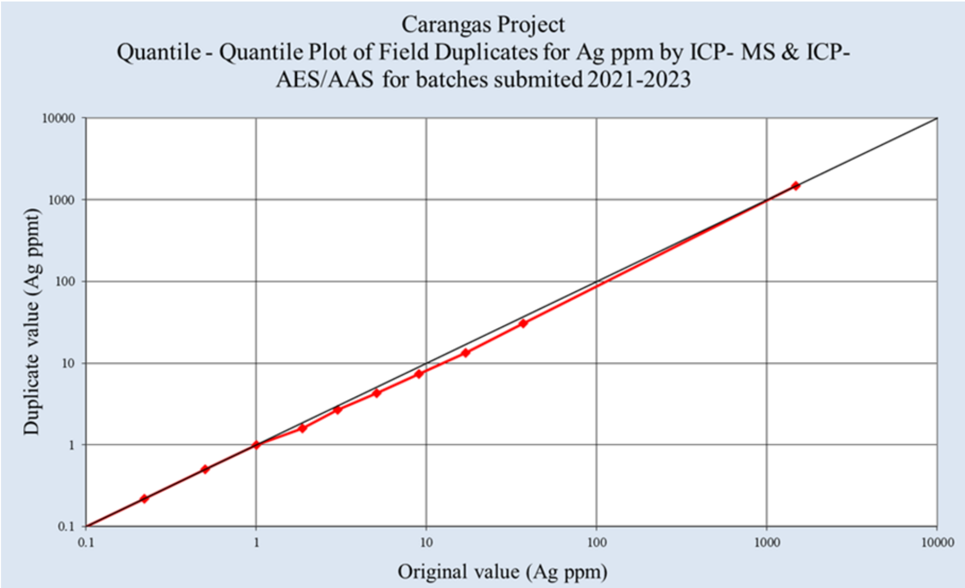
The performance of the field duplicate for silver is presented by the Thompson-Howarth precision plot (**Figure 11-7**) and the quantile-quantile (Q-Q) plot (**Figure 11-8**). In both charts the results are reasonable and support the mineral resource database.

**Figure 11-7 Precision plot of field (1/4 core) duplicates for silver assays**




Source: New Pacific, 2023

**Figure 11-8 Quantile-Quantile plot of field (1/4 core) duplicates for silver assays**

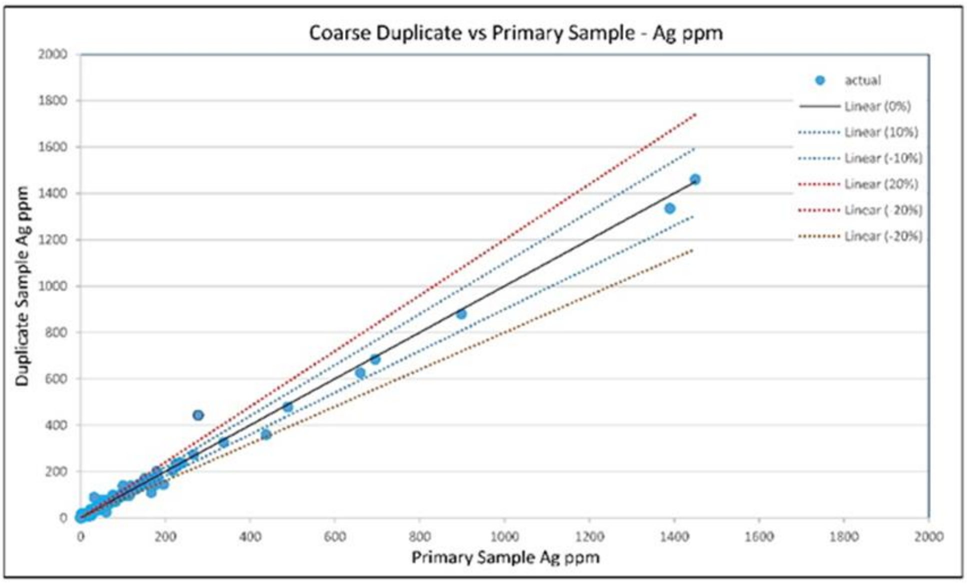



Source: New Pacific, 2023

To monitor the sub-sampling or splitting precision during sample preparation, coarse (reject) duplicate is taken immediately after the first crushing and splitting step. The duplicate reject has similar weight as that of the original sample and follows the same preparation process as the original sample does. A total of 1,425 coarse duplicates were taken from the 2021-2023 drilling programs, inserted at a ratio of 2% or one in every 50 samples.

The assay results of silver from the pairs of the originals and the duplicates have a high correlation coefficient of R=0.997, and 89% sample pairs have a RPD less than 20%, which means that the sampling and splitting process is of high precision quality and is well representative of the mineralization. In **Figure 11-9** the blue dashed lines mark +10% tolerance and red lines +20% tolerance from the black 1:1 line respectively. Scatterplot shows the nearly all duplicates are within acceptable tolerance.

**Figure 11-9 Coarse Duplicate Precision scatterplot – silver assays**



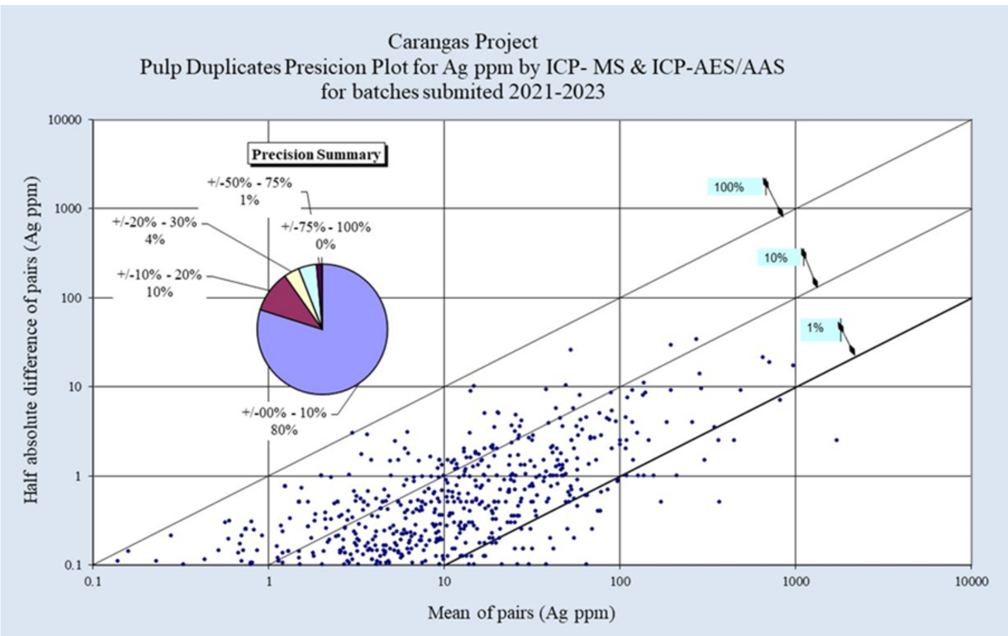

Source: New Pacific, 2023

In conclusion, both the silver assay results and the gold assay results from the coarse duplicates demonstrate that the sample preparation process of the Carangas Project is well preserved and acceptable for mineral resource estimate.

Pulp duplicates are used to monitor the precision or repeatability of geochemical analysis. The samples are inserted into the regular sample sequences and are analysed by the same lab ALS (Lima). Pulp duplicates are the second split of final pulps with similar weight as the original sample. The required insertion rate is 2% or one in every 50 samples. A total of 1,381 pulp duplicates were taken for the 2021 - 2023 drill programs.

The assay results of silver from the pairs have a high correlation coefficient of R=0.986, and 90% sample pairs have a RPD less than 20%, and 80% sample pairs less than 10%, which means that the process of geochemical analysis of the lab has shown high repeatability and precision. **Figure 11-10** is the Thompson-Howarth precision plot of pulp duplicates for silver the samples in 2021-2023 drill campaigns.

**Figure 11-10 Precision plot of pulp duplicates for silver assays**




Source: New Pacific, 2023

The silver and gold assay results from the pulp duplicates demonstrate high precision or repeatability of the geochemical analysis of ALS lab, and the assay results are acceptable for database validation.

### 11.4.4 Umpire Laboratory Samples

To assess the analytical accuracy of ALS (Lima) as the primary lab, umpire check samples were sent to Alfred H Knight (AHK) laboratory in Lima, Peru, a second accredited lab for check analysis of the drill core samples from the Carangas Project during August 2021 – May 2023. AHK is an independent geochemical laboratory certified according to ISO/IEC 17025:2005 and ISO 45001:2018. The required ratio of umpire samples collected from the pulp rejects of normal sample sequences is 5-6% or five to six umpires from every 100 primary samples according to the protocols of quality control of New Pacific. **Table 11-4** is a summary of the silver and gold assay results of sample pairs of the originals and the umpires for the drill core samples in the period 2021 to 2023.

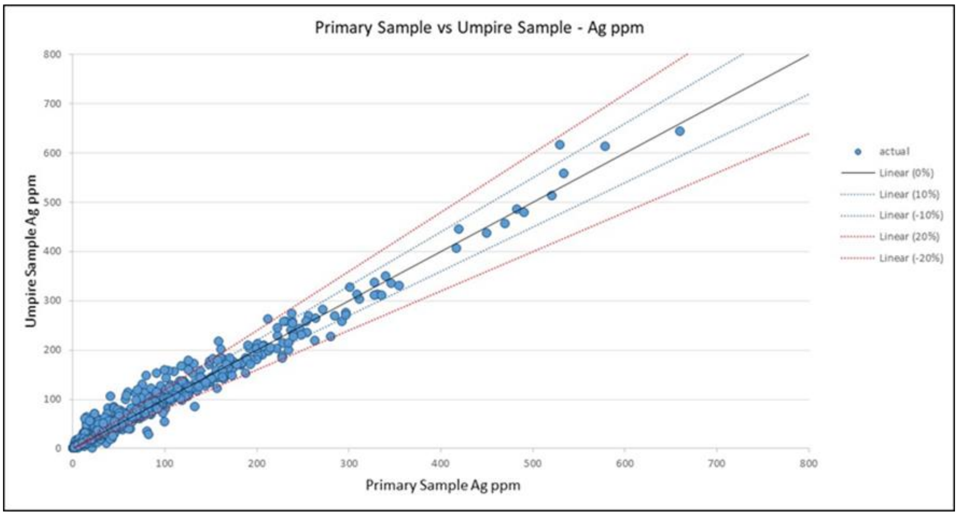
**Table 11-4 Statistical summary for umpire duplicates samples**

| Sample Type | Element | Number of samples | Cor Coeff | ≤ 10% RPD | ≤ 20% RPD |
|---|---|---|---|---|---|
| Umpire Pulp Duplicate | Ag ppm | 2,509 | 0.986 | 81% | 91% |
| | Au ppm | 1,064 | 0.935 | 38% | 58% |

Source: compiled by RPM GLOBAL, 2023

A total of 2,509 umpire samples were assayed for silver by ICP-OES method by AHK lab with silver values ranging from 0.2 ppm to 1,725 ppm. The comparison between the original and umpire assay pairs are displayed in **Figure 11-11**. A correlation coefficient of R=0.986 reveals a strong positive correlation between the original and umpire assay results. 91% umpire duplicates have a RPD less than 20%, evidencing a good reproducibility of assay results for silver.

**Figure 11-11 Umpire pulp duplicates precision scatterplot for silver assays**




Source: New Pacific, 2023

Gold performs significantly worse than silver, probably deriving from free gold in some areas of the project.

In conclusion, the external laboratory check analysis of silver and gold demonstrate good accuracy and precision of geochemical results produced by ALS (Lima) which supports the database used for resource estimate procedures.

## 11.5 Security and Storage

The Company's staff takes custody of drill cores and samples at each step of field exploration and drilling activities and no other people were allowed to enter the working areas and the core storage without pre-approval from the Compnay's project manager. The Project core is stored in plastic core boxes and transported to the core logging shack. After being logged and sampled, the core boxes are shipped to a secure core yard on a regular basis for permanent storage (**Figure 11-12**). The samples generated from this process are shipped to the ALS preparation laboratory in Oruro.

Core samples are collected from the drill site at least every 24 hours as part of routine drill site inspections and supervision provided by site geologists. Geological “quick logs”, portable XRF analyses and photographs of each core box are completed during the site inspection and before core boxes are transported to the core logging and sampling facility. Transportation of sample bags to the laboratory is carried out by New Pacific’s personnel using the company’s truck. The Sample Submission Order is reviewed and signed by ALS staff on arrival, then the lab takes custody of security.

**Figure 11-12 Secure core yard storage**

Source: QP’s site visit, 2023

## 11.6 RPM Opinion on Adequacy of Sample Preparation, Analyses, Security and QA/QC

The RPM Qualified Person is of the opinion that the overall QAQC process is well established and that the results support the Mineral Resources Estimation process.

The procedures and protocols employed by the Company regarding sampling, preparation, sample security, and analysis are in accordance with industry best practices. RPM did not identify any material concerns with the geological and analytical procedures as well as the quality of the results at Carangas Project.

The use of different control samples is robust and returns a good variety of verification through the whole process, and the umpire lab check analysis gives a good level of reproducibility of the database.

The insertion rate of control samples is 24%, which is higher than the industry benchmark (15-20%).

During the site visit, RPM identified that the sample preparation procedures and geology core logging are well established and contributed to a robust database. Good operational procedures are in place for core preservation and storage.

RPM is of the opinion that the results are acceptable and consistent with industry standards and recommends that New Pacific Metals maintain a continuous QAQC program for future exploration drill campaigns to maintain the database quality.

# 12. DATA VERIFICATION

This data verification discussion herein addresses only that data used to inform the Mineral Resources.

## 12.1 Data Verification Measures

RPM did not identify any data inaccuracy or misrepresentation of the underlying assay results in the database.

The drill database for Mineral Resource estimate was received in digital format, and RPM completed a systematic review of the data in Excel and Leapfrog software.

RPM conducted a site visit to the Carangas Project in March 2023, viewed the outcrops, drill hole locations, artisanal old mining activities, core sheds, and held various discussions with the project geologists of the Company. RPM examined mineralised drill hole intersections, downhole survey and assay data, survey data, acquisition protocols, logging and sample preparation procedures, and quality assurance procedures (QA) and quality control (QC) results.

The digital topographic file was supplied by NPM. The 1m stereo satellite survey was conducted in 2021 by PhotoSat based in Vancouver, Canada . RPM verified drill collar locations during the site visit and found the RL of the topography at these locations to be within the expected variations. RPM did not find any inaccuracies related to topography surface and collar location.

RPM concluded that the data was adequately acquired and validated following industry best practices.

## 12.2 Database Validation

RPM completed systematic data validation steps after receiving the database. The following checks were completed by RPM:

- The collar table was checked for duplicate holes;
- Down-hole data (surveys, assays, bulk density, recovery, geology) had no overlapping intervals or duplicates records and did not exceed the hole depth as reported in the collar table;
- Hole dips were within the range of 0° and -90°; and
- Visual inspection of drill hole collars and traces.

The Carangas drill hole database contains 189 drill holes representing 81,145 m. A total of 57,578 samples were analysed and comprise the current data for Mineral Resource Estimation.

RPM randomly validated approximately 5% of assay certificates against the assay records in the database. RPM did not identify any inconsistencies and believe that the assay database is suitable for geological interpretation and Resource Estimation process.

## 12.3 Validation of Mineralisation

RPM viewed outcrops, drill hole locations, and mineralised drill hole intersections during the site visit. RPM viewed the representative mineralised drill core intercepts listed in **Table 12-1** at the core shed located at the Carangas Project site.

**Table 12-1 Drill Core Intervals Viewed**

| BHID | FROM | TO |
|---|---|---|
| DCAr0179 | 500.00 | 700.00 |
| DCAr0096 | 0.00 | 950.00 |

Source: compiled by RPM GLOBAL, 2023

The mineralisation intervals were verified in drill core intercepts. **Figure 12-1** presents some core mineralisation intercepts.

**Figure 12-1 Drill core mineralization intercepts examples**

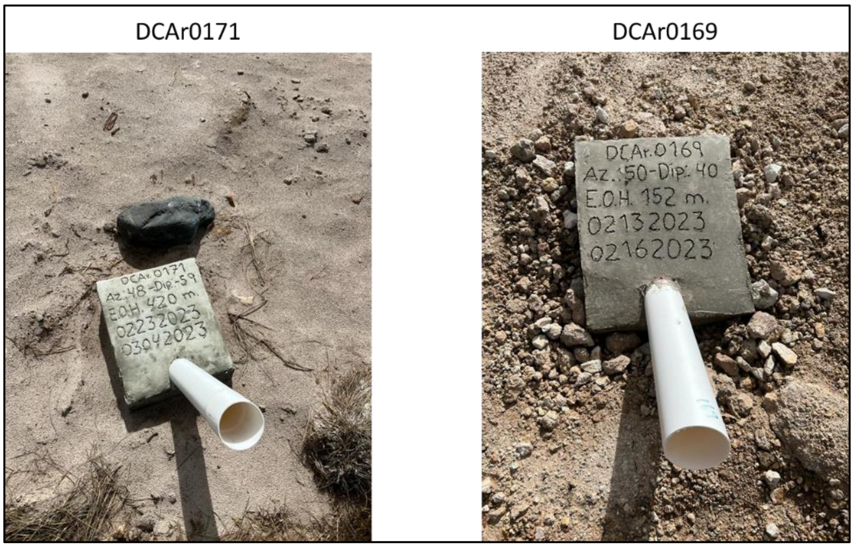

Source: QP's site visit, 2023

## 12.4 Drill Hole Location Validation

During the site visit, drill collar locations for DCAr0052, DCAr0156, DCAr00169, and DCAr00171 were checked by handheld GPS and drill hole orientations were checked by compass. Variations of up to 1-3 meters were noted, and RPM considers this to be within the accuracy expected from the different measurement systems. Each drill hole was capped and labelled, and they were very visible in the field (**Figure 12-2**).

RPM is of the opinion that drill hole locations and orientation information supplied in the database is of a suitable standard, and the data can be used for Mineral Resource estimation.

**Figure 12-2 Drillholes collar field registration**




Source: QP's site visit, 2023

## 12.5 Core Logging, Sampling, and Storage Facilities

The Company developed logging and sampling procedures based on the experience of the technical team and industry standards. Geological logging included lithology, alteration, weathering, structure, and mineralogy. During the site visit by RPM, a number of representative intervals were checked to assess logging quality. No issues were noted. Core loss was noted as problematic in overburden/saprolitic zones and in voids (historical artisanal mining activities). The overburden zone is considered a waste zone and is not considered in the Mineral Resource Statement.

Core photography and core recovery measurements were carried out by assistants under a geologist's supervision and digitally recorded into MX Deposit system. During the site visit, RPM reviewed recent core photos and noted that the photo quality is in line with industry expectations.

The core is stored in two different core yards on the project site. The core samples, pulps, and coarse rejects are properly stored at the core shack on the project site.

RPM noted that the technical team keeps a well-organized workflow and a good core storage plan on site. A new core yard is under preparation to store core from future drilling programs.

## 12.6 RPM Opinion on Validity of the Data

RPM is of the opinion that the drill data is adequate for the purposes of geological interpretation and Mineral Resource estimation within the classifications applied.

# 13. MINERAL PROCESSING AND METALLURGICAL TESTING

## 13.1 Introduction

Preliminary metallurgical testwork was started in June 2022 and completed in May 2023 with five composite samples which were selected from the mineralized materials of assay sample rejects based on mineralization type and oxidation extent. The scope of work includes the detailed head analysis, bulk flotation to generate silver/lead concentrate, sequential selective flotation to generate silver/lead concentrate and zinc concentrate, whole rock cyanide leach for recovery of gold, and lead/silver concentrate cyanide leach for recovery of silver.

From June 2022 to October 2022, the metallurgical testwork was carried out by Bureau Veritas Minerals (BV Minerals) in Richmond, British Columbia, Canada. A report entitled "Metallurgical Testing for Gold, Silver, Lead and Zinc Recovery, New Pacific Metals – Carangas Project" with project# 2201207 was issued on October 26, 2022. From October 2022 onward, the remaining metallurgical testwork was continued by ALS Metallurgy in Kamloops, British Columbia, Canada. ALS Metallurgy also issued a report on May 31, 2023 with a title of "Metallurgical Testwork on Composites from the Carangas Project, New Pacific Metals Corp, Bolivia" with project# KM6848.

Key metallurgical performances of these five composite samples are:

- Cyanide leach of two gold mineralized samples (1.8 and 4.0 g/t Au) generated over 97% gold recovery.
- One silver/lead mineralized sample (167 g/t Ag, 1.18% Pb) contained 69% of oxidized lead minerals. High-grade silver/lead concentrate was generated from the locked cycle flotation test. The concentrate contained 7,788 g/t silver and 41.6% lead with 79.7% silver recovery and 60.1% lead recovery. One indicative cyanide leach test showed 96% of silver in this concentrate was leachable in cyanide solution in 24 hours.
- One silver/lead/zinc mineralized sample (95 g/t Ag, 0.85% Pb, 0.48% Zn) contained 39% of oxidized lead minerals. High-grade silver/lead concentrate was also generated from the locked cycle flotation test, but this concentrate was significantly diluted with zinc, and it was not possible to produce a marketable zinc concentrate. The silver/lead concentrate contained 5,612 g/t silver, 35.2% lead and 13.0% zinc with 91.1% silver recovery and 64.2% lead recovery. One indicative cyanide leach test showed 94% of silver in this concentrate was leachable in cyanide solution in 24 hours.
- The fifth sample was silver/lead/zinc mineralized (143 g/t Ag, 0.84% Pb, 1.27% Zn) which corresponds to the silver/lead/zinc mineralization at depthof the deposit. In-situ oxidation was absent for this sample. Sequential selective flotation worked well to produce two marketable concentrates. The locked cycle flotation test generated a silver/lead concentrate containing 8,596 g/t silver and 52.1% lead with 90.9% silver recovery and 94.1% lead recovery, and a zinc concentrate containing 53.3% zinc with 80.4% zinc recovery. One indicative cyanide leach test showed 48% of silver in this silver/lead concentrate was leachable in cyanide solution in 24 hours. The silver dissolution trend indicated that silver recovery could increase if cyanide leach retention time was extended.

## 13.2 Sample selection and detailed head assay

Five composite samples were selected from three drill holes (DCAr001, DCAr0025 and DCAr0027) in the West Dome mineralized zone and three drill holes (DCAr0019, DCAr0026 and DCAr0031) in the Central Valley mineralized zone. Mineralized zones, drill holes and depths for these five composite samples are shown in **Table 13-1**. The contents of important elements are presented in **Table 13-2** based on assays carried out by BV Minerals and ALS Metallurgy. Pb(Ox) and Zn(Ox) represent the contents of oxidized lead minerals and zinc minerals, and were measured by ammonium acetate digestion.

**Table 13-1 Selections of five composite samples**

| Sample# | Sample Description | Mineralized Zone | Drill Hole# | From | To | Sample Weight |
|---|---|---|---|---|---|---|
| | | | | m | m | kg |
| Sample 1 | Silver/Lead Shallow - heavily oxidized | West Dome | DCAR001 | 23.90 | 43.00 | 51.0 |
| | | West Dome | DCAr0025 | 39.70 | 65.50 | |
| | | West Dome | DCA40027 | 29.00 | 40.50 | |
| Sample 2 | Silver/Lead/Zinc Shallow - partially oxidized | Central Valley | DCAr0019 | 18.83 | 43.25 | 52.7 |
| | | Central Valley | DCAr0026 | 8.00 | 45.87 | |
| Sample 3 | Silver/Lead/Zinc Deep - not oxidized | Central Valley | DCAr0019 | 110.05 | 171.69 | 51.5 |
| Sample 4 | Gold Low-Sulfur (<1.2% S) | Central Valley | DCAr0031 | 425.28 | 754.48 | 57.1 |
| Sample 5 | Gold High-Sulfur (>1.2% S) | Central Valley | DCAr0031 | 429.69 | 746.30 | 56.8 |

Source: New Pacific, 2023

**Table 13-2 Head assays of five composite samples**

| Element | | Unit | Lab | Sample 1 | Sample 2 | Sample 3 | Sample 4 | Sample 5 |
|---|---|---|---|---|---|---|---|---|
| | | | | Silver/Lead Shallow - heavily oxidized | Silver/Lead/Zinc Shallow - partially oxidized | Silver/Lead/Zinc Deep - not oxidized | Gold Low-Sulfur | Gold High-Sulfur |
| Silver | Ag | ppm | BV | 199.10 | 143.10 | 157.00 | 10.00 | 7.70 |
| | | | ALS | 150.00 | 100.00 | 135.00 | / | / |
| Lead | Pb | % | BV | 1.13 | 0.85 | 0.85 | 0.05 | 0.08 |
| | | | ALS | 1.13 | 0.89 | 0.86 | / | / |
| Pb(Ox) | | % | ALS | 0.78 | 0.35 | / | / | / |
| Zinc | Zn | % | BV | 0.02 | 0.51 | 1.42 | 0.02 | 0.03 |
| | | | ALS | 0.01 | 0.48 | 1.26 | / | / |
| Zn(Ox) | | % | ALS | / | 0.01 | / | / | / |
| Gold | Au | ppm | BV | <0.01 | <0.01 | 0.03 | 1.82 | 4.02 |
| Antimony | Sb | ppm | BV | 153.60 | 51.60 | 99.40 | 27.50 | 39.20 |
| Arsenic | As | ppm | BV | 194.00 | 472.00 | 184.00 | 110.00 | 154.00 |
| Carbon | C | % | BV | <0.02 | 0.03 | 1.04 | 1.07 | 1.20 |
| Copper | Cu | ppm | BV | 99.10 | 147.00 | 666.80 | 806.20 | 1,134.00 |
| Iron | Fe | % | BV | 1.86 | 2.09 | 6.77 | 6.02 | 8.64 |
| | | | ALS | 1.48 | 1.20 | 5.90 | / | / |
| Mercury | Hg | ppm | BV | 0.29 | 0.03 | 0.07 | 0.02 | 0.03 |
| Sulfur | S | % | BV | 0.41 | 0.70 | 1.84 | 0.62 | 3.07 |
| | | | ALS | 0.39 | 0.70 | 1.88 | / | / |

Source: New Pacific, 2023

Sample 1 was located near the surface of the deposit. It contained silver and lead with minor zinc and gold. 69% of lead mineralization was oxidized in this sample.

Sample 2 was also located near the surface of the deposit. It contained silver, lead and zinc. 39% of lead mineralization was oxidized in this sample. Oxidation of zinc mineralization was negligible.

Sample 3 was located deep in the silvdr/lead/zinc mineralization zone in the deposit. It contained silver, lead and zinc. Gold content was 0.03 g/t. In-situ oxidation was absent for this sample.

Sample 4 was located in the gold mineralization zone. It contained gold with sulfur content less than 1.2%. Content of silver, lead and zinc were 10.0 g/t, 0.05% and 0.02%, respectively.

Sample 5 was similar to Sample 4, but its sulfur content was higher (over 1.2%). Higher sulfur content means more pyrite, and this may indicate the level of refractory nature for gold extraction.

## 13.3 Bulk flotation testwork for Sample 1

Bulk flotation testwork for Sample 1 was carried out by BV Minerals in Richmond, British Columbia, Canada from June to September 2022. The remaining testwork for this sample was continued by ALS Metallurgy in Kamloops, British Columbia, Canada from October 2022 to May 2023. The objective of bulk flotation was to generate a marketable silver/lead concentrate.

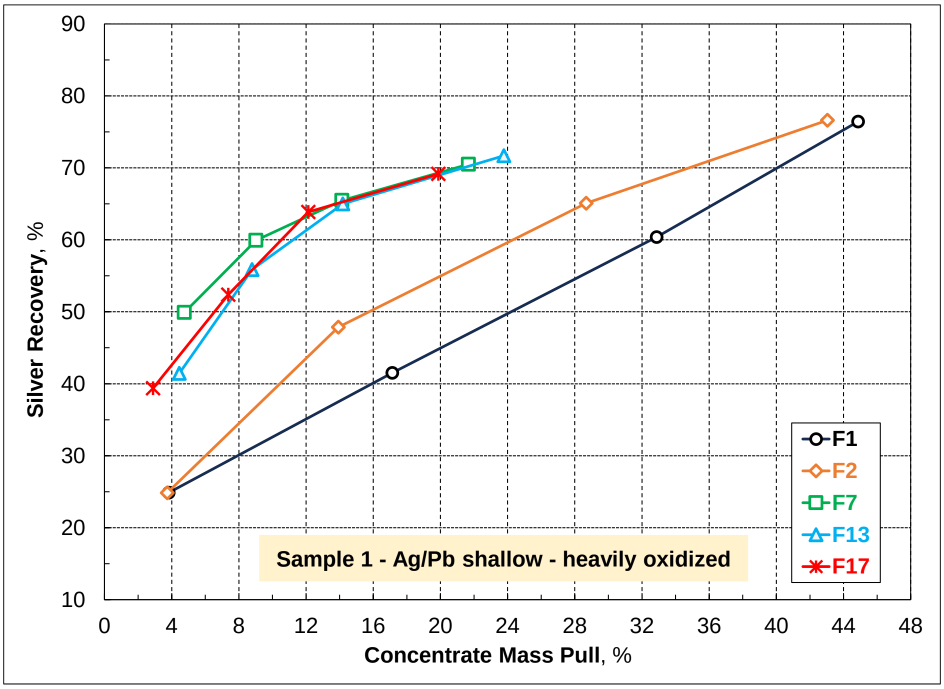
### 13.3.1 Bulk rougher flotation testwork for Sample 1 completed by BV Minerals

BV Minerals completed five rougher tests for Sample 1. Common conditions were 1.0 kg mineralized sample for each flotation test, 2.5 – 3.0-litre float cell, stainless steel rod mill for grinding, grind size (80% passing) 75 µm, DF250 (frother), and 16 minutes (2+2+4+8) flotation time.

- The first rougher test (F1) applied pH 8.0 (adjusted with lime) and 30 g/t AP3418A (collector). A 3 litre float cell was used.
- The second rougher test (F2) increased pH to 9.5 (adjusted with lime) and introduced 30 g/t sodium cyanide. Collector dosage was same as F1. Same cell size (3 litre).
- The third rougher test (F7) was carried out at pH 9.0 (adjusted with soda ash), 30 g/t sodium cyanide, 100 g/t copper sulfate, 30 g/t AP3418A and 45 g/t Aero 404 (collector).
- The fourth rougher test (F13) introduced the sulfidizing conditioning (300+200+100+50 g/t sodium hydrosulfide), pH 9.0 (adjusted with soda ash), 400 g/t copper sulfate, 80 g/t AP3418A, 80 g/t Aero 404, and 2.5 litre cell size.
- The fifth rougher test (F17) introduced a stronger sulfidizing conditioning (1,000+1,000+500+500 g/t sodium hydrosulfide), pH 9.0~9.5 (adjusted with soda ash), 400 g/t copper sulfate, 80 g/t AP3418A, 80 g/t Aero 404, and 2.5 litre flotation cell.

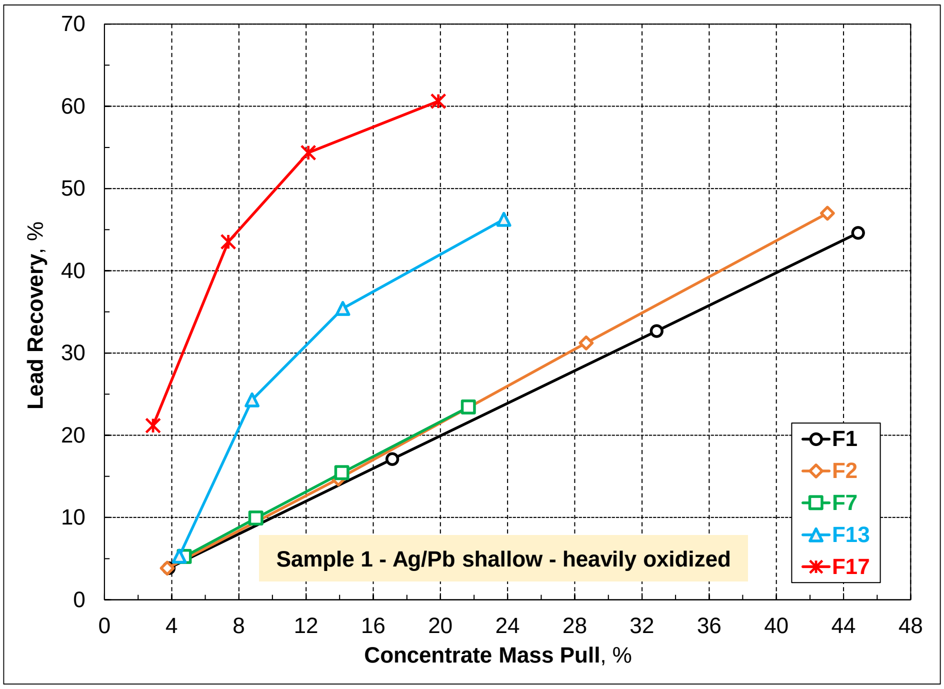
The results show that soda ash and copper sulfate were beneficial to silver recovery. Silver recovery as a function of concentrate mass pull is shown in **Figure 13-1**. With respect to improvement of lead recovery, strong sulfidizing conditioning was necessary. This finding makes sense considering 69% of lead mineralization in this sample was oxidized. Silver and lead recoveries as a function of concentrate mass pull are shown in **Figure 13-1** and **Figure 13-2**, respectively.

Figure 13-1 Silver recovery as a function of concentrate mass pull for Sample 1




Source: New Pacific, 2023

Figure 13-2 Lead recovery as a function of concentrate mass pull for Sample 1




Source: New Pacific, 2023

### 13.3.2 Bulk flotation testwork for Sample 1 completed by ALS Metallurgy

ALS Metallurgy continued the bulk flotation testwork for Sample 1 based on what were learnt from the work completed by BV Minerals, i.e., soda ash for pH adjustment/control, copper sulfate for activation and sodium hydrosulphide for sulfidizing conditioning which positively contributed to the recovery of silver and lead. ALS Metallurgy improved the sulfidizing conditioning further by controlling redox potential in a range between -300 mV and -250 mV vs AgCl/Ag. After rougher bulk flotation performance was improved, the testwork was advanced to the open-circuit cleaner flotation tests to upgrade the rougher concentrate, and finally to the locked cycle flotation test to produce a marketable silver/lead concentrate.

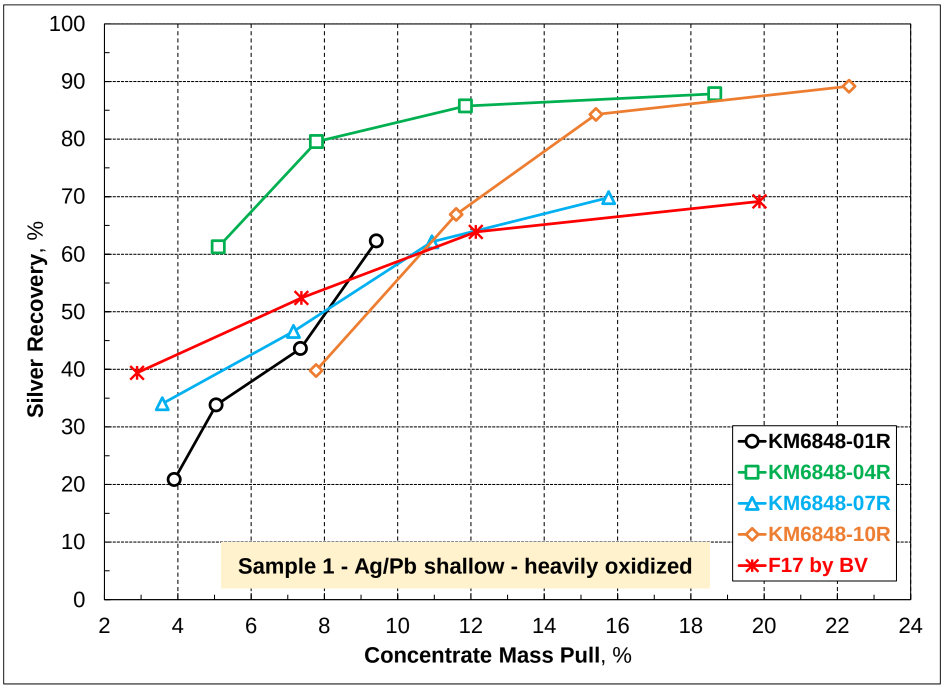
### 13.3.2.1 Bulk rougher flotation for Sample 1

ALS Metallurgy completed four rougher flotation tests under these common conditions of mild steel rod mill for grinding, 2.2-litre float cell, 400 g/t copper sulfate, 80 g/t AP3418A (collector), 80 g/t Aero 404 (collector), MIBC (frother) and 14 minutes flotation time. Specific conditions to each rougher test are as follows.

- The first rougher test (KM6848-01) was carried out under conditions of 1.0 kg mineralized sample, mild steel rods for grinding, grind size (80% passing) 77 µm, pH 9.2 ~ 10.1 (adjusted with lime), 3,100 g/t sodium hydrosulphide.
- A few changes were made to the second rougher test (KM6848-04). Weight of the mineralized sample was reduced from 1.0 kg to 0.85 kg. Mild steel rods were replaced with stainless steel rods for grinding. Grind size was finer (80% passing 65 µm). Lime was replaced with soda ash for pH adjustment/control (pH 9.0). Addition of sodium hydrosulphide during sulfidizing conditioning was controlled towards a targeted redox potential at -300 mV (vs AgCl/Ag) for the first rougher stage and at -250 mV for other three rougher stages.
- The third rougher test (KM6848-07) repeated the second rougher test (KM6848-04) at coarser grind size (80% passing 78 µm).
- The four rougher test (KM6848-10) repeated the second rougher test (KM6848-04) at finer grind size (80% passing 53 µm).

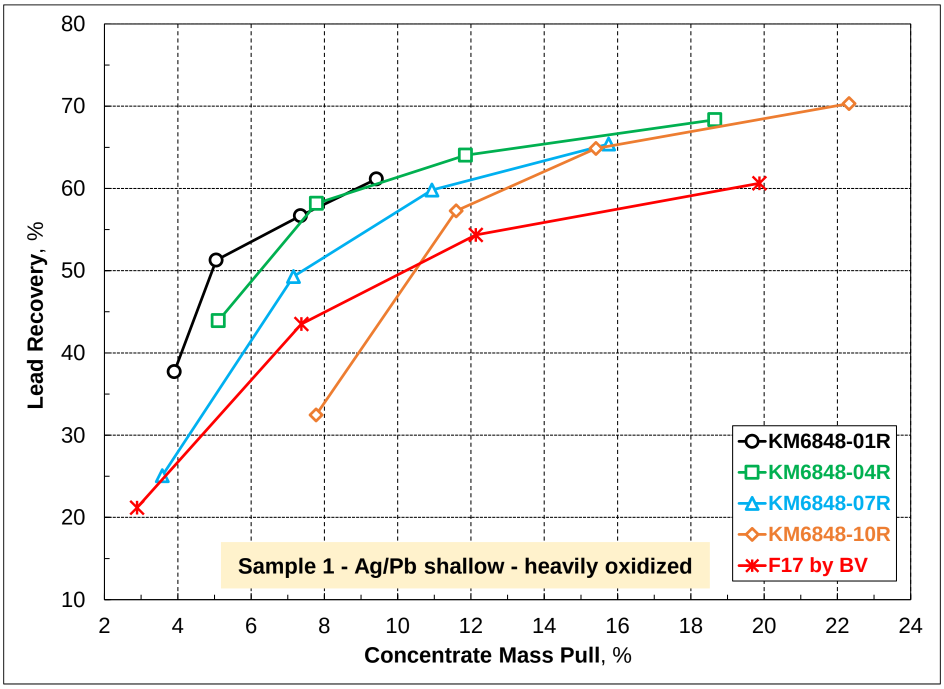
Silver and lead recoveries as a function of concentrate mass pull are shown in **Figure 13-3** and **Figure 13-4**, respectively. The bulk rougher flotation test F17 carried out by BV was included in the graphs for reference.

**Figure 13-3 Silver recovery as a function of concentrate mass pull for Sample 1 by ALS**




Source: New Pacific, 2023

**Figure 13-4 Lead recovery as a function of concentrate mass pull for Sample 1 by ALS**




Source: New Pacific, 2023

The controlled redox potential (-300 ~ -250 mV vs AgCl/Ag) seems to have a positive impact on both silver recovery and lead recovery (**Figure 13-3** and **Figure 13-4**). Grind size of 80% passing 65 µm (Test KM6848-04R) was best in terms of fast flotation rate and high recovery for silver and lead. In comparison with what BV Minerals achieved, the results from ALS Metallurgy were better because silver/lead recoveries were increased, and dosage of sodium hydrosulphide was reduced.

By examining the mineralogy of a tailing sample from rougher test KM6848-04R, ALS Metallurgy concluded that about 50% of lead lost to the tailing was related to cerussite ($PbCO_3$) and the remaining lead was related to the lead/iron sulfate minerals. The well liberated cerussite is expected to be floatable after proper sulfidizing conditioning. However, the cerussite in this tailing sample had only about 16% liberation. Furthermore, the QEMSCAN backscatter image indicated a rather complex texture of cerussite within the non-sulfide gangue minerals. Therefore, it will be difficult to recover a high percentage of cerussite lost to this tailing sample.

### 13.3.2.2 Bulk cleaner flotation for Sample 1

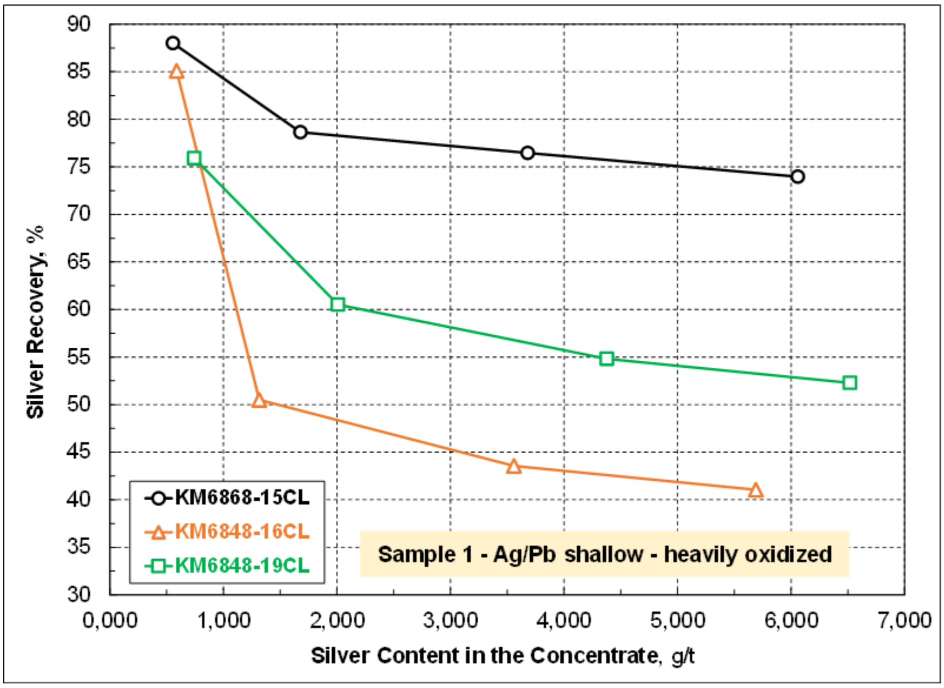
ALS Metallurgy completed three open-circuit cleaner tests for Sample 1. Common conditions for the rougher stage were 0.85 kg mineralized sample per each test, mild steel rod mill shell and stainless steel rods for grinding, primary grind size (80% passing) 65 µm, pH 9.0 (adjusted with soda ash), -300 ~ -250 mV redox potential for sulfidizing conditioning, 400 g/t copper sulfate, 80 g/t AP3418A, 80 g/t Aero 404, 14 minutes flotation time, and MIBC frother.

- The first cleaner test (KM6848-15) was carried out under conditions of no regrinding, 3 stages of upgrade, pH 9.0 (adjusted with soda ash), 117 g/t sodium hydrosulphide for sulfidizing conditioning (-250 mV vs AgCl/Ag), 50 g/t copper sulfate, 10+5+2 g/t AP3418A, 10+5+2 g/t Aero 404, 7+5+4 minutes flotation time.
- The second cleaner test (KM6848-16) was carried out under the revised conditions. Regrinding was applied to achieve 80% passing 11 µm. Dosage of sodium hydrosulphide was increased to 400 g/t although redox potential was still targeted at -250 mV. Other conditions were same as the first cleaner test.
- Some conditions for the third cleaner test (KM6848-19) were also changed in comparison with the first cleaner test. pH was reduced to 8.5 (adjusted with soda ash). Dosage of copper sulfate was increased

to 100 g/t. A fourth cleaner stage was added. Dosage of AP3418A was increased to 20+10+4+4 g/t. Dosage of Aero 404 was also increased to 20+10+4+4 g/t. Total cleaner circuit retention time: 6+5+4+3.

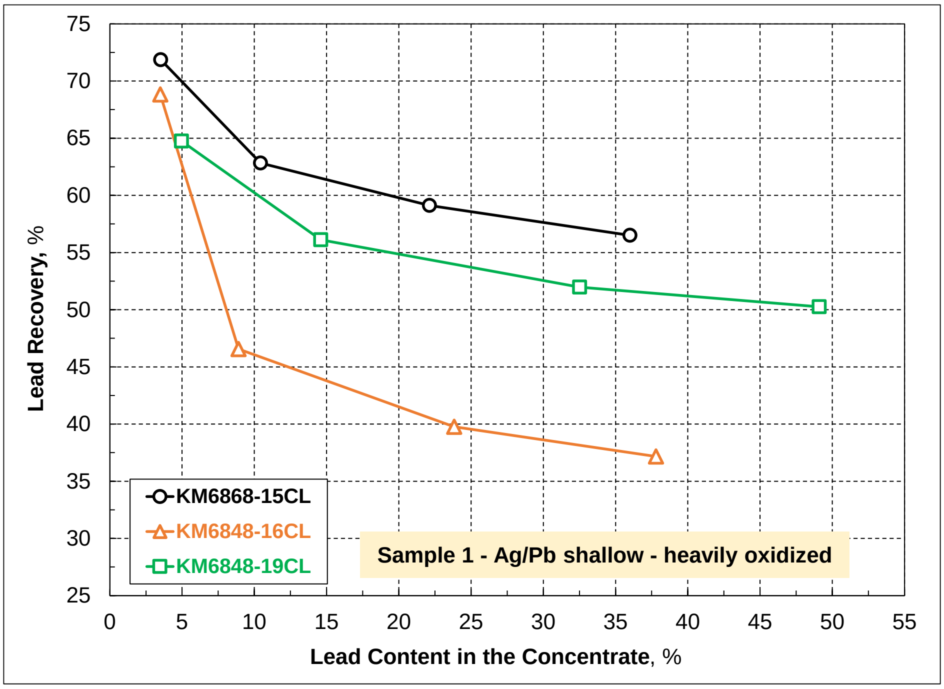
The first cleaner test (KM6848-15) produced the better results. The final silver/lead concentrate contained 6,060 g/t silver at 74.0% silver recovery and 36.0% lead at 56.5% lead recovery as shown in **Figure 13-5** and **Figure 13-6**.

**Figure 13-5 Silver recovery and silver content in the concentrate for Sample 1**




Source: New Pacific, 2023

**Figure 13-6 Lead recovery and lead content in the concentrate for Sample 1**




Source: New Pacific, 2023

#### 13.3.2.3 Bulk locked cycle flotation for Sample 1

One locked cycle flotation test was completed for Sample 1 (KM6848-24) using the best cleaner test conditions (KM6868-15). The test consisted of 6 cycles, 4 cleaner stages and no regrinding. The first cleaner tail was recirculated to the rougher feed. The results of the locked cycle test are summarized in **Table 13-3**.

**Table 13-3 Locked cycle flotation results for Sample 1**

| Product | Mass | Composition | | | Recovery | | |
|---|---|---|---|---|---|---|---|
| | | Ag | Pb | S | Ag | Pb | S |
| | % | g/t | % | % | % | | |
| Feed | / | 167 | 1.18 | 0.41 | / | / | / |
| Silver/Lead Concentrate | 1.7 | 7,788 | 41.6 | 7.45 | 79.7 | 60.1 | 30.8 |
| Tail | 98.3 | 34 | 0.48 | 0.29 | 20.3 | 39.9 | 69.2 |

Source: New Pacific, 2023

## 13.4 Sequential selective flotation testwork for Sample 2

### 13.4.1 Sequential selective rougher flotation testwork for Sample 2 completed by BV Minerals

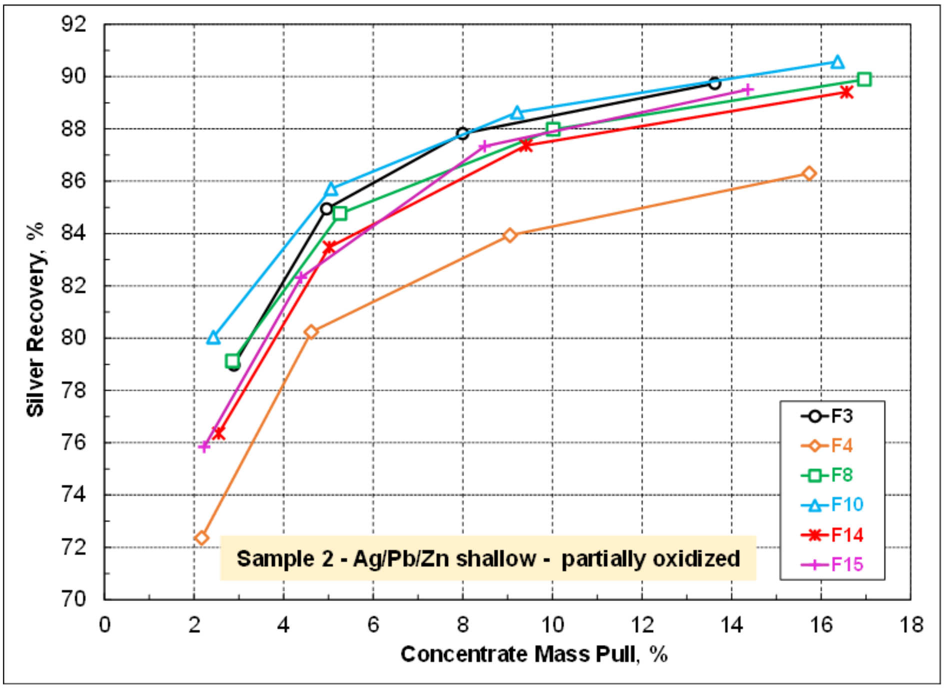
BV Minerals completed six sequential selective rougher flotation tests for Sample 2. In general, effective rejection of zinc during silver/lead flotation was not successful, and it was not possible to generate a separate high-grade zinc concentrate. Therefore, only silver/lead flotation results are presented below. Common conditions for six rougher flotation tests were 1.0 kg mineralized sample for each test, 2.5-litre float cell, stainless steel rod mill for grinding, grind size (80% passing) 75 µm, DF250 frother and 16 minutes flotation time.

- The first rougher test (F3) was carried out at pH 8.50 (adjusted with lime), 50 g/t zinc sulfate and 30 g/t AP3418A (collector).
- The second rougher test (F4) was carried out under the revised conditions. pH was increased to 9.50 (adjusted with lime). 30 g/t sodium cyanide was added. Dosage of AP3418A was reduced to 30 g/t. 50 g/t zinc sulfate was still added.
- Further changes were made to the third rougher test (F8). pH was reduced back to 8.40 (adjusted with lime). Dosage of zinc sulfate was increased to 100 g/t. Dosage of AP3418A was reduced further to 18.75 g/t.
- For the fourth rougher test (F10), additional changes were made. pH was increased to 9.00 (adjusted with lime). Dosage of zinc sulfate was further increased to 200 g/t. Dosage of AP3418A was further reduced to 10 g/t.
- For the fifth rougher test (F14), dosage of zinc sulfate was increased again to 500 g/t. Other conditions were same as the fourth rougher test (F10).
- For the sixth rougher test (F15), dosage of zinc sulfate was increased further to 1,000 g/t. Other conditions were same as the fourth rougher test (F10).

Other than the rougher test with cyanide addition (Test F4, **Figure 13-7**), silver recovery from other five rougher tests was relatively consistent around 90%. Because of the large drop of silver recovery upon addition of cyanide, the use of cyanide was discontinued for Sample 2.

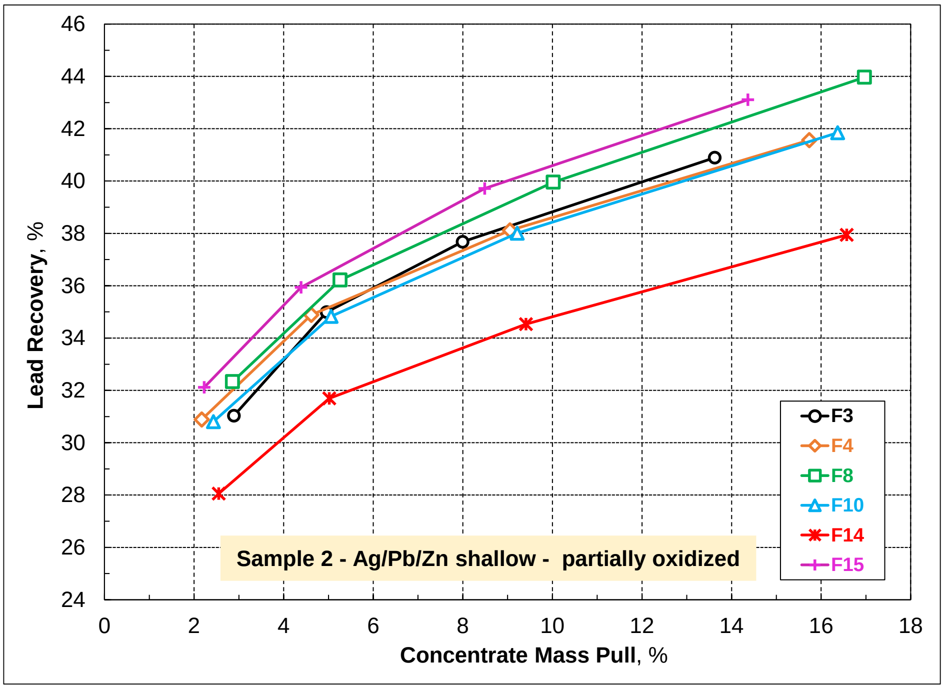
As per lead recovery (**Figure 13-8**), there was some fluctuation. The reason for a large drop of lead recovery in Test F14 (500 g/t zinc sulfate) cannot be explained, because other rougher tests achieved higher lead recovery with more than 500 g/t zinc sulfate (Test F15) or less than 500 g/t zinc sulfate (Test F10, F8). Nevertheless, final lead recovery was low, only around 43%. Because 39% of lead mineralization in Sample 2 was oxidized in-situ, sulfidizing conditioning will be necessary to increase lead recovery. The sulfidizing conditioning was followed up subsequently by ALS Metallurgy.

**Figure 13-7 Silver recovery as a function of concentrate mass pull for Sample 2**




Source: New Pacific, 2023

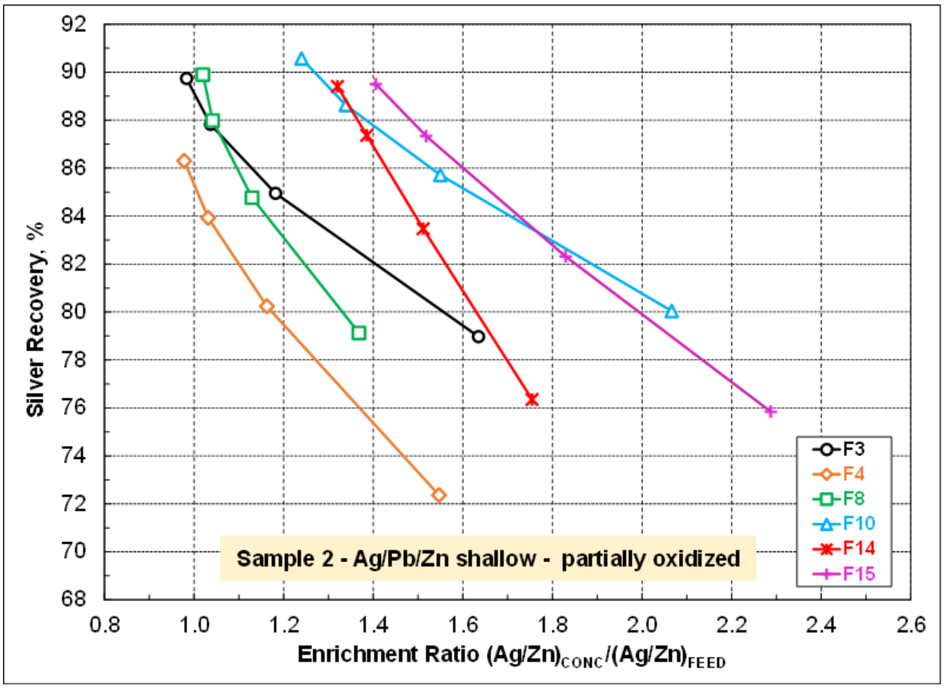
**Figure 13-8 Lead recovery as a function of concentrate mass pull for Sample 2**




Source: New Pacific, 2023

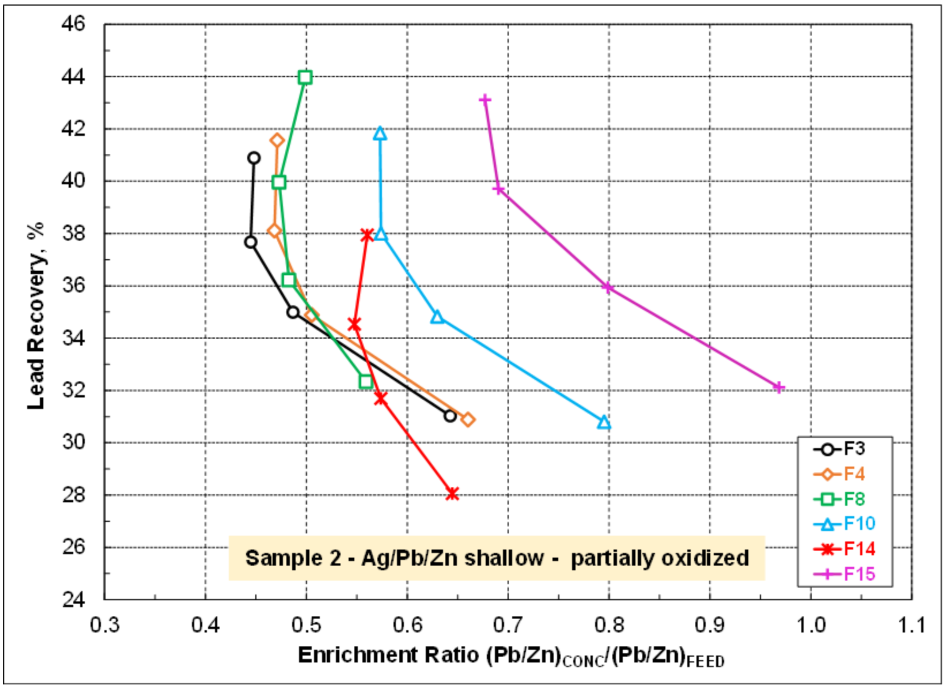
Based on the enrichment ratio between silver and zinc (**Figure 13-9**) and the enrichment ratio between lead and zinc (**Figure 13-10**), the results of Test F15 (1,000 g/t zinc sulfate) were best. As a result, it can be concluded that high-level dosage of zinc sulfate is necessary to depress zinc from floating in the silver/lead circuit. However, zinc rejection was still not good enough with 1,000 g/t zinc sulfate. Because so much zinc was floated together with silver and lead, it was not possible to produce a separate high-grade zinc concentrate.

**Figure 13-9 Silver recovery versus enrichment ratio between silver and zinc for Sample 2**




Source: New Pacific, 2023

**Figure 13-10 Lead recovery versus enrichment ratio between lead and zinc for Sample 2**




Source: New Pacific, 2023

### 13.4.2 Sequential selective flotation testwork for Sample 2 completed by ALS Metallurgy

#### 13.4.2.1 Sequential selective rougher flotation for Sample 2

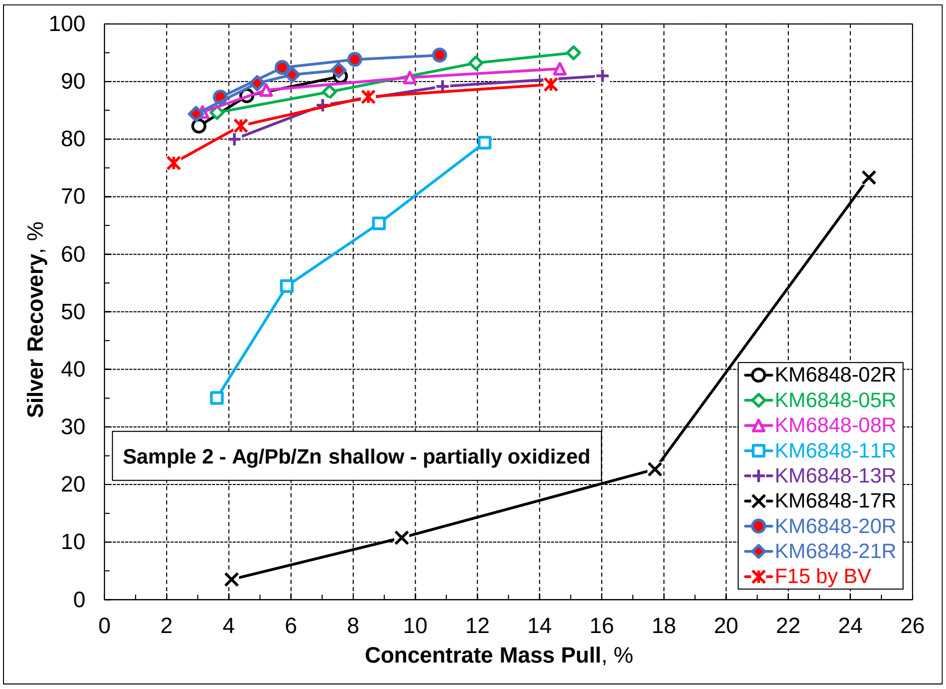
After six rougher tests were completed by BV Minerals, ALS Metallurgy continued with another eight rougher tests. Although some improvements were made, rejection of zinc during silver/lead flotation remained a serious problem, and thus it was not possible to generate a separate marketable zinc concentrate. Therefore, only the results for silver/lead flotation are presented below.

- The first rougher test (KM6848-02) was carried out under conditions of 1.0 kg mineralized sample, mild steel rod mill shell and mild steel rods for grinding, grind size (80% passing) 79 µm, 1000 g/t zinc sulfate, 1000 g/t sodium hydrosulphide, pH 9.3 ~ 9.5 (adjusted with lime), 9 g/t AP3418A (collector), MIBC (frother) and 8 minutes flotation time.
- Some conditions were changed for the second rougher test (KM6848-05). The mineralized sample mass was reduced to 0.85 kg. Grinding media was changed to stainless steel rods. Grind size (80% passing) was slightly finer (71 µm) and pH 9.0 ~ 9.5 (adjusted with lime). 1000 g/t zinc sulfate was still added (to the grinding). Sodium hydrosulfide was added to target -300 mV redox potential in stage 1 and -250 mV in other stages. One more stage was added to the rougher. Dosage of AP3418A was 5+2+2+1 g/t. Flotation time was 2+2+4+6 minutes. MIBC frother was replaced with W31 frother. W31 is a stronger frother, similar to DF250.
- The third rougher test (KM6848-08) was carried out under similar conditions as the second rougher test (KM6848-05), but collector AP3418A dosage was reduced to 3+1+1+1 g/t.
- The fourth rougher test (KM6848-11) was similar to the third rougher test (KM6848-08), but dosage of zinc sulfate was doubled to 2000 g/t.
- The fifth rougher test (KM6848-13) was similar to the third rougher test (KM6848-08), but 30 g/t sodium cyanide was added. 950 g/t of zinc sulfate was added. As with what was observed previously by BV Minerals, this rougher test had lower silver recovery due to cyanide addition.
- The sixth rougher test (KM6848-17) was similar to the third rougher test (KM6848-08), but pH was increased drastically to 11.0.
- The seventh rougher test (KM6848-20) was similar to the third rougher test (KM6848-08), but grind size was finer (80% passing 46 µm).
- The eighth rougher test (KM6848-21) was similar to the third rougher test (KM6848-08), but 300 g/t lime was added to the grinding.

As far as silver recovery is concerned, with the exception of high pH (pH 11.0) (KM6848-17) and 2000 g/t zinc sulfate addition (KM6848-11), silver recovery was relatively consistent around 91 ~ 95% (**Figure 13-11**). Overall, the results from ALS Metallurgy were somewhat better than what was achieved by BV Minerals.

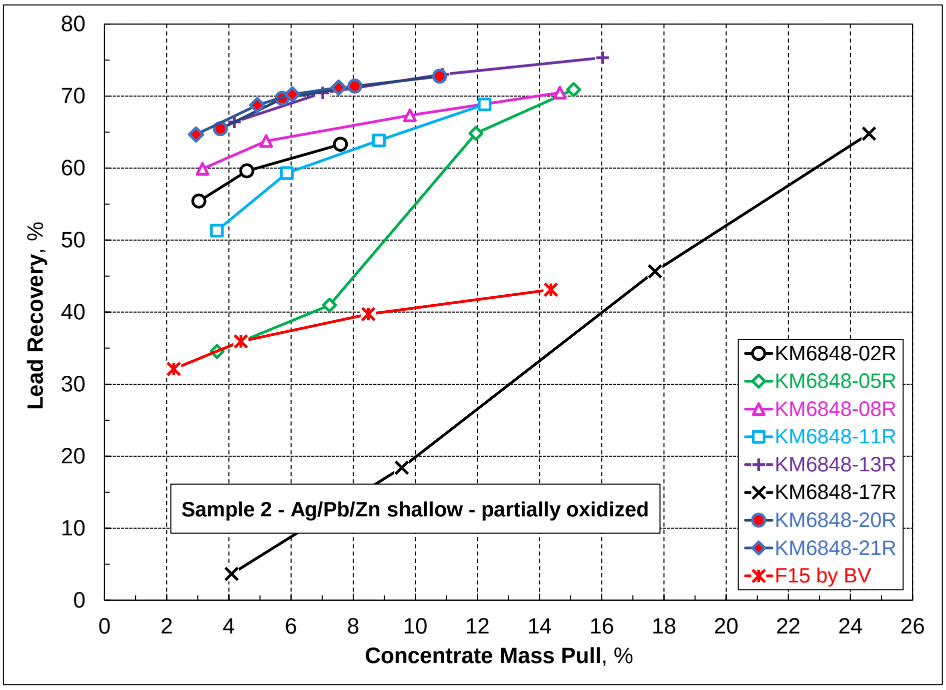
With respect to lead recovery, a significant improvement was achieved after sulfidizing conditioning was applied (**Figure 13-12**). Three rougher tests (KM6848-13, -20 and -21) achieved best lead recovery which was around 75% at 16% concentrate mass pull.

**Figure 13-11 Silver recovery as a function of concentrate mass pull for Sample 2 by ALS**




Source: New Pacific, 2023

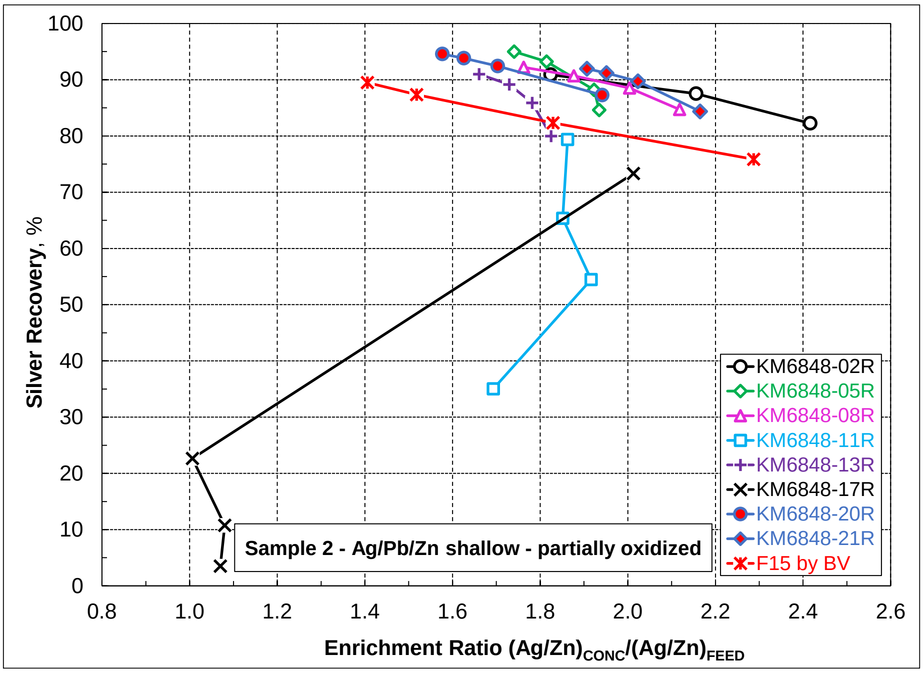
**Figure 13-12 Lead recovery as a function of concentrate mass pull for Sample 2 by ALS**




Source: New Pacific, 2023

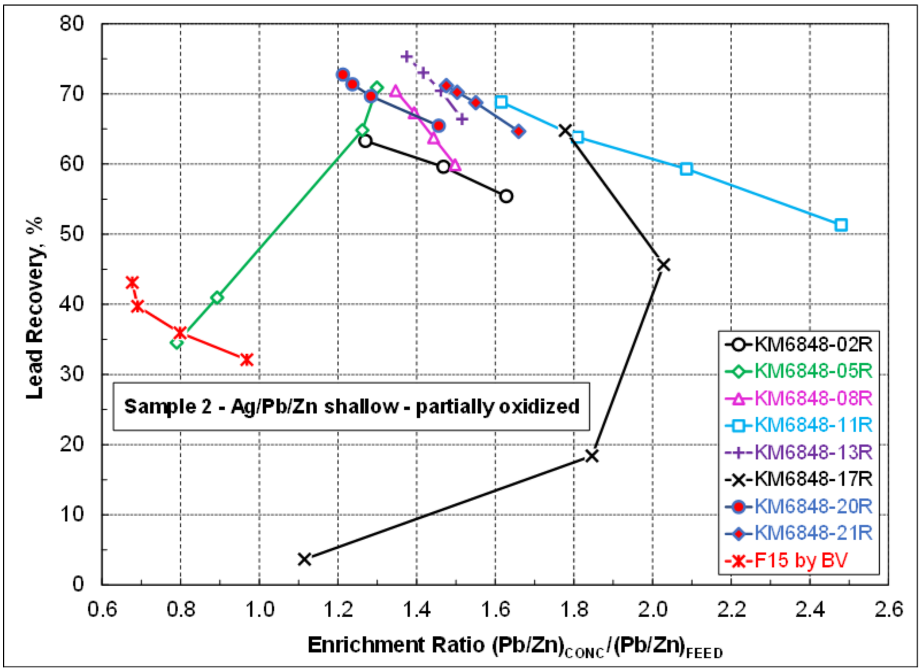
Based on the enrichment ratio between silver and zinc (**Figure 13-13**) and the enrichment ratio between lead and zinc (**Figure 13-14**), it is worth to mention that selectivity between lead and zinc was somewhat improved with a high dosage of zinc sulfate (2000 g/t, Test KM6848-11). However, this improved selectivity was still not good enough to generate a separate high-grade zinc concentrate after silver/lead concentrate was produced. Because of the significant drop of silver recovery with 2000 g/t zinc sulfate (test KM6848-11R, **Figure 13-11**), such high dosage of zinc sulfate is not recommended.

**Figure 13-13 Silver recovery versus enrichment ratio between silver and zinc for Sample 2 by ALS**




Source: New Pacific, 2023

**Figure 13-14 Lead recovery versus enrichment ratio between lead and zinc for Sample 2 by ALS**




Source: New Pacific, 2023

### 13.4.2.2 Sequential selective cleaner flotation for Sample 2

Three open-circuit cleaner flotation tests were completed for Sample 2 by ALS Metallurgy. The conditions and results for the silver/lead flotation are presented here. The results for the zinc flotation were insatisfactory.

The common conditions for primary grinding and rougher stage were 0.85 kg mineralized sample, mild steel rod mill shell and stainless steel rods for grinding, 300 g/t lime and 1000 g/t zinc sulfate added to the grinding, pH 9.1~9.2 (adjusted with lime), 6 g/t AP3418A (collector), W31 frother and 14 minutes flotation time.

- For the first cleaner test (KM6848-22), the targeted redox potential was applied to the conditioning (-300 ~ -250 mV) during rougher stage and to the conditioning (-250 mV) during cleaner stage. Corresponding dosages of sodium hydrosulfide were 588+117+117+117 g/t to the rougher stage and 117 g/t to the cleaner stage. Dosage of AP3418A in the cleaner stage was 3+1+1 g/t, and cleaner flotation time was 5+4+3 minutes.
- For the second cleaner test (KM6848-23), the redox potential was not targeted during conditioning. Instead, fixed amounts of sodium hydrosulfide were added following the best rougher test. 351+70+70+94 g/t sodium hydrosulfide were added to the conditioning during rougher stage and 70 g/t to the conditioning during cleaner stage.
- The third cleaner test (KM6848-26) investigated acidification to the conditioning before silver/lead flotation through adding 470 g/t of sulfuric acid.

The results of these three cleaner tests are summarized in **Table 13-4**. The best results were achieved in tests 22CL and 23CL. The final silver/lead concentrate after 3 stages of upgrade was still significantly diluted by zinc (9.3% ~ 15.0%). Because of this dilution, lead content in the final silver/lead concentrate was relatively low (35.6% ~ 37.8%). Nevertheless, silver content in the final silver/lead concentrate remained very high (3,993 ~ 4,588 g/t).

**Table 13-4 Silver/lead cleaner flotation results for Sample 2**

| Test # | Product | Mass | Composition | | | | | Recovery | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ag | Pb | Zn | Fe | S | Ag | Pb | Zn | Fe | S |
| | | % | g/t | % | % | % | % | % | | | | |
| KM6848-22CL | 3rd Cleaner Conc | 1.1 | 3,993 | 37.8 | 9.3 | 16 | 25 | 46 | 51 | 23 | 12 | 39 |
| | 2nd Cleaner Conc | 1.5 | 3,263 | 30.5 | 7.6 | 14 | 21 | 49 | 54 | 25 | 14 | 45 |
| | 1st Cleaner Conc | 2.6 | 1,921 | 17.6 | 4.5 | 9 | 12 | 52 | 55 | 27 | 16 | 46 |
| | Rougher Conc | 11.6 | 503 | 4.6 | 1.4 | 3 | 3 | 59 | 63 | 35 | 26 | 53 |
| | Feed | / | 99 | 0.84 | 0.45 | 1.45 | 0.71 | / | / | / | / | / |
| KM6848-23CL | 3rd Cleaner Conc | 1.1 | 4,588 | 35.6 | 15.0 | 14 | 25 | 59 | 48 | 32 | 10 | 37 |
| | 2nd Cleaner Conc | 1.5 | 3,514 | 30.3 | 14.7 | 13 | 25 | 63 | 57 | 44 | 13 | 52 |
| | 1st Cleaner Conc | 3.2 | 1,734 | 14.9 | 7.3 | 7 | 12 | 65 | 58 | 45 | 15 | 53 |
| | Rougher Conc | 12.3 | 628 | 4.5 | 2.3 | 3 | 4 | 92 | 68 | 55 | 25 | 60 |
| | Feed | / | 84 | 0.81 | 0.51 | 1.53 | 0.73 | / | / | / | / | / |
| KM6848-26CL | 2nd+3rd Cleaner Conc | 0.7 | 3,520 | 32.0 | 9.3 | 19 | 30 | 29 | 30 | 13 | 9 | 30 |
| | 1st Cleaner Conc | 1.3 | 2,116 | 18.6 | 5.4 | 12 | 18 | 31 | 31 | 14 | 11 | 32 |
| | Rougher Conc | 11.2 | 654 | 4.0 | 1.4 | 3 | 3 | 82 | 56 | 30 | 21 | 42 |
| | Feed | / | 90 | 0.80 | 0.51 | 1.50 | 0.74 | / | / | / | / | / |

Source: New Pacific, 2023

### 13.4.2.3 Sequential selective locked cycle flotation for Sample 2

One locked cycle flotation test was completed for Sample 2 by ALS Metallurgy. The conditions from the cleaner test KM6848-23CL were followed. The test results are shown in **Table 13-5**.

**Table 13-5 Locked cycle flotation results for Sample 2**

| Product | | Mass | Composition | | | | | Recovery | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ag | Pb | Zn | Fe | S | Ag | Pb | Zn | Fe | S |
| | | % | g/t | % | % | % | % | % | | | | |
| Feed | | 100 | 95 | 0.85 | 0.48 | 1.30 | 0.73 | / | / | / | / | / |
| Silver/Lead Concentrate | | 1.54 | **5,612** | **35.2** | 13.0 | 12.3 | 24.2 | **91.1** | **64.2** | 42.3 | 14.6 | 51.1 |
| Zinc Concentrate | | 0.51 | 21 | 1.43 | **5.6** | 1.73 | 3.56 | 0.1 | 0.9 | **6.0** | 0.7 | 2.5 |
| Final Tail | Zinc 1st Clnr Tail | 9.28 | 13.7 | 0.37 | 0.17 | 1.26 | 0.31 | 1.3 | 4.0 | 3.3 | 9.0 | 3.9 |
| | Zinc Rougher Tail | 88.67 | 8.0 | 0.29 | 0.26 | 1.11 | 0.35 | 7.5 | 30.9 | 48.4 | 75.8 | 42.5 |

Source: New Pacific, 2023

The zinc concentrate from the locked cycle flotation test was poor in quality with only 5.6% zinc content. Zinc recovery into this low-grade zinc concentrate was only 6.0%. Majority of zinc was lost during rougher stage. For a feed with a low head grade (0.48% Zn) and 42.3% of it being floated into the silver/lead concentrate, it will be difficult to produce a separate high-grade zinc concentrate in any case.

## 13.5 Sequential selective flotation testwork for Sample 3

### 13.5.1 Sequential selective rougher flotation for Sample 3 completed by BV Minerals

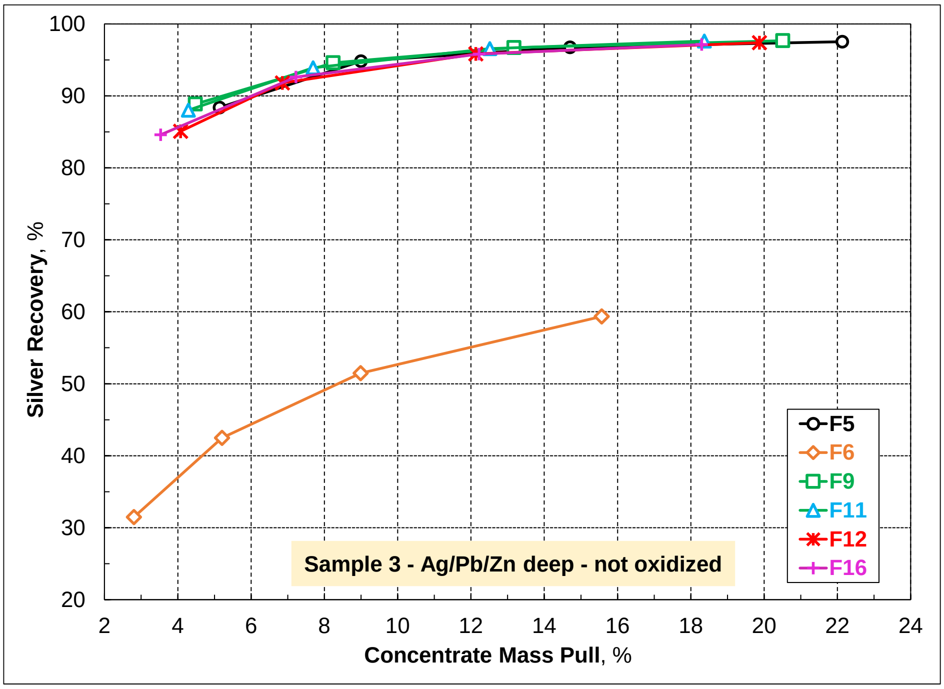
Six rougher tests were completed for Sample 3 by BV Minerals. Overall, the results were positive for both silver/lead concentrate and zinc concentrate. Common conditions for these six rougher tests were 1.0 kg mineralized sample per test, stainless steel rod mill for grinding, 2.5-litre float cell, grind size (80% passing) 75 µm, DF250 frother and 2+2+4+8 minutes flotation time for the silver/lead circuit.

- The first rougher test (F5) was carried out at pH 8.0 (adjusted with lime), 130 g/t zinc sulfate, and 10+10+10+5 g/t AP3418A for the silver/lead circuit.
- The second rougher test (F6) was carried out under similar conditions as the first rougher test (F5), but pH was increased to 9.50 and 30 g/t sodium cyanide was added.
- The third rougher test (F9) was similar to the first rougher test (F5), but zinc sulfate dosage was doubled (260 g/t) and dosage of AP3418A was reduced (10+5+2.5+1.25 g/t).
- The fourth rougher test (F11) was similar to the first rougher test (F5), but pH was increased to 9.50 (adjusted with lime)
- The fifth rougher test (F12) was similar to the third rougher test (F9), but zinc sulfate dosage was doubled to 520 g/t.
- The sixth rougher test (F16) was carried out with further increased zinc sulfate (1000 g/t) (in grinding) and further reduced AP3418A dosage (5+2+2+1 g/t) at pH 9.0.

For the rougher stage of zinc circuit, same conditions were applied, i.e., pH 11.0 (adjusted with lime), 200 g/t copper sulfate, 20+20+10+10 g/t SIPX (collector) and 2+2+4+8 minutes flotation time.

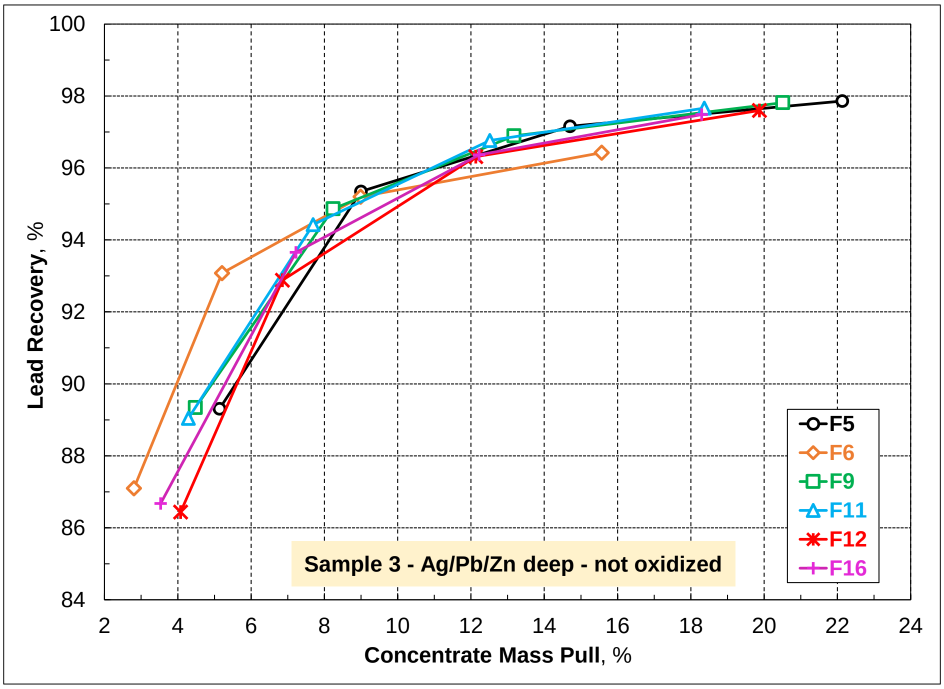
Except one test (F6) with addition of cyanide, all other five rougher tests resulted in consistently silver recovery over 96% (**Figure 13-15**). Lead recovery was also consistently over 97% except Test F6 (**Figure 13-16**). Even with the addition of cyanide (Test F6), final lead recovery was still over 96%. The rejection of zinc during silver/lead flotation was significantly better than Sample 2 based on either the enrichment ratio between silver and zinc (**Figure 13-17**) or the enrichment ratio between lead and zinc (**Figure 13-18**).

**Figure 13-15 Silver recovery as a function of concentrate mass pull for Sample 3**



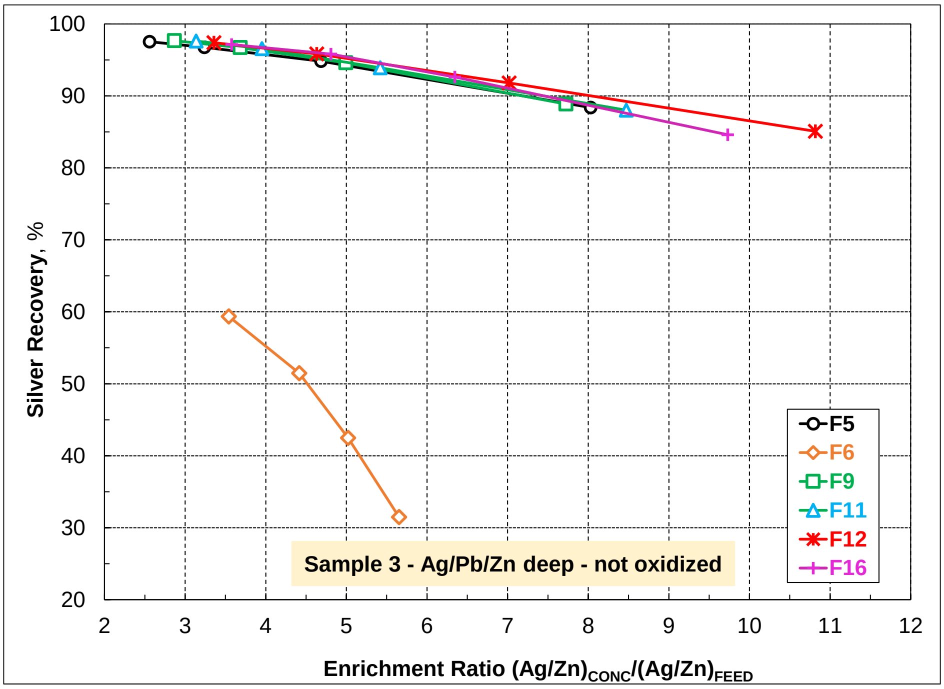

Source: New Pacific, 2023

**Figure 13-16 Lead recovery as a function of concentrate mass pull for Sample 3**



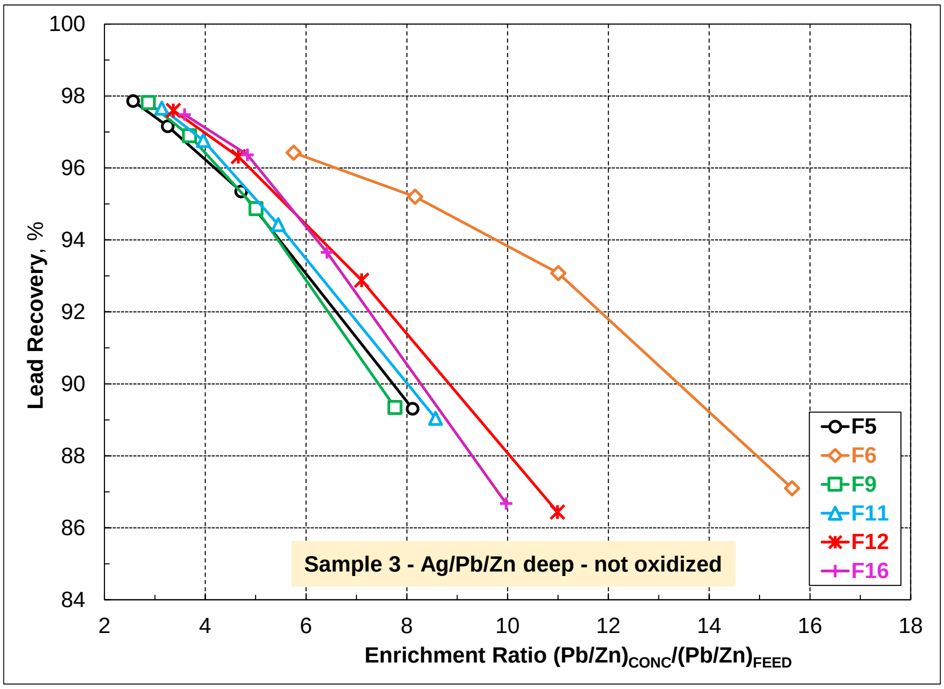

Source: New Pacific, 2023

**Figure 13-17 Silver recovery versus enrichment ratio between silver and zinc for Sample 3**




Source: New Pacific, 2023

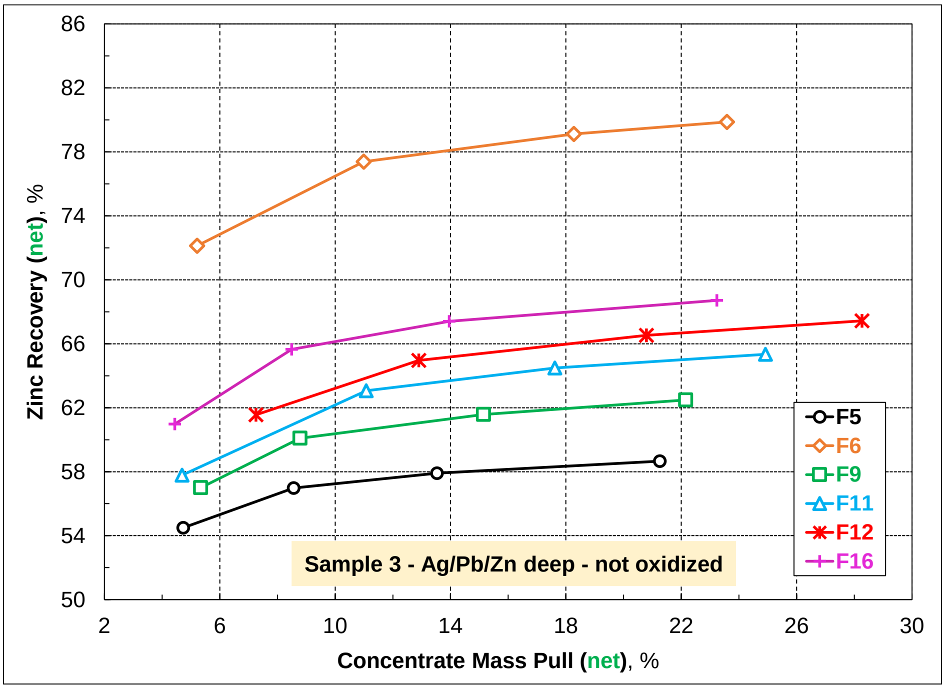
**Figure 13-18 Lead recovery versus enrichment ratio between lead and zinc for Sample 3**




Source: New Pacific, 2023

After silver/lead were floated away, the tailing was subject to zinc flotation. The zinc flotation performance was equally good. Final zinc recovery of Test F6 was 80% (**Figure 13-19**).

**Figure 13-19 Zinc recovery (net) as a function of concentrate mass pull (net) for Sample 3**




Source: New Pacific, 2023

## 13.5.2 Sequential selective flotation testwork for Sample 3 completed by ALS Metallurgy

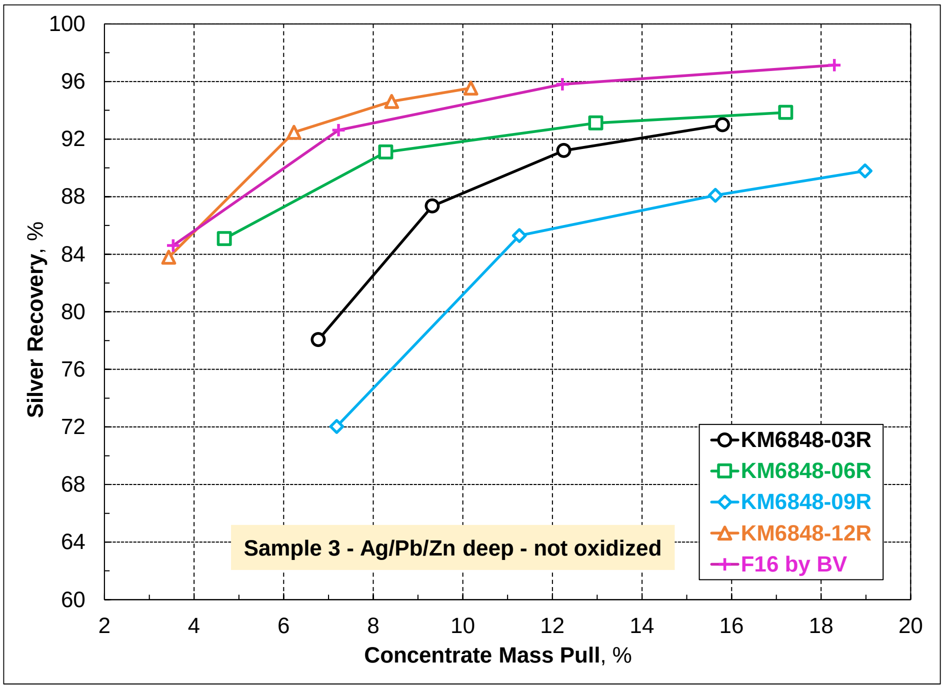
### 13.5.2.1 Sequential selective rougher flotation for Sample 3

Based on what were learnt from the testwork completed by BV Minerals, ALS Metallurgy carried out another four rougher tests. Common conditions for the silver/lead circuit were pH 9.0 (adjusted with lime), mild steel rod mill shell for grinding, 1000 g/t zinc sulfate added to the grinding, 5+2+2+1 g/t AP3418A (collector), MIBC frother and 2+2+4+4 minutes flotation time.

- The first rougher test (KM6848-03) was carried out with 1.0 kg mineralized sample, mild steel rods for grinding, and grind size (80% passing) 96 µm.
- A few changes were made to the second rougher test (KM6848-06). The mineralized sample mass was reduced to 0.85 kg. Grinding media was changed to stainless steel rods. Grind size (80% passing) was 73 µm.
- The third rougher test (KM6848-09) was same as the second rougher test (KM6848-06), but grinding media was inadvertently changed back to mild steel rods.
- The fourth rougher test (KM6848-12) was same as the second rougher test (KM6848-06R) by using stainless steel rods for grinding, but grind size was a little finer (80% passing 65 µm).

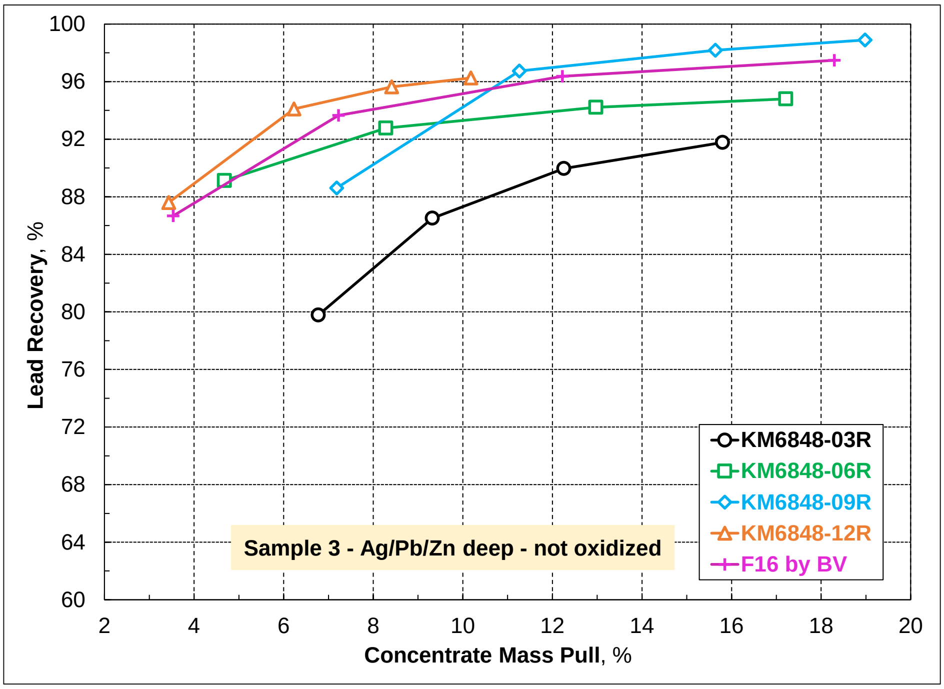
The results showed that the mild steel grinding media had a negative impact on silver recovery (**Figure 13-20**) and its impact on lead recovery was not consistent (**Figure 13-21**). When stainless steel grinding media was used, the results between ALS Metallurgy and BV Minerals were comparable with 94 ~ 96% silver recovery and 94 ~ 96% lead recovery. Rejection of zinc during silver/lead flotation was also good and comparable with what was achieved by BV Minerals provided that stainless steel grinding media was used.

**Figure 13-20 Silver recovery as a function of concentrate mass pull for Sample 3**




Source: New Pacific, 2023

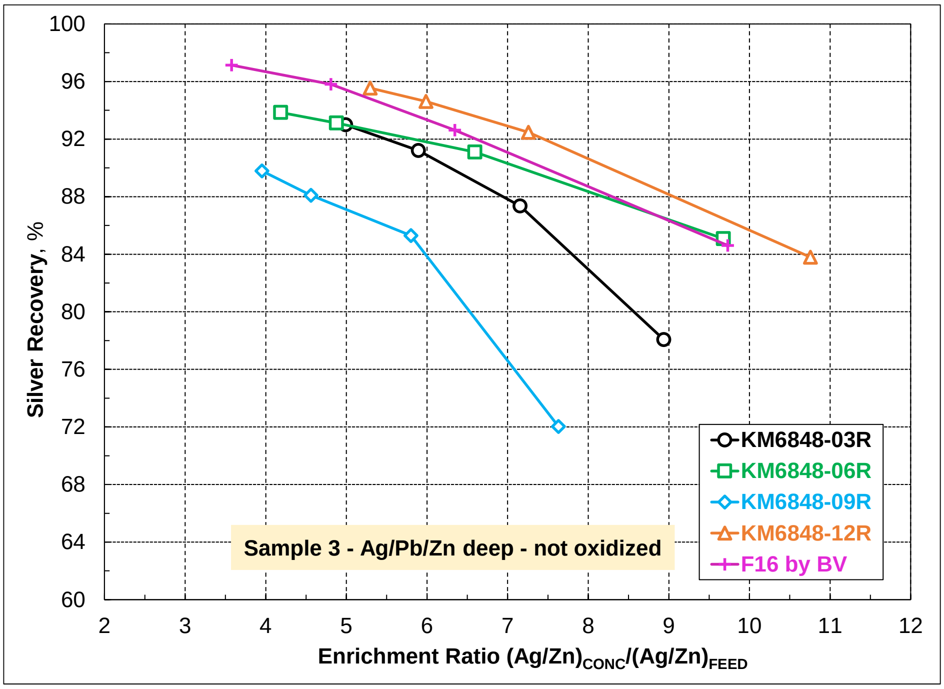
**Figure 13-21 Lead recovery as a function of concentrate mass pull for Sample 3**




Source: New Pacific, 2023

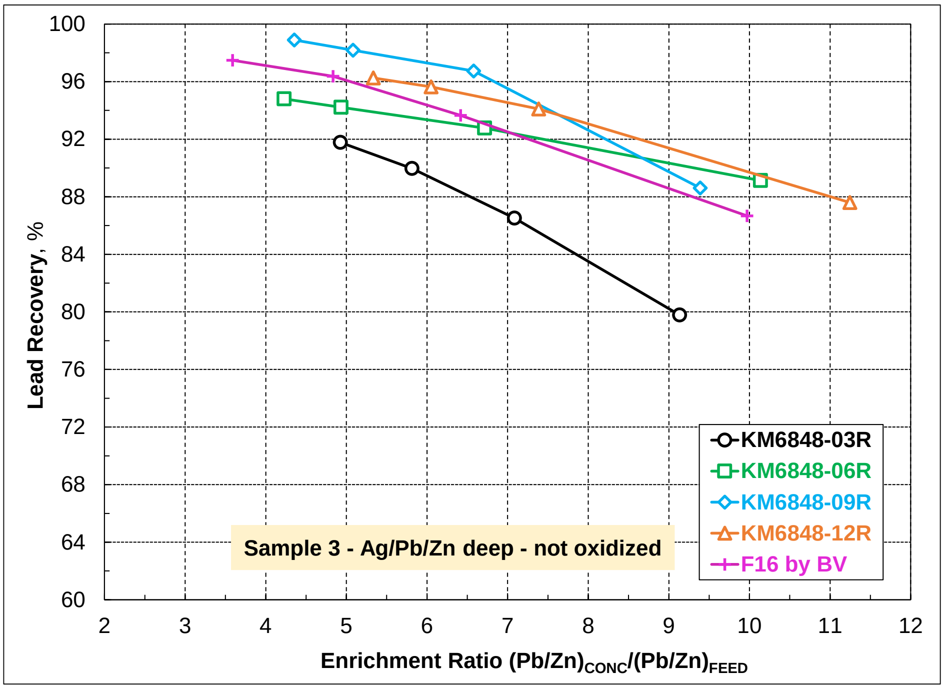
Recovery versus enrichment ratios is shown in **Figure 13-22** and **Figure 13-23** for silver and lead, respectively.

Figure 13-22 Silver recovery versus enrichment ratio between silver and zinc for Sample 3




Source: New Pacific, 2023

Figure 13-23 Lead recovery versus enrichment ratio between lead and zinc for Sample 3

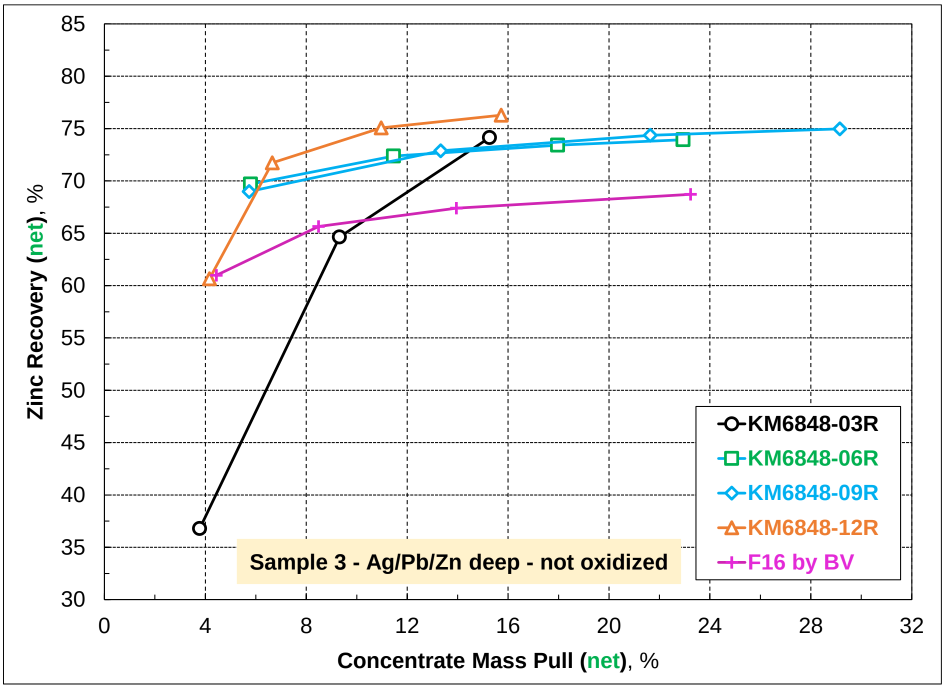



Source: New Pacific, 2023

For the rougher stage of zinc circuit when the tailing from silver/lead circuit was floated again, the conditions were pH 11.0 (adjusted with lime), 200 g/t copper sulfate for Test KM6848-03R and 300 g/t for other three tests, 20+20+10 g/t SIPX for Test KM6848-03 and 20+20+10+10 g/t for other three tests, flotation time 2+2+4 minutes for Test KM6848-03 and 2+2+4+4 g/t for other three tests.

As per zinc flotation performance when the tailing after silver/lead was floated again, 200 g/t copper sulfate was not adequate when mild steel grinding media was used. When dosage of copper sulfate was increased to 300 g/t, zinc flotation performance was consistent, with zinc recovery averaging 74.7% (testes KM6848-03,-06,-12). Zinc recovery as a function of concentrate mass pull is shown in **Figure 13-24**.

**Figure 13-24 Zinc recovery (net) as a function of concentrate mass pull for Sample 3**




Source: New Pacific, 2023

### 13.5.2.2 Sequential selective cleaner flotation for Sample 3

Two open-circuit cleaner tests were completed for Sample 3 by ALS Metallurgy. The first cleaner test (KM6848-14) was carried out under the following conditions:

- Silver/lead circuit
  - Rougher circuit – mild steel rod mill shell and stainless steel rods for grinding, 0.85 kg mineralized sample, primary grind size (80% passing) 65 µm, 1000 g/t zinc sulfate added to the grinding, pH 9.0 (adjusted with lime), 9 g/t AP3418A, 8 minutes flotation time, MIBC frother
  - Regrinding – stainless steel rod, 500 g/t zinc sulfate, regrind size (80% passing) 12 µm
  - Cleaner circuit – 3 stages, pH 9.0 (adjusted with lime), 7+5+4 g/t AP3418A, MIBC frother, 3+2+2 minutes flotation time.
- Zinc circuit
  - Rougher circuit – pH 11.0 (adjusted with lime), 300 g/t copper sulfate, 60 g/t SIPX, MIBC frother, 14 minutes flotation time.
  - Regrinding – stainless rod, 150 g/t copper sulfate, regrind size (80% passing) 37 µm.
  - Cleaner circuit – 3 stages, pH 11.5 (adjusted with lime), 20+5+4 g/t SIPX, 6+4+3 minutes flotation time.

The second cleaner test (KM6848-18) was carried out under the following conditions:

- Silver/lead circuit
  - Rougher circuit – mild steel rod mill shell and mild steel rod (inadvertently used) for grinding, 0.85 kg mineralized sample, grind size (80% passing) 77 µm, 1000 g/t zinc sulfate, pH 9.0 (adjusted with lime), 9 g/t AP3418A, 8 minutes flotation time, MIBC frother
  - Regrinding – stainless steel rod, 500 g/t zinc sulfate, regrind size (80% passing) 16 µm
  - Cleaner circuit – 3 stages, pH 9.5 (adjusted with lime), 7+5+4 g/t AP3418A, MIBC frother, 3+2+2 minutes flotation time
- Zinc circuit

- Rougher circuit – pH 11.0 (adjusted with lime), 300 g/t copper sulfate, 80 g/t SIPX, MIBC frother, 16 minutes flotation time.
- Regrinding – stainless rod, 150 g/t copper sulfate, regrind size (80% passing) 29 µm.
- Cleaner circuit – 3 stages, pH 11.5 (adjusted with lime), 20 g/t SIPX, 5+3+2 minutes flotation time.

The results of these two open-circuit cleaner tests are summarized in **Table 13-6** for silver/lead concentrate and in **Table 13-7** for zinc concentrate.

**Table 13-6 Silver/lead cleaner flotation results for Sample 3**

| Test # | Product | Mass | Composition | | | | | Recovery | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ag | Pb | Zn | Fe | S | Ag | Pb | Zn | Fe | S |
| | | % | g/t | % | % | % | % | % | | | | |
| KM6848-14CL | 3rd Cleaner Conc | 1.2 | **9,870** | **62.2** | 3.6 | 5.9 | 18 | **81** | **86** | 3 | 1 | 12 |
| | 2nd Cleaner Conc | 1.4 | **8,736** | **54.9** | 3.5 | 6.0 | 18 | **84** | **90** | 4 | 2 | 13 |
| | 1st Cleaner Conc | 2.8 | 4,432 | 27.9 | 2.9 | 6.8 | 12 | 87 | 93 | 6 | 4 | 18 |
| | Rougher Conc | 12.5 | 1,062 | 6.5 | 1.9 | 7.1 | 6 | 93 | 97 | 19 | 17 | 43 |
| | Feed | / | 143 | 0.84 | 1.3 | 5.4 | 1.82 | / | / | / | / | / |
| KM6848-18CL | | | | | | | | | | | | |
| | 2nd Cleaner Conc | 1.3 | **8,800** | **57.3** | 5.5 | 8.5 | 20 | **80** | **88** | 5 | 2 | 14 |
| | 1st Cleaner Conc | 2.0 | 5,611 | 37.2 | 5.2 | 10.1 | 18 | 82 | 93 | 8 | 3 | 19 |
| | Rougher Conc | 10.2 | 1,175 | 7.6 | 2.2 | 9.8 | 9 | 87 | 96 | 18 | 16 | 50 |
| | Feed | / | 139 | 0.82 | 1.3 | 6.2 | 1.84 | / | / | / | / | / |

Source: New Pacific, 2023

**Table 13-7 Zinc cleaner flotation results for Sample 3**

| Test # | Product | Mass | Composition | | | | | Recovery (net) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ag | Pb | Zn | Fe | S | Ag | Pb | Zn | Fe | S |
| | | % | g/t | % | % | % | % | % | | | | |
| KM6848-14CL | 3rd Cleaner Conc | 1.6 | 296.0 | 0.7 | 56.8 | 3.6 | 30.4 | 3.4 | 1.4 | 72.5 | 1.1 | 27.4 |
| | 2nd Cleaner Conc | 2.2 | 257.5 | 0.6 | 42.9 | 6.6 | 26.7 | 4.0 | 1.7 | 73.7 | 2.7 | 32.3 |
| | 1st Cleaner Conc | 9.0 | 82.6 | 0.2 | 10.7 | 6.7 | 9.0 | 5.2 | 2.2 | 75.2 | 11.3 | 44.5 |
| | Rougher Conc | 38.4 | 24.0 | 0.1 | 2.6 | 5.2 | 2.6 | 6.4 | 2.9 | 77.9 | 37.6 | 54.5 |
| | Final Tailing | 49.1 | 1.7 | 0.0 | 0.1 | 5.0 | 0.1 | 0.6 | 0.3 | 3.4 | 45.8 | 2.7 |
| KM6848-18CL | 3rd Cleaner Conc | 1.6 | 834.0 | 0.8 | 61.5 | 2.1 | 30.0 | 9.5 | 1.5 | 74.8 | 0.5 | 25.6 |
| | 2nd Cleaner Conc | 2.0 | 708.6 | 0.7 | 49.5 | 5.3 | 27.5 | 10.3 | 1.8 | 76.8 | 1.7 | 29.9 |
| | 1st Cleaner Conc | 5.0 | 309.4 | 0.4 | 20.3 | 6.8 | 13.4 | 11.1 | 2.1 | 78.0 | 5.5 | 35.9 |
| | Rougher Conc | 22.1 | 75.7 | 0.1 | 4.6 | 6.1 | 3.8 | 12.1 | 2.8 | 79.3 | 21.7 | 45.7 |
| | Final Tailing | 67.7 | 2.2 | 0.0 | 0.1 | 5.7 | 0.1 | 1.1 | 1.7 | 3.1 | 62.2 | 4.4 |

Source: New Pacific, 2023

### 13.5.2.3 Sequential selective locked cycle flotation for Sample 3

One locked cycle flotation test (KM6848-25) was completed for Sample 3 by ALS Metallurgy. The primary grinding was carried out in mild steel rod mill shell with stainless steel grinding media and 1000 g/t zinc sulfate to 80% passing 65 µm. Six cycles were included with 0.85 kg mineralized feed per cycle.

The silver/lead rougher was carried out at pH 9.0 (adjusted with lime), 9 g/t AP3418A and 8 minutes flotation time. The silver/lead rougher concentrate was reground with 500 g/t zinc sulfate and stainless-steel grinding media to 80% passing 15 µm. The reground rougher concentrate was upgraded in 3 stages at pH 9.0 (adjusted with lime), 10+5+4 g/t AP3418A and 5+4+3 minutes flotation time.

The zinc rougher was carried out at pH 11.0 (adjusted with lime), 300 g/t copper sulfate, 60 g/t SIPX and 16 minutes flotation time. The zinc rougher concentrate was reground with addition of 250 g/t lime and 150 g/t copper sulfate. The reground zinc rougher concentrate was upgraded in 3 stages at pH 11.5 with 20+5+4 g/t SIPX and 5+4+3 minutes flotation time. The results from the locked cycle flotation test are summarized in **Table 13-8.**

**Table 13-8 Locked cycle flotation results for Sample 3**

| Product | | Mass | Composition | | | | | Recovery | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ag | Pb | Zn | Fe | S | Ag | Pb | Zn | Fe | S |
| | | % | | % | % | % | % | % | | | | |
| Feed | | / | 143 | 0.84 | 1.27 | 5.71 | 1.75 | / | / | / | / | / |
| Silver/Lead Concentrate | | 1.51 | **8,596** | **52.1** | 8.34 | 8.95 | 22.7 | **90.9** | **94.1** | 9.9 | 2.4 | 19.6 |
| Zinc Concentrate | | 1.91 | 284 | 0.76 | **53.3** | 6.63 | 35.1 | 3.8 | 1.7 | **80.4** | 2.2 | 38.4 |
| Final Tail | Zinc 1st Clnr Tail | 21.4 | 19.7 | 0.06 | 0.22 | 6.13 | 1.97 | 2.9 | 1.5 | 3.8 | 23.0 | 24.1 |
| | Zinc Rougher Tail | 75.2 | 4.50 | 0.03 | 0.10 | 5.50 | 0.42 | 2.4 | 2.7 | 5.9 | 72.4 | 18.0 |

Source: New Pacific, 2023

As per silver/lead concentrate, both concentrate grades (8,596 g/t silver and 52.1% lead) and recoveries (90.9% for silver and 94.1% for lead) were satisfactory. Zinc content (8.3%) in the silver/lead concentrate was higher than what was expected. This high-level zinc in the silver/lead concentrate might be caused by the recirculation of first cleaner tail to the rougher stage and/or by the over addition of collector in the cleaner circuit.

The zinc concentrate contained 53.3% zinc with 80.4% zinc recovery on the basis of the mill feed.

## 13.6 Whole rock cyanide leach for gold recovery

Sample 4 was a gold mineralized sample containing 0.62% sulfur. Sample 5 was also a gold mineralized sample containing 3.07% sulfur. These two samples were subjected to the whole rock cyanide leach by BV Minerals. Each cyanide leach test was divided into two periods. The first period lasted for 54 hours and was carried out in the absence of activated carbon. The second period lasted for 18 hours and was carried out in the presence of activated carbon (20 g/L). The cyanide leach test with such a combination will demonstrate whether there is any preg-robbing issue.

All cyanide leach tests were carried out at pulp density of 40% solid in a bottle roll apparatus with continuous sparging of oxygen or air. In addition to the variables of oxygen versus air, other variables included grind size (80% passing 151 µm), lead nitrate (0 ~ 0.25 kg/t) and cyanide concentration (0.50 ~ 1.00 g/L NaCN). Grinding was carried out in a stainless-steel rod mill. pH was controlled between 10.5 and 11.0 which was adjusted with hydrated lime.

In total, eight cyanide leach tests were completed. Conditions and results for these eight cyanide leach tests are summarized in **Table 13-9**. Final gold recovery was over 97% for each of these two samples. Lime consumption (1.3 ~ 2.2 kg/t) was reasonable. Sodium cyanide consumption (1.23 ~ 2.45 kg/t) was somewhat higher than normal. Cyanide consumption is expected to decrease when cyanide leach retention time is reduced and air/oxygen sparging rate is properly controlled.

The large difference between the calculated head grades and the assayed head grades implies that coarse gold particles might be present in these two samples.

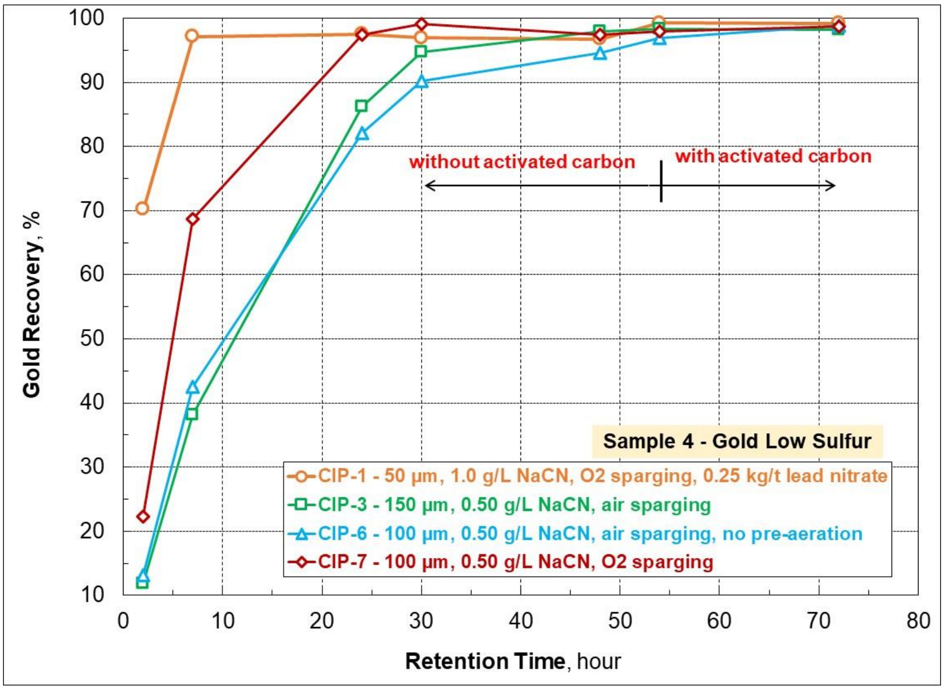
**Table 13-9 Cyanide leach conditions and results for Sample 4 and Sample 5**

| Sample# | Sample Description | Test ID | Grind Size, P80 | Sparging Gas | Pre-Aeration | | Cyanide Conc'n | Head Grade | | Tail Solid | Gold Recovery | Reagent Consumption | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $Pb(NO_3)_2$ | Time | | Assay | Back Calcd | | | Cyanide | Lime |
| | | | µm | | kg/t | h | g/L NaCN | g/t | | g/t | % | kg/t NaCN | kg/t $Ca(OH)_2$ |
| Sample 4 | gold low-sulfur (0.62% S) | CIP-1 | 50 | $O_2$ | 0.25 | 4 | 1.00 | 1.82 | 2.35 | 0.019 | 99.2 | 2.32 | 1.3 |
| | | CIP-3 | 150 | air | / | 4 | 0.50 | | 1.87 | 0.033 | 98.2 | 1.23 | 2.2 |
| | | CIP-6 | 100 | air | / | / | 0.50 | | 2.96 | 0.030 | 99.0 | 1.83 | 2.0 |
| | | CIP-7 | 100 | $O_2$ | / | 4 | 0.50 | | 2.79 | 0.035 | 98.7 | 1.56 | 1.8 |
| Sample 5 | gold high-sulfur (3.07% S) | CIP-2 | 50 | $O_2$ | 0.25 | 4 | 1.00 | 4.02 | 3.31 | 0.033 | 99.0 | 2.45 | 1.6 |
| | | CIP-4 | 150 | air | / | 4 | 0.50 | | 3.24 | 0.089 | 97.3 | 1.40 | 1.9 |
| | | CIP-8 | 100 | air | / | / | 0.50 | | 4.28 | 0.050 | 98.8 | 1.46 | 1.7 |
| | | CIP-9 | 100 | $O_2$ | / | 4 | 0.50 | | 4.70 | 0.050 | 98.9 | 1.65 | 1.7 |

Source: New Pacific, 2023

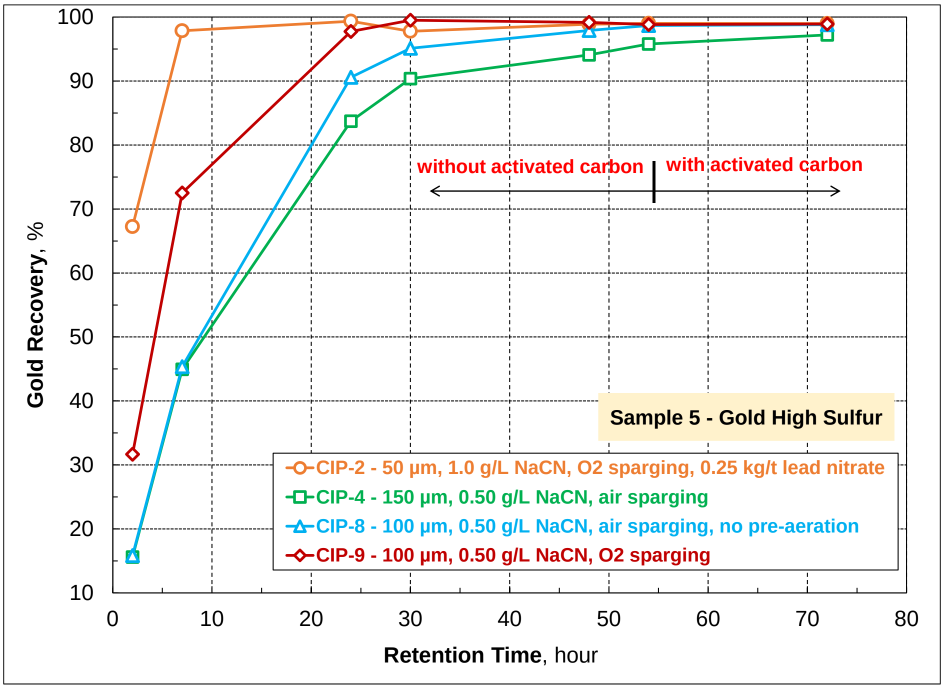
Gold dissolution rate was a little slower when air was used instead of oxygen and when grind size was coarser. However, after 50 hours of cyanide leach, the difference in gold recovery was very small (**Figure 13-25** and **Figure 13-26**).

**Figure 13-25 Gold dissolution rate in cyanide leach for Sample 4**




Source: New Pacific, 2023

**Figure 13-26 Gold dissolution rate in cyanide leach for Sample 5**




Source: New Pacific, 2023

Based on these results, it can be concluded that both Sample 4 and Sample 5 are amenable to cyanide leach and no preg-robbing issue was observed. If some of coarse gold particles are removed via gravity concentration method, gold dissolution rate from the gravity tail is expected to be faster.

## 13.7 Whole rock cyanide leach for silver recovery

Whole rock cyanide leach was also applied to three silver-bearing samples (Sample 1, Sample 2 and Sample 3) by BV Minerals. Grinding was carried out in a stainless-steel rod mill. Each test used 1.0 kg mineralized sample. Bottle roll cyanide leach test was carried out at pulp density of 40% solid, pH 10.5~11.0 (adjusted with lime), 3.0 g/L sodium cyanide and continuous oxygen sparging. Total retention time was 72 hours with the first 54 hours in the absence of activated carbon and the remaining 18 hours in the presence of activated carbon (30 g/L activated carbon).

The conditions and results of these cyanide leach tests are summarized in **Table 13-10** and the silver dissolution rates are presented in **Figure 13-27**. Due to the indicative nature of these cyanide leach tests, operating conditions have not been optimized yet. Nevertheless, these cyanide leach silver recoveries were encouraging. After 72 hours of cyanide leach, final silver recovery was 84.1% for Sample 1 (Ag/Pb shallow – heavily oxidized), 84.8% for Sample 2 (Ag/Pb/Zn shallow – partially oxidized) and 74.4% for Sample 3 (Ag/Pb/Zn deep – not oxidized). Silver dissolution rate was much faster for Sample 1 and Sample 2 compared with Sample 3.

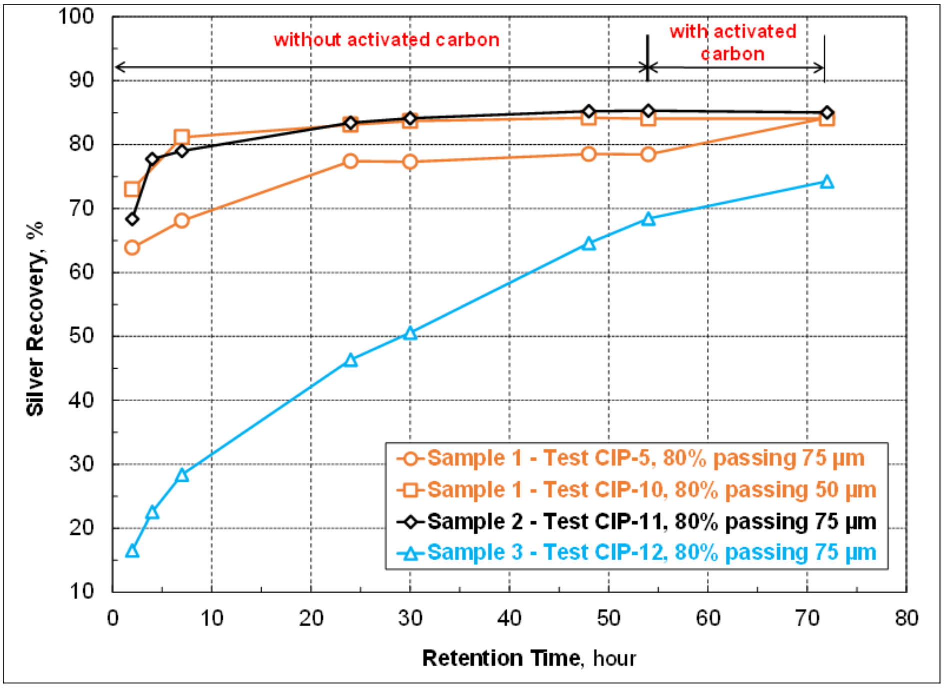
Cyanide consumption from these cyanide leach tests was high. With further optimization, particularly with suitable control of oxygen sparging rate, cyanide consumption is expected to decrease.

**Table 13-10 Cyanide leach conditions and results for Sample 1, Sample 2 and Sample 3**

| Sample# | Sample Description | Test ID | Grind Size, P80 | Pre-Aeration | | Head Grade | | Tail Solid | Silver Recovery | Reagent Consumption | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $Pb(NO_3)_2$ | Time | Assay | Back Calcd | | | Cyanide | Lime |
| | | | µm | kg/t | h | g/t | | g/t | % | kg/t NaCN | kg/t $Ca(OH)_2$ |
| Sample 1 | Ag/Pb shallow - heavily oxidized | CIP-5 | 75 | / | / | 199 | 203 | 32.0 | 84.2 | 4.1 | 4.0 |
| | | CIP-10 | 50 | 0.25 | 4 | | 185 | 29.5 | 84.1 | 6.3 | 3.2 |
| Sample 2 | Ag/Pb/Zn shallow - partially oxidized | CIP-11 | 75 | 0.30 | 4 | 143 | 102 | 15.5 | 84.8 | 4.6 | 1.0 |
| Sample 3 | Ag/Pb/Zn deep - not oxidized | CIP-12 | 75 | 0.30 | 4 | 157 | 152 | 39.0 | 74.4 | 5.2 | 1.3 |

Source: New Pacific, 2023

**Figure 13-27 Silver dissolution rate in cyanide leach for Sample 1, Sample 2 and Sample 3**




Source: New Pacific, 2023

## 13.8 Cyanide leach of lead/silver flotation concentrate for silver recovery

The silver/lead concentrates, which were generated by the locked cycle flotation tests from Sample 1, Sample 2 and Sample 3 were subjected to cyanide leach under very aggressive conditions to assure the maximum possible silver recovery. The exact operating conditions were ambient temperature, mechanically agitated baffled tank, 1.6 g/L GoldiLox (catalyst), pulp density of 10% solid, 15 g/L sodium cyanide, 5 g/L caustic soda (pH 12.1~12.4), 0.50 kg/t lead nitrate, without air/oxygen sparging and 24 hours of retention time. The results from these three cyanide leach tests are summarized in **Table 13-11** and silver dissolution rates are presented in **Figure 13-28**.

After 24 hours of cyanide leach, final silver recovery was 96.4% for the silver/lead concentrate from Sample 1 and 94.0% for the silver/lead concentrate from Sample 2. For the silver/lead concentrate from Sample 3, silver dissolution rate was much slower (**Figure 13-28**) and only 47.9% of silver in the silver/lead concentrate was dissolved in 24 hours. Based on the trend of silver dissolution rate over time, silver recovery is expected to increase further if cyanide leach retention time is extended. Despite slower dissolution rate and lower silver recovery, it is important to note that cyanide consumption for the silver/lead concentrate from Sample 3 was much lower than Sample 1 and Sample 2.

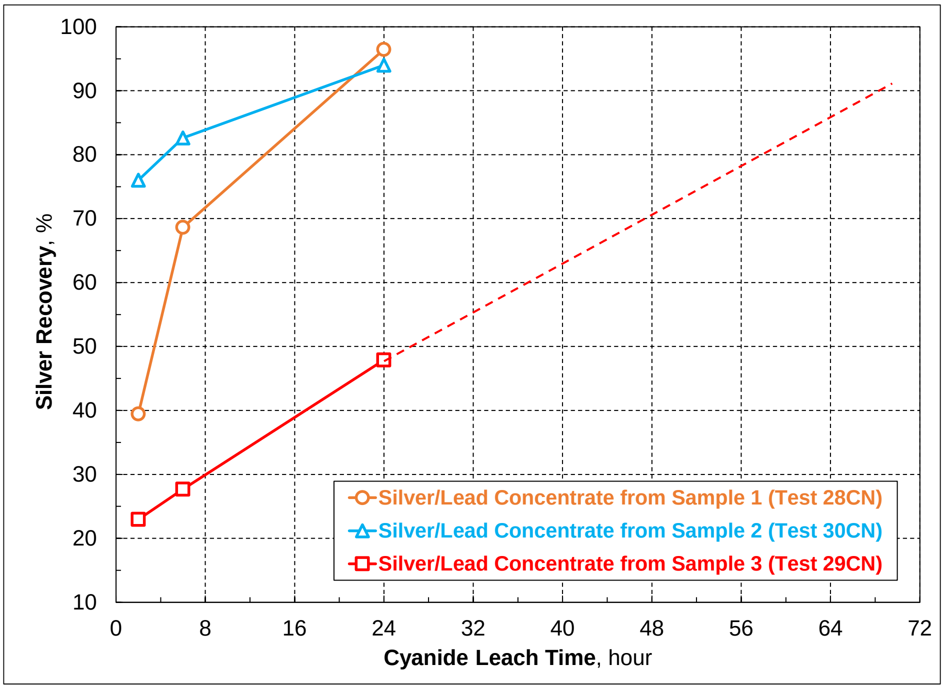
Because very aggressive operating conditions were applied, consumption of chemicals was excessively high, 24 ~ 88 kg/t for sodium cyanide and 46 ~ 81 kg/t for caustic soda. With further optimization testwork, particularly when cyanide leach is carried out at higher pulp density with less addition of catalyst (GoldiLox), consumption of these two chemicals is expected to decrease.

**Table 13-11 Cyanide leach results for silver/lead concentrates**

| Ore Sample | | | | Sample 1 Ag/Pb shallow heavily oxidized | Sample 2 Ag/Pb/Zn shallow partially oxidized | Sample 3 Ag/Pb/Zn deep not oxidized |
|---|---|---|---|---|---|---|
| **Test#** | | | | KM6848-28CN | KM6848-30CN | KM6848-29CN |
| Source of Silver/Lead Concentrate | | | | LCT, Test 24 | LCT, Test 27 | LCT, Test 25 |
| Final Solid Tail | Silver | | g/t | 408 | 465 | 5,440 |
| | Lead | | % | 46.9 | 35.9 | 53.8 |
| | Zinc | | % | 0.1 | 13.1 | 7.9 |
| Head Grade | Silver | Direct Assay | g/t | 7,547 | 5,825 | 9,435 |
| | | Back Calculated | | 11,482 | 7,761 | 10,438 |
| | Lead | Direct Assay | % | 41.8 | 36.0 | 54.2 |
| | | Back Calculated | | / | / | / |
| | Zinc | Direct Assay | % | / | 12.7 | 7.9 |
| | | Back Calculated | | / | 13.3 | 7.7 |
| Recovery | Silver | 2 hour | % | 39.5 | 76.0 | 22.9 |
| | | 6 hour | | 68.6 | 82.6 | 27.7 |
| | | 24 hour | | 96.4 | 94.0 | 47.9 |
| | Zinc | 2 hour | % | / | 0.40 | 0.19 |
| | | 6 hour | | / | 0.58 | 0.23 |
| | | 24 hour | | / | 1.22 | 0.33 |
| Consumption of Sodium Cyanide | | 24 hour | kg/t NaCN | 88 | 36 | 24 |
| Consumption of Caustic Soda | | 24 hour | kg/t NaOH | 81 | 46 | 46 |

Source: New Pacific, 2023

**Figure 13-28 Silver dissolution rate in cyanide leach of silver/lead concentrates**




Source: New Pacific, 2023

## 13.9 Recommendations

The preliminary metallurgical testwork has generated a series of indicative results. Further metallurgical testwork is recommended to develop this project to a next phase by choosing an economically most viable processing flowsheet, generating necessary parameters for the process plant design, improving flotation concentrate quality, increasing metal recovery, and reducing operating cost for the future process plant.

### 13.9.1 Comminution

RPM recommends as further development at least two composite samples for each type of mineralization and degree of oxidation from every mineralized zone be measured for specific gravity, Bond low-energy impact work index, SMC Test®, Bond rod mill work index, Bond ball mill work index and abrasion index.

The tests performed indicated that a fine grinding would be necessary to achieve liberation, which can potentially impact capital and operating costs, as well as filtration.

### 13.9.2 Variability mineralized samples for flotation and cyanide leach

Variability mineralized samples from different mineralization and oxidation extent in every mineralized zone need to be tested further for flotation and cyanide leach. Based on the results from the preliminary metallurgical testwork program, the most problematic material came from the transition zone where partial oxidation has occurred in-situ and zinc mineralization is still present.

For the well-behaving materials from the gold mineralization zone and silver/lead/zinc mineralization in the deep deposit, variability mineralized samples in every mineralized zone also need to be tested further to assure satisfactory metallurgical performance can be reproduced.

### 13.9.3 Column leach for the low-grade gold mineralization

If open-pit mining is chosen to develop the resource of gold mineralization, a large pit and a high strip ratio may be expected. Therefore, a large amount of low-grade mineralized materials will probably be generated. It is necessary to find out whether cyanide heap leach will be suitable and economic to treat these low-grade mineralized materials. At least one column cyanide leach test is recommended.

### 13.9.4 Mineralogical investigation

The in-situ activated zinc mineralization in the transition zone is most problematic to flotation, because a separate high-grade zinc concentrate cannot be produced, and the silver/lead concentrate is heavily diluted by zinc. When this happens, the value of zinc is lost and also it will be more difficult to market the silver/lead concentrate. It is recommended to conduct a comprehensive mineralogical investigations for one or two such samples.

### 13.9.5 Gravity concentration for gold mineralization

Despite over 97% gold being cyanide leachable for the mineralized materials from the Central Valley mineralized zone, it is still worthwhile to find out how much gold is recoverable via gravity concentration method. If some coarse gold particles are recoverable via gravity concentration method, it is desirable to install a gravity concentration circuit for the future process plant, because the potential issue of gold lock-up is minimized and the loss of gold to the tailing is prevented when the high-grade material is processed.

### 13.9.6 Whole rock cyanide leach for gold mineralization

The materials from only one drill hole in the Central Valley mineralized zone have so far been tested, and their cyanide leachable gold recovery was over 97%. It is premature to believe that materials from other mineralized zones will achieve similar gold recovery. At least two composite samples from each gold mineralized zone need to be tested for cyanide leach. Rock type, alternation, depth, carbon content, sulfur content and gold grade need to be considered when those composite samples are chosen.

### 13.9.7 Cyanide leach of silver/lead concentrate

When the silver/lead concentrate is produced from the mineralized materials near the surface of the deposit, cyanide leach resulted in satisfactory silver recovery. However, consumption of cyanide and caustic soda was high. It will be necessary to find a way to reduce the consumption of these two chemicals during cyanide leach.

When the silver/lead concentrate is produced from the mineralized materials deep in the deposit, silver dissolves very slowly in the cyanide solution. Further investigation is needed to find a way to speed up silver dissolution rate and increase final silver recovery.

### 13.9.8 Thickening and filtration for flotation tailings

Thickening/filtration tests are recommended when a large amount of flotation tailings becomes available.

### 13.9.9 Environmental testing for the process tailings and mine waste rocks

Disposal of process tailings is becoming more sensitive environmentally, especially with respect to potential ARD (acid rock drainage). Quick tests like ABA (acid base accounting) and NAG (net acid generation) are recommended when representative flotation tailings become available from the locked cycle flotation tests. These tests are also recommended for mine waste rock samples from different rock types, alterations, degree of oxidation, carbonate contents and sulfur contents in each mineralized zone.

### 13.9.10 Concentrate marketing study

When silver/lead concentrate and zinc concentrate are produced from the mineralized materials near the surface and in the transition zone of the deposit, concentrate grades in terms of lead content and zinc content will probably be low, and thus likely not attractive to the concentrate buyers. It will be helpful to find out the acceptable minimum lead content and maximum zinc content in the silver/lead concentrate, the deductibles, the limits of penalty elements, the treatment/refining charges, and the formula to determine payable rates for the contained silver and lead. For the zinc concentrate, it will be necessary to find the acceptable minimum zinc content, the deductibles, the limits of penalty elements, the treatment/refining charges, and the formula to determine payable rates for the contained zinc and silver.

# 14. MINERAL RESOURCE ESTIMATE

A Mineral Resource Estimate has been independently completed by RPM in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (CIM (2014) definitions).

A "Mineral Resource" is defined by CIM Definition Standards as 'a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality) that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated, or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

Mineral Resource Estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape, and continuity of the occurrence and on the available sampling results.

Information contained in this Report is based on information provided to RPM by NPM and verified where possible by RPM. All statistical analysis and Mineral Resource Estimates were carried out by RPM.

The Company has developed 3D mineralized models for Ag, Au, Zn and Cu zones, and RPM has developed independent models and validated the company models through volume/geometry comparison. RPM constructed a three-dimensional digital estimate workflow for the Ag, Au, Zn and Cu grades and compiled the Mineral Resource model based on the statistical analysis of the data provided. RPM considers the Mineral Resource Estimate meets the general guidelines for CIM Definition Standards for reporting of Mineral Resources at the Indicated and Inferred confidence levels.

## 14.1 Mineral Resource Database

The primary source documents for the Mineral Resource Estimate were:

- Drill hole files (collar, downhole survey, lithology, assay, RQD, core recovery, alteration, structure and mineralization) in csv format;
- Specific Gravity (density) measurements from drill core samples in csv format;
- 3-D models for the main mineralized zones;
- An orthophoto file in tif format; and
- A 1m detailed topography file in shp format.

### 14.1.1 Sample Data

A comprehensive dataset of drill hole collar, survey, assay, and geological records in digital format was provided to RPM on 01 June 2023.

The Carangas drill hole database contains 189 drill holes representing 81,145 m. A total of 58, 215 samples were analysed and comprise the current database for Mineral Resource estimation. Assays below the detection limit were assigned to one-half of the detection limit by NPM personnel.

A total of 27,170 RQD and 27,173 core recovery measurements from 189 drill holes existed in the database. The average core recovery within the modelled mineralized zone is 98%, ranging from 0% to 100%. Poor sample recovery is concentrated in the overburden zone or in cavities (historical artisanal mining or natural cavities).

RPM is of the opinion that the core recovery is acceptable for geological interpretation, modelling, and Mineral Resource classification.

### 14.1.2 Bulk Density Data

A total of 5,366 SG measurements from 189 diamond drill holes exist from the Carangas deposit. Measurements were calculated using the weight in air versus the weight in water method (Archimedes), by applying the following formula:

$$Specific\ Gravity = \frac{Weight\ in\ Air}{(Weight\ in\ Air - Weight\ in\ Water)}$$

The average bulk density for each block into the 3D mineralized domain was estimated within each domain separately, using hard boundaries and using the inverse distance (ID2) function and consider a minimum of 2 and maximum of 4 samples to estimates a block value. The estimated density values were used for tonnage calculations in the Mineral Resource Statement. The density sample statistics for each domain is presented in **Table 14-1**.

**Table 14-1 Density Statistics Table**

| Domain | N Samples | Density (t/m³) | Stdev | Minimum | Maximum |
|---|---|---|---|---|---|
| Upper Silver Zone | 1,666 | 2.08 | 0.23 | 1.33 | 3.49 |
| Middle Zinc Zone | 713 | 2.30 | 0.19 | 1.37 | 3.01 |
| Lower Gold Zone | 877 | 2.27 | 0.21 | 1.20 | 3.22 |
| Lower Copper Zone | 21 | 2.34 | 0.21 | 1.94 | 2.77 |

Source: compiled by RPM GLOBAL, 2023

## 14.2 Depletion Areas

There have been historic artisanal mining activities in the project area, however this activity was limited to a few meters within the surface. The Client did not supply RPM with the 3D artisanal mining models for depletions. Thus, artisanal mining has not been excluded from the Mineral Resource. RPM does not envisage that this will materially influence the Mineral Resource Statement as the artisanal mining was not extensive and only in the west and east dome area, and not into the valley area where the bulk of mineralisationis located.

## 14.3 Geological and Mineralisation Interpretation

Geological interpretations of the lithological units and the geological structure were used to guide and interpret the shape of the mineralized  wireframes, along with assay results.

The 3-D mineralized zones were interpreted based on silver equivalent variable (AgEq) and geological knowledge from the geology team. The AgEq formula is as follows:

AgEq g/t = Ag g/t + Au g/t * 82.6 + ( Pb %*2094 /100 + Zn %*2755 /100 + Cu %* 8816 /100 ) / 0.74

The prices assumptions for the metals are Ag: 23 US$/oz, Au: 1900 US$/oz, Pb: 0.95 US$/lb, Zn: 1.25 US$/lb, Cu: 4 US$/lb. Prices are based on bank and industry forecasts as of August 2023.

A cut-off grade of 20 g/t AgEq was used to create wireframes of mineralisation. Although mineralisation modelling was based on this cut-off grade approach, some unmineralized material was included in the envelopes to maintain mineralisation continuity. This is considered suitable for the style of mineralisation.

The mineralisation zones were relatively continuous, however they may terminate against or be displaced by structural features. In some areas, primarily in the down-dip direction, internal unmineralized material was included to maintain continuity.

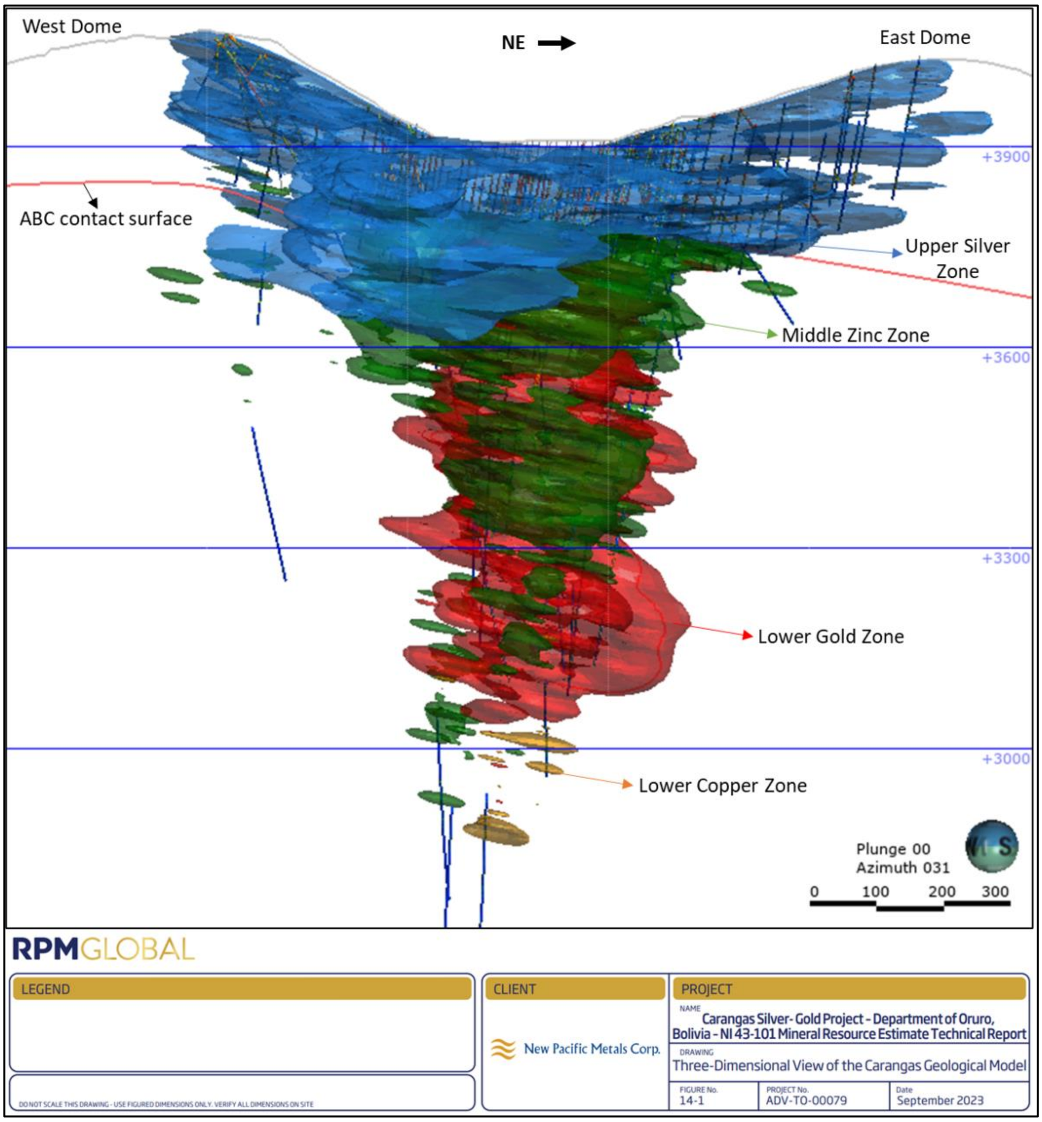
The mineralized domains were built using Leapfrog Geo™ software, considering all major lithologies and the transitions from each domain. The main modelled domains were developed for Ag, Au, Zn (PbZn) and Cu, (**Figure 14-1**) as described below:

- Upper Silver Zone (GM_Ag): generated using AgEq cutoff of 20 g/t. The upper boundary is the bottom of Overburn lithology, and the lower boundary is the bottom of ABC (andesitic basalt).
- Middle Zinc Zone (GM_PbZn): the grade shell was built using AgEq cutoff grade of 20g/t. The upper boundary is the bottom of ABC (andesitic basalt), and other boundaries are GM_Au and GM_Cu 3D wireframes.
- Lower Gold Zone (GM_Au): generated grade shell using Au cutoff of 0.14 g/t. The upper boundary is the bottom of ABC (andesitic basalt).
- Lower Copper Zone (GM_Cu): This domain was generated using Cu cutoff of 0.15%. The boundary used was GM_Au wireframe domain. This Zone is not considered material due to shortage of drill information at the depth of the mineralization system.

Following the geological knowledge, a variable orientation was used for Silver domains. The variable orientation is based on ABC (Andesitic basalt) surface contact which is controlling the ellipsoid direction to build the 3D model on Ag domain.

The Carangas deposit is described as a suite of metallic sulphide minerals and gangue minerals, occurring in volcanic and intrusive rocks as veins/veinlets, breccia fillings and dissemination. The mineralization is controlled by temperature and pressure of the hydrothermal system, i.e., the depth from ground surface or the distance from the source of heat generated by rhyolitic intrusions.

**Figure 14-1 Three-Dimensional View of the Carangas Geological Model**



## 14.4 Compositing and Statistics

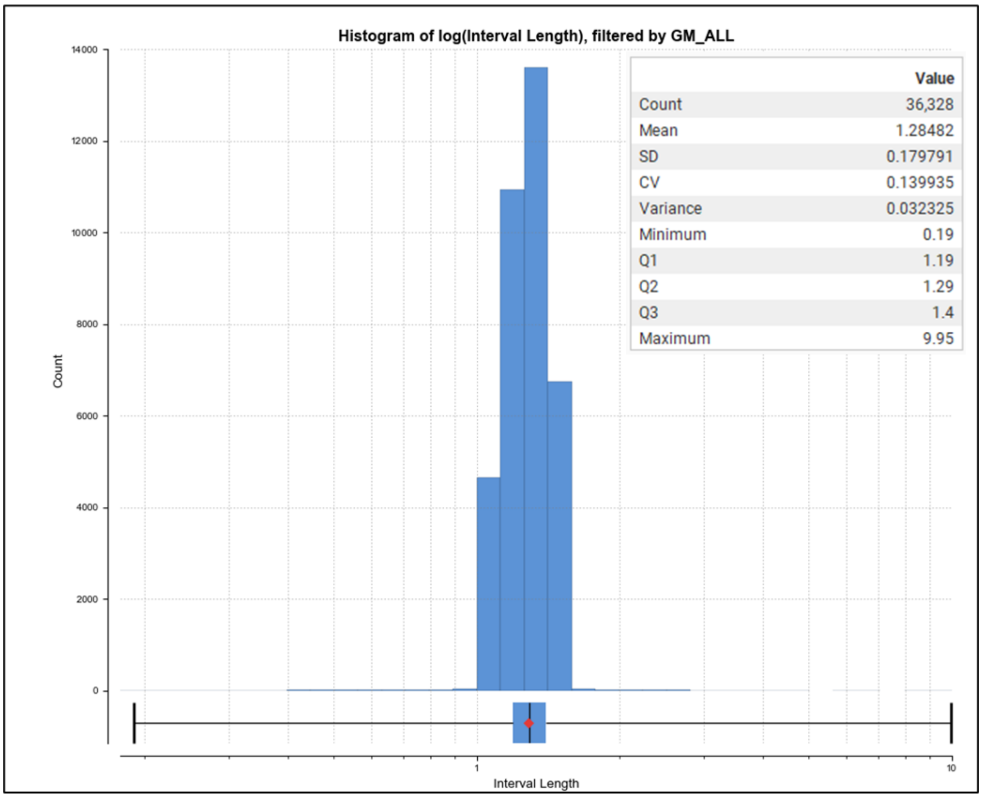
This compositing section discussion herein addresses only that data used to estimate the Mineral Resources.

### 14.4.1 Compositing

Although the most common sample length inside the mineralized wireframes was 1.28 m (**Figure 14-2**), RPM selected a composite length of 1.5 meters to decrease the variability and coefficient of variation. Decreasing the coefficient of variation during the compositing stage reduces the risk of metal loss when applying high-grade cuts.

The composites were checked visually in Leapfrog Geo™ software for spatial correlation with the wireframed mineralized envelopes and to assess the impact of the 1.5 meters composite length. RPM considered the chosen composite length to be representative of local variations.

**Figure 14-2 Length Histogram for Raw Assay Intervals**

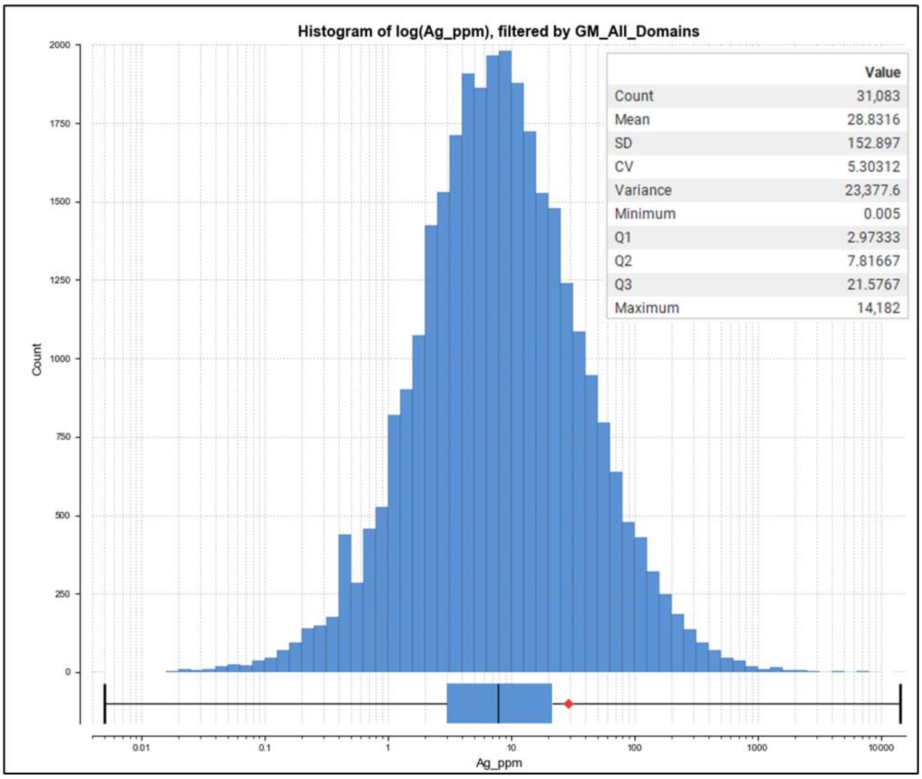



Source: RPM GLOBAL, 2023

### 14.4.2 Statistical Analysis

A complete exploratory data analysis was performed. Univariate statistics, histograms, and box-whisker plots were constructed to investigate the dataset and determine grade capping and compositing requirements. Log histogram for silver composites are shown in **Figure 14-3**, and univariate statistics for all main grades are shown in **Table 14-2**.

**Figure 14-3 Ag Log Histogram for 1.5 m Composites**




Source: RPM GLOBAL, 2023

**Table 14-2 Univariate Statistics of Grade Composites, by Domain**

| Domain | Variable | N Sample | Mean | Standard deviation | Minimum | Maximum |
|---|---|---|---|---|---|---|
| Upper Silver Zone | Ag_ppm | 15,743 | 47.80 | 203.16 | 0.04 | 14,182.00 |
| | Au_ppm | 3,046 | 0.02 | 0.12 | 0.01 | 3.29 |
| | Cu_pct | 15,743 | 0.01 | 0.03 | 0.00 | 1.61 |
| | Pb_pct | 15,743 | 0.38 | 0.51 | 0.00 | 14.22 |
| | Zn_pct | 15,743 | 0.68 | 0.86 | 0.00 | 16.76 |
| Middle Zinc Zone | Ag_ppm | 6,803 | 9.92 | 93.29 | 0.01 | 7,332.35 |
| | Au_ppm | 4,871 | 0.05 | 0.06 | 0.01 | 0.58 |
| | Cu_pct | 6,803 | 0.01 | 0.03 | 0.00 | 0.60 |
| | Pb_pct | 6,803 | 0.29 | 0.33 | 0.00 | 7.39 |
| | Zn_pct | 6,803 | 0.67 | 0.58 | 0.00 | 5.13 |
| Lower Gold Zone | Ag_ppm | 8,383 | 8.81 | 26.91 | 0.02 | 1,158.93 |
| | Au_ppm | 8,349 | 0.82 | 2.15 | 0.01 | 53.98 |
| | Cu_pct | 8,383 | 0.07 | 0.16 | 0.00 | 6.30 |
| | Pb_pct | 8,383 | 0.10 | 0.29 | 0.00 | 10.94 |
| | Zn_pct | 8,383 | 0.17 | 0.41 | 0.00 | 7.43 |
| Lower Copper Zone | Ag_ppm | 154 | 15.33 | 28.27 | 0.13 | 247.88 |
| | Au_ppm | 140 | 0.07 | 0.06 | 0.01 | 0.34 |
| | Cu_pct | 154 | 0.30 | 0.23 | 0.00 | 1.45 |
| | Pb_pct | 154 | 0.17 | 0.85 | 0.00 | 9.89 |
| | Zn_pct | 154 | 0.37 | 0.99 | 0.00 | 9.02 |

Source: compiled by RPM GLOBAL, 2023

### 14.4.3 High-Grade Cuts

Applying high-grade cuts reduces the impact of extreme grade outliers on the grade estimate and aims to prevent these statistical outliers from having a significant impact on the Mineral Resource estimate. The high-grade cuts applied to the composites were determined from the histograms and log probability plots for each element. A domain detailed study was completed and concluded the same global top-cut values. The high-grade cut values are shown in **Table 14-3**. Log probability plots are shown in **Appendix A**.

**Table 14-3 Top Cut Values into all Domains**

| Variable | Minimum | Maximum | Capping Value |
|---|---|---|---|
| Ag_ppm | 0.0 | 9,626 | 7000 |
| Au_ppm | 0.0 | 53.977 | 40.0 |
| Pb_pct | 0.0 | 14.220 | No Capping |
| Zn_pct | 0.0 | 16.760 | No Capping |
| Cu_pct | 0.0 | 1.612 | No Capping |

Source: compiled by RPM GLOBAL, 2023

## 14.5 Mineral Resource Estimation

RPM constructed a three-dimensional digital estimate for Ag, Au, Pb, Zn, and Cu and compiled the Mineral Resource model based on the statistical analysis of the data provided. RPM considers the Mineral Resource estimate meets the general guidelines for CIM Definition Standards for reporting of Mineral Resources at the Indicated and Inferred confidence levels.

### 14.5.1 Block Model

A block model was created for Carangas Project and covers the main mineralized area and adjacent areas. There is no rotation for the block model, and the block sizes were selected considering the geometry of mineralization, drill grid spacing, density of assay data and selected mining unit. The block model dimensions selected were 5m by 5m by 5m (X,Y,Z) with no sub-cells. The block model origins, extents and attributes are shown in **Table 14-4**.

**Table 14-4 Carangas Block Model Definition Parameters**

| Model Parameters | X | Y | Z |
|---|---|---|---|
| **Block Model Origin** | 538,490 | 7,904,850 | 2810 |
| **Number of Blocks** | 276 | 210 | 258 |
| **Parent Block Size (m)** | 5 | 5 | 5 |
| **Rotation Degree** | No | No | No |
| **FIELD NAME** | **DESCRIPTION** | | |
| **GM (Zone Domain)** | Ag – Upper Silver Zone<br>Au – Lower Gold Zone<br>PbZn – Middle Zinc Zone<br>Cu – Lower Copper Zone | | |
| **IJK** | Block IJK No | | |
| **XC** | Cell Centroid – X | | |
| **YC** | Cell Centroid – Y | | |
| **ZC** | Cell Centroid – Z | | |
| **XINC** | Cell Size – X | | |
| **YINC** | Cell Size – Y | | |
| **ZINC** | Cell Size – Z | | |
| **XMORIG** | Model Origin – X | | |
| **YMORIG** | Model Origin – Y | | |
| **ZMORIG** | Model Origin – Z | | |
| **NX** | Number of Cells – X | | |
| **NY** | Number of Cells – Y | | |
| **NZ** | Number of Cells – Z | | |
| **DENSITY** | Density | | |
| **Ag_ID2** | Estimated Ag – Inverse distance | | |
| **Ag_NS** | Number samples in estimation of Ag grade | | |
| **Ag_AvgD** | Average distance of samples used in Ag estimation | | |
| **Au_ID2** | Estimated Au – Inverse distance | | |
| **Cu_ID2** | Estimated Cu – Inverse distance | | |
| **Pb_ID2** | Estimated Pb – Inverse distance | | |
| **Zn_ID2** | Estimated Zn – Inverse distance | | |
| **AgEq_ID2** | Calculated Silver equivalent | | |
| **Class_Fim** | Resource Classification:<br>Indicated<br>Inferred | | |

Source: compiled by RPM GLOBAL, 2023

### 14.5.2 Block Model Strategy and Analysis

A series of upfront test modelling was completed to define an estimation methodology to meet the following criteria:

- Representative of the current Carangas geological and structural models.
- Accounts for the variability of grade, orientation, and continuity of mineralization.
- Controls the smoothing (grade spreading) of grades and the influence of outliers.
- Is robust and repeatable within the mineral domains.
- Supports multiple domains.

Multiple test scenarios were evaluated to determine the optimum processes and parameters to use in order to achieve the stated criteria. Each scenario was based on NN, inverse-distance squared ("ID2"), inverse-distance cubed ("ID3"), and OK interpolation methods.

All test scenarios were evaluated based on global statistical comparisons, visual comparisons of composite assays versus block grades, and the assessment of overall smoothing. Based on results of the testing, it was determined that the final resource estimation methodology would constrain the mineralization by using hard wireframe boundaries to control the spread of high-grade and low-grade mineralization. Inverse-distance squared (ID2) was selected as the interpolation method best representative of both the current Carangas database and deposit characteristics.

### 14.5.3 Grade Interpolation

The Inverse-distance squared ("ID2") algorithm was used for the estimation of grades, using hard boundaries of each individual domain. The Nearest Neighbor (NN) estimation method was also performed for comparison grade validation and swath plot analysis.

The estimation parameters were based on the outcomes of the geospatial analysis and reflect the interpreted variability of the underlying grade continuity. A minimum and maximum number of samples was set to limit over-smoothing. A minimum of 1 sample was required for estimation and maximum of 40 samples. The search quadrant sector was also applied with a maximum of 10 samples per sector. The search ellipsoid ranges were based on AgEq continuity of grades and drill grid spacing.

Search orientations for Upper Silver Zone and Middle Zinc Zone were based on the shape of the ABC (andesitic basalt) contact surface. The grade interpolation strategy and parameters are presented in **Table 14-5**.

**Table 14-5 Carangas Grade Estimation Search Parameters**

| General | | Value clipping | Ellipsoid Ranges | | | Ellipsoid Directions | | | |
|---|---|---|---|---|---|---|---|---|---|
| Domain | Numeric Values | Upper bound | Maximum | Intermediate | Minimum | Dip | Dip Azimuth | Pitch | Variable Orientation |
| Upper Silver Zone | Ag_ppm | 7000 | 175 | 175 | 75 | | | | Yes |
| Upper Silver Zone | Au_ppm | 40 | 175 | 175 | 75 | | | | Yes |
| Upper Silver Zone | Cu_pct | - | 175 | 175 | 75 | | | | Yes |
| Upper Silver Zone | Pb_pct | - | 175 | 175 | 75 | | | | Yes |
| Upper Silver Zone | Zn_pct | - | 175 | 175 | 75 | | | | Yes |
| Lower Gold Zone | Ag_ppm | 7000 | 175 | 175 | 75 | 14.216 | 90.9 | 45.0 | No |
| Lower Gold Zone | Au_ppm | 40 | 175 | 175 | 75 | 14.216 | 90.9 | 45.0 | No |
| Lower Gold Zone | Cu_pct | - | 175 | 175 | 75 | 14.216 | 90.9 | 45.0 | No |
| Lower Gold Zone | Pb_pct | - | 175 | 175 | 75 | 14.216 | 90.9 | 45.0 | No |
| Lower Gold Zone | Zn_pct | - | 175 | 175 | 75 | 14.216 | 90.9 | 45.0 | No |
| Lower Copper Zone | Ag_ppm | 7000 | 150 | 150 | 50 | 10 | 45.0 | 75.0 | No |
| Lower Copper Zone | Au_ppm | 40 | 150 | 150 | 50 | 10 | 45.0 | 75.0 | No |
| Lower Copper Zone | Cu_pct | - | 150 | 150 | 50 | 10 | 45.0 | 75.0 | No |
| Lower Copper Zone | Pb_pct | - | 150 | 150 | 50 | 10 | 45.0 | 75.0 | No |
| Lower Copper Zone | Zn_pct | - | 150 | 150 | 50 | 10 | 45.0 | 75.0 | No |
| Middle Zinc Zone | Ag_ppm | 7000 | 150 | 150 | 50 | | | | Yes |
| Middle Zinc Zone | Au_ppm | 40 | 150 | 150 | 50 | | | | Yes |
| Middle Zinc Zone | Cu_pct | - | 150 | 150 | 50 | | | | Yes |
| Middle Zinc Zone | Pb_pct | - | 150 | 150 | 50 | | | | Yes |
| Middle Zinc Zone | Zn_pct | - | 150 | 150 | 50 | | | | Yes |

Source: compiled by RPM GLOBAL, 2023

### 14.5.4 Specific Gravity Interpolation

As discussed in **section 14.1.2** a total of 5,366 specific gravity (SG) measurements from 189 diamond drill holes were used in the Density estimation for resource block model. RPM determined that the required amount and distribution of SG measurements allowed for direct estimation of SG within the block model. The inverse distance squared (ID2) method was used and produces a good result comparing to other methods. The Density interpolation strategy and parameters are presented in **Table 14-6**.

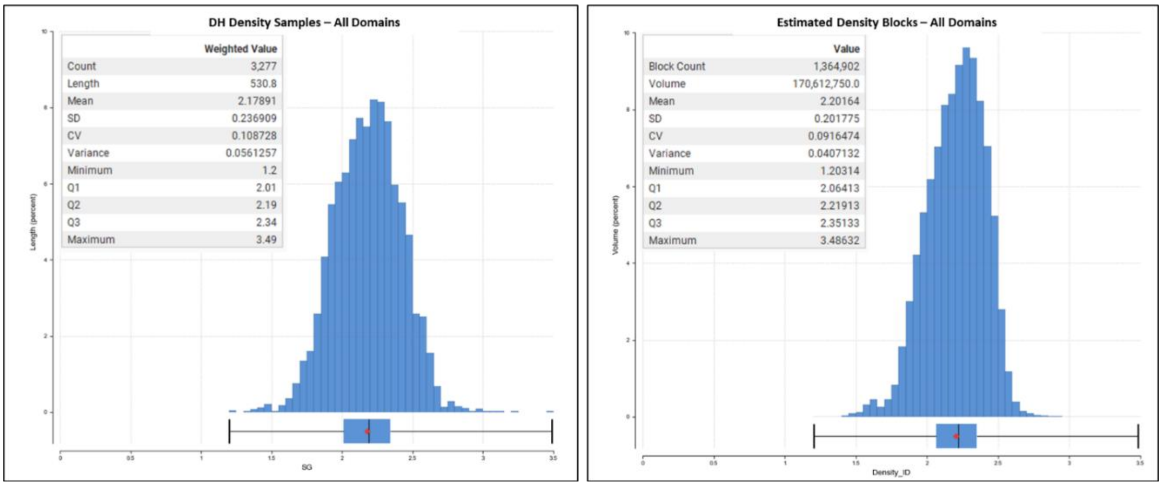
**Table 14-6 Density Estimation Parameters**

| General | | Ellipsoid Ranges | | | Ellipsoid Directions | | | |
|---|---|---|---|---|---|---|---|---|
| Domain | Numeric Values | Maximum | Intermediate | Minimum | Dip | Dip Azimuth | Pitch | Variable Orientation |
| Upper Silver Zone | SG | 330 | 195 | 130 | | | | Yes |
| Middle Zinc Zone | SG | 330 | 195 | 195 | | | | Yes |
| Lower Gold Zone | SG | 330 | 195 | 130 | 0 | 0 | 110 | No |
| Lower Copper Zone | SG | 380 | 210 | 210 | 0 | 0 | 110 | No |

Source: compiled by RPM GLOBAL, 2023

The overall results are strongly related to the density database, as expected, and the validation process shows a reasonable comparison as presented in histograms from samples and block model in **Figure 14-4**. The samples histogram geometry is reproducible into the estimated blocks and the mean and standard deviation shows a good comparison.

**Figure 14-4 Estimation Density Histogram Validation**




Source: RPM GLOBAL, 2023

### 14.5.5 Block Model Validation

The block model validation process included visual comparisons between block estimates and composite grades in section views, local versus global estimates for ID2 and NN, and swath plots. A three-step process was used to validate the estimation as outlined below:

- Mean grade comparison in each domain;
- Swath plots comparing estimation methods; and
- Visual inspection of the blocks against drill hole composites.

A quantitative assessment of the estimate was completed by comparing the average grades of the top-cut composite file against the block model grades for each domain. The results of main element for each domain are tabulated in **Table 14-7** and indicate a good correlation.

**Table 14-7 Composite vs. Block Model Grade Statistical Validation**

| DOMAIN | GRADE | Sample Grade | Model Grade | Difference in Grade | Difference (%) |
|---|---|---|---|---|---|
| **Upper Silver Zone** | **Ag (g/t)** | 42.39 | 41.20 | 1.19 | 3% |
| **Lower Gold Zone** | **Au (g/t)** | 0.77 | 0.75 | 0.02 | 3% |
| **Middle Zinc Zone** | **Pb (%)** | 0.29 | 0.30 | -0.01 | -3% |
| **Middle Zinc Zone** | **Zn (%)** | 0.67 | 0.72 | -0.05 | -7% |
| **Lower Copper Zone** | **Cu (%)** | 0.30 | 0.31 | -0.01 | -3% |

Source: compiled by RPM GLOBAL, 2023

A volumetric verification was undertaken to confirm that the block model represents the mineralization wireframe volumes, and no major discrepency was detected. This comparison is presented in **Table 14-8**, indicating an excellent comparison for all mineralization veins.

**Table 14-8 3D Volumetric Model comparison**

| DOMAIN | Wireframe Volume ($m^3$) | Model Volume ($m^3$) | Difference ($m^3$) | Difference (%) |
|---|---|---|---|---|
| **Upper Silver Zone** | 80,734,000 | 80,760,500 | -26,500 | 0.0% |
| **Lower Gold Zone** | 52,072,000 | 52,063,625 | 8,375 | 0.0% |
| **Middle Zinc Zone** | 37,254,000 | 37,242,125 | 11,875 | 0.0% |
| **Lower Copper Zone** | 547,590 | 546,500 | 1,090 | 0.2% |
| **TOTAL** | **170,607,590** | **170,612,750** | **-5,160** | **0.0%** |

Source: compiled by RPM GLOBAL, 2023

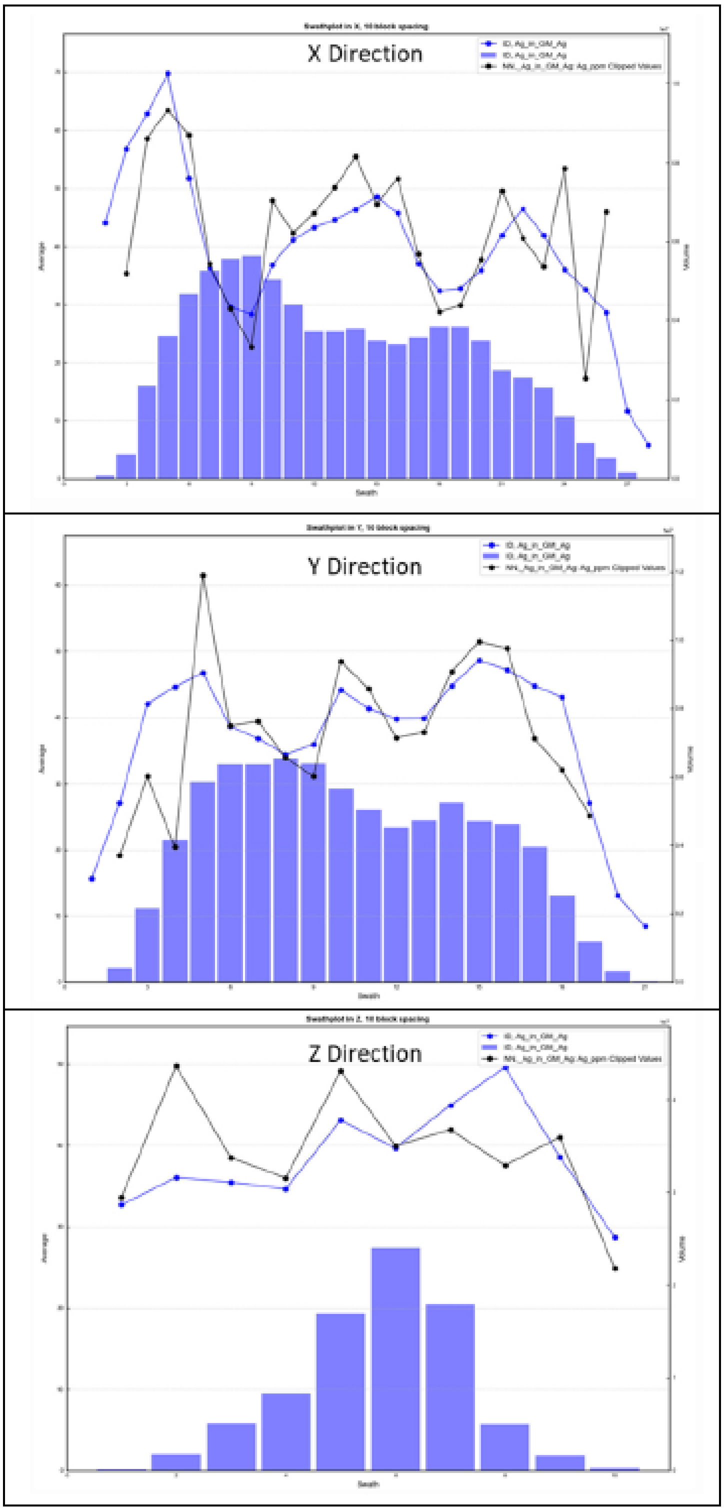
Swath plots were developed to compare interpolated block grades with the sample composite data along distance slices in the X, Y and Z directions. The swath plot analysis, shown in **Figure 14-5**, shows that the estimated grades had a reasonable correlation with the cut composite grades. While the swath plots preserve the overall trend between the composite and block model grades, there is variation in the composites on individual slices. This often results from the smoothing of block grades that is inherent in the Inverse Distance algorithm and the estimation parameters used. It is particularly notable when variations in grade occur over short distances or the search ellipse used for sample selection is significantly wider than the width of the swath plot slice.

The validation of the interpolated block model was assessed by using visual assessments and validation plots of block grades versus capped assay grades and composites. The review demonstrated a good comparison between local block estimates and nearby assays, without excessive smoothing in the block model.

**Figure 14-6** and **Figure 14-7** provides the visual comparisons for Ag grade of the Carangas Deposit. Visual comparisons for all elements were developed and the results are acceptable, and the block model grade fits the composite samples and its grade continuity. Overall, the visual comparison indicated that the model grades were reasonably consistent with the drill hole composite grades both at a local scale down dip and in areas of closer-spaced drilling grade continuity major direction. A reasonable degree of smoothing was observed due to a combination of the block dimensions, the ID2 algorithm and the wide drill spacing at some locations.

Based on the results of the validation, RPM considers the estimate to be a reasonable representation of the composites and matches the known controls of mineralization and the underlying data.

**Figure 14-5 Swath Plot along X,Y,Z Direction for Ag (g/t) Validation**




RPMGLOBAL

| LEGEND | CLIENT | PROJECT | | |
|---|---|---|---|---|
| | New Pacific Metals Corp. | NAME Carangas Silver-Gold Project - Department of Oruro, Bolivia - NI 43-101 Mineral Resource Estimate Technical Report | | |
| | | DRAWING Swath Plot along X,Y,Z Direction for Ag (g/t) Validation | | |
| DO NOT SCALE THIS DRAWING - USE FIGURED DIMENSIONS ONLY. VERIFY ALL DIMENSIONS ON SITE | | FIGURE No. 14-5 | PROJECT No. ADV-TO-00079 | Date September 2023 |

**Figure 14-6 Ag (g/t) grade Section View Validation of Block Model – Section 22**

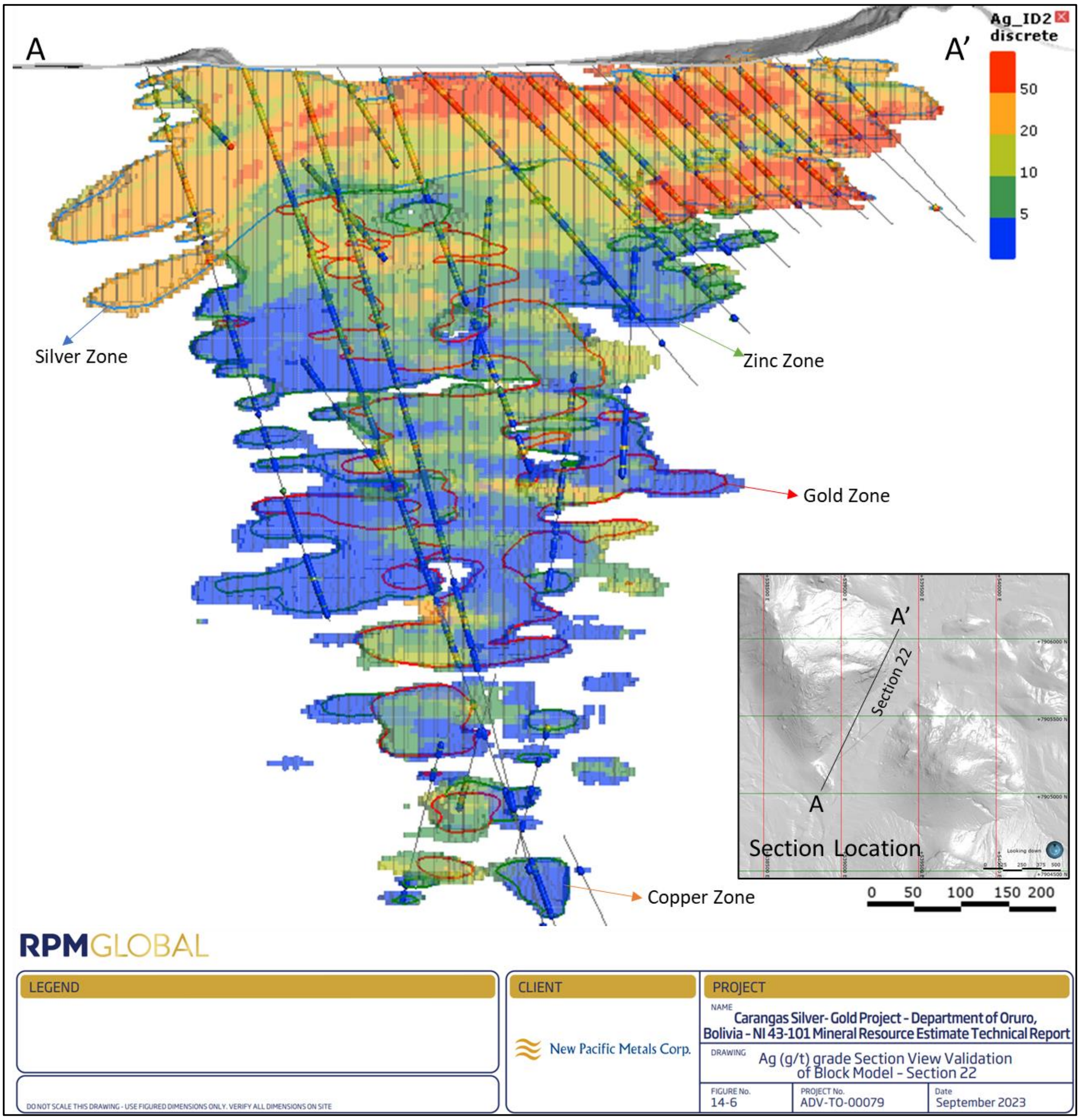
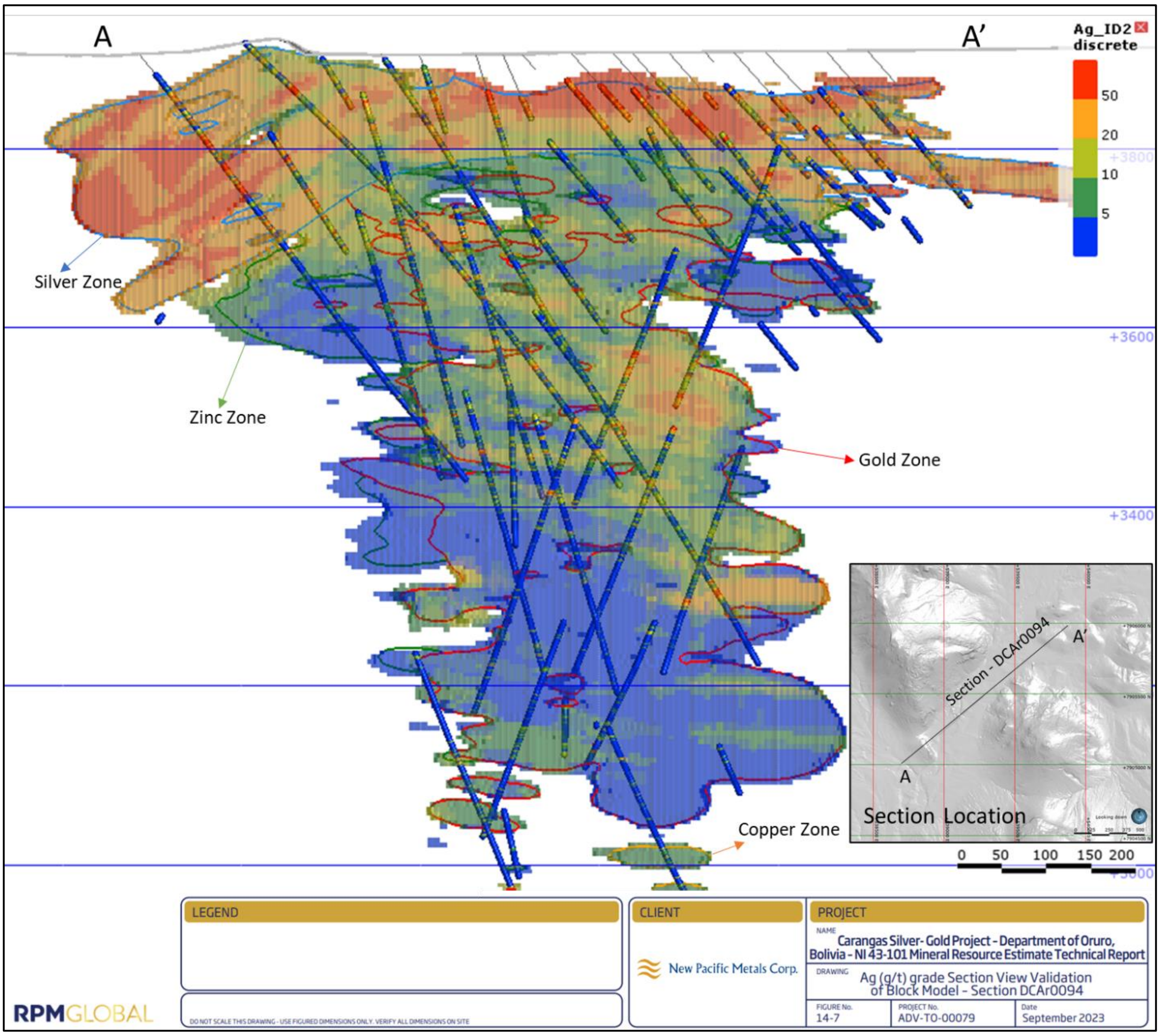


**Figure 14-7 Ag (g/t) grade Section View Validation of Block Model – Section DCAr0094**




## 14.5.6 Resource Classification

Mineral Resources were classified in accordance with CIM Best Practice Guidelines. The Mineral Resource was classified as Indicated and Inferred Mineral Resource on the basis of data quality, sample spacing, mineralisation and grade continuity.

As noted in the geology interpretation, the mineralisation varies throughout the deposit, resulting in geological and grade continuity variations. The mineralisation domains are controlled by silver, gold and zinc grade relations where silver grade is concentrated into the upper zone, and gold into the lower portions. While there are grade variations observed within the closer spaced drillholes (70m by 70m) the deposit shows good continuity of the main mineralized zones along strike. While there is good geological continuity along strike, local variation of grade and thickness occurs between the current drill spacing, which arises from structures and results in discontinuity of mineralization.

Given the likelihood of further local grade variation with further drilling, RPM considers the current data suitable to provide a good estimate of tonnage and metal content on a global scale, and considers the 70m by 70m spacing suitable for an Indicated classification. RPM considers that further drilling is required to allow for better estimates of local grade and metal distribution and as such no measured resources are reported.

The classification criteria used by RPM for the Mineral Resource was as follows:

Indicated:

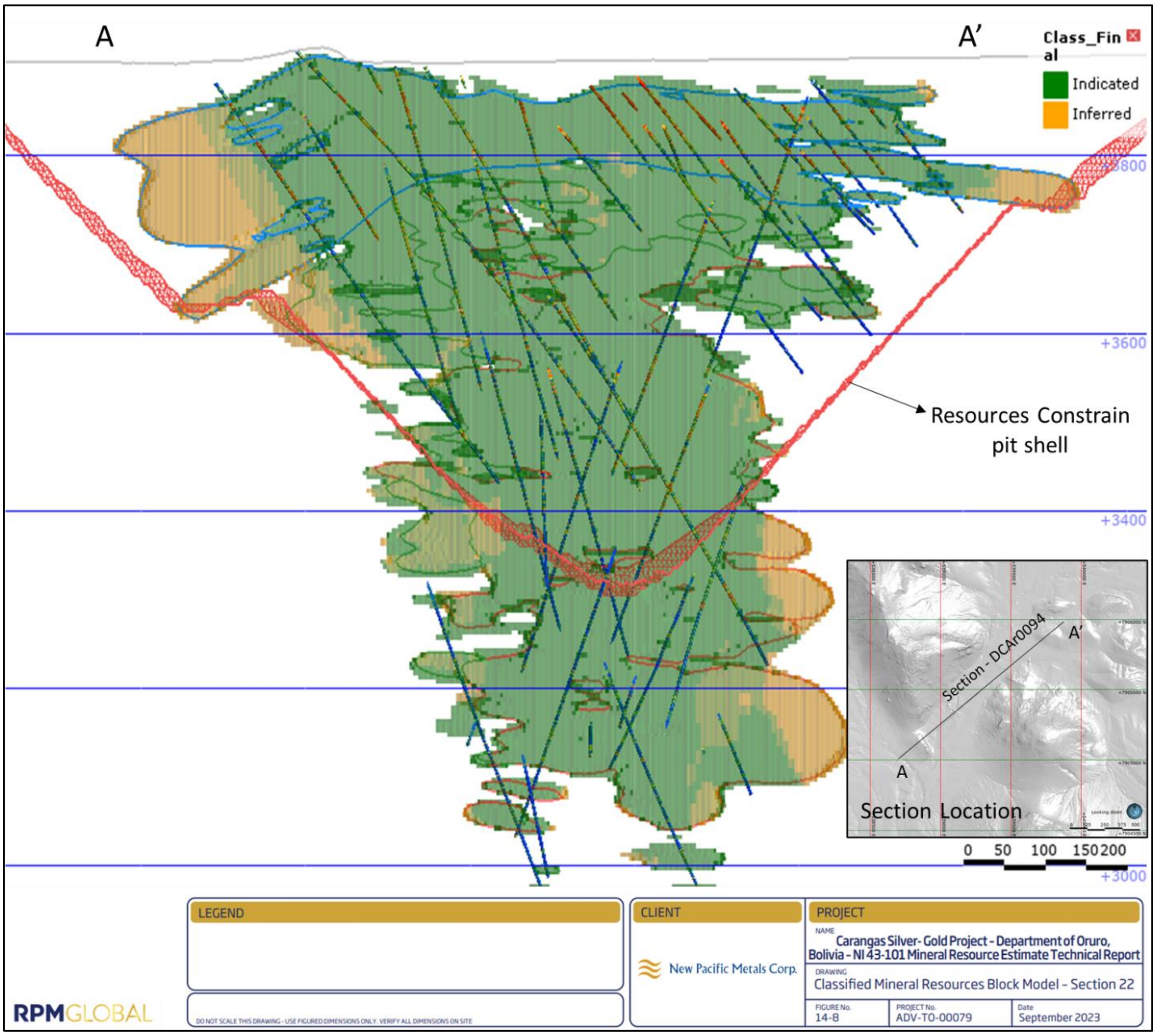
- Average ID$^2$ sample distance of less than 70 m or Nearest Neighbor (NN) sample distance of less than 35 m;
- Drill grid spacing of approximately 50-100 m ; and
- Confirmed visualization of mineralization continuity.

Inferred:

- Blocks that do not satisfy the requirements for Indicated Resources and had an average sample distance less than 220 m, were classified as Inferred Resources.

A block model view of the Mineral Resource classification is shown in **Figure 14-8**.

**Figure 14-8 Classified Mineral Resources Block Model – Section 22**



### 14.5.7 Reasonable Prospects for Eventual Economic Extraction (RPEEE)

Reasonable prospects assumptions include:

- The Independent and Qualified Person responsible for the Mineral Resource Estimate is Anderson Candido, Principal Geologist, of RPMGlobal, and Fellow AusIMM member, and the effective date of the estimate is August 25, 2023.
- CIM Definition Standards on Mineral Resources and Reserves were used for the Carangas Project Mineral Resource Estimate.
- Industry 5 years long-term consensus average prices of metals as of August 2023, were used for all calculations as itemized in **Table 14-9**.
- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
- Minor variations may occur during the addition of rounded numbers.
- The pit shell (June 2023) was generated based on the assumptions listed in Table 14-9. These assumptions were based on regional benchmarks and preliminary metallurgical data.
- There are no other factors of environmental, permitting, legal, marketing, or other relevant issues which could materially affect the Mineral Resource estimate.

**Table 14-9 Commodity Prices Used in the Resource Calculation**

| Commodity | | Unit | Value Assumption |
|---|---|---|---|
| Metal Prices | Silver (Ag) | US$/oz | 23.00 |
| | Gold (Au) | US$/oz | 1,900.00 |
| | Lead (Pb) | US$/lb | 0.95 |
| | Zinc (Zn) | US$/lb | 1.25 |
| | Copper (Cu) | US$/lb | 4.00 |

Source: compiled by RPM GLOBAL, 2023

Input Parameters for Resource Calculation

The Cutoff Grade calculation was based on assumptions as follows: mining operating cost, onsite milling operating cost, tailings management facility operating cost, G&A cost, royalty cost, selling cost, onsite milling metal recoveries percentages, metal payable percentages, and other variables.

The cost assumptions are presented below:

- Mining operating cost: 2.00 US$/t
- Onsite process operating cost: 10.50 US$/t
- Tailings management facility operating cost: 0.65 US$/t
- G&A cost: 1.50 US$/t
- Royalty cost: 6.0 %
- Selling cost: 0.5 US$/oz AgEq
- Metal processing recoveries percentages: Ag 90%, Au 98%, Pb 83% and Zn 58%
- Metal payable percentages: Ag 83%, Au 99.5%, Pb 83% and Zn 45%

For resource cutoff calculation purposes, a mining recovery of 100.0% and 0.0% mining dilution were applied.

RPM has developed an independent maximum pit study to verify the accuracy and reproducibility of the current maximum pit provided by the Company. The QP is of the opinion that the current maximum pit calculation is reasonable to constrain the Mineral Resources.

Pit Optimisation Disclaimer

RPM highlights that the pit shell used to define the depth and extent to report the open pit Mineral Resource is preliminary. The pit shell constraint may be subject to minor change after further pit optimization study in future stage of the Project.

RPM notes that the pit shell constrained Mineral Resources demonstrates reasonable prospects for eventual economic extraction and highlights that the pit does not constitute a scoping study or a detailed mining study which is required to be completed to confirm the economic viability of the Project with additional drilling and metallurgy test work. It is further noted that CAPEX is not included in the mining costs assumed. RPM has verified the utilized operating costs which are based on the Company's databases and the processing recoveries based on the preliminary test work as outlined in Section 13, along with the price noted above in determining the appropriate cut-off grade. In conclusion, RPM considers the open pit constrained Mineral Resources demonstrate reasonable prospects for eventual economic extraction, however, highlights that additional studies and drilling are required to confirm economic viability.

### 14.5.8 Mineral Resource Statement

RPM has independently estimated the Mineral Resources of the Project, based on the data collected by NPM. The Mineral Resource Estimate and the underlying data comply with the guidelines provided in the CIM Definition Standards under NI 43-101. Therefore, RPM believes it is suitable for public reporting. The Mineral Resources were completed by Anderson Candido, Principal Geologist, of RPMGlobal, and Fellow AusIMM member.

The Statement of Mineral Resources"has 'een constrained by the topography and maximum optimized pit shell and reported using a 40 g/t AgEq cut-off grade. This cut-off value was calculated using the metal prices as presented in **Table 14-9**, and the cost assumptions shown above.

Results of the independent Mineral Resources Estimate for the Project are tabulated in the Statement of Mineral Resources within the three main zones as follow: Upper Silver Zone, Middle Zinc Zone and Lower Gold Zone shown in **Table 14-10** below.

**Table 14-10 Statement of Mineral Resources* at the Carangas Project as of 25th August 2023**

| Domain | Category | Tonnage | AgEq | | Ag | | Au | | Pb | | Zn | | Cu | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mt | g/t | Mozs | g/t | Mozs | g/t | Kozs | % | Mlbs | % | Mlbs | % | Mlbs |
| Upper Silver Zone | Indicated | 119.18 | 85.3 | 326.8 | 44.7 | 171.2 | 0.1 | 216.4 | 0.3 | 916.6 | 0.7 | 1,729.6 | 0.01 | 34.5 |
| | Inferred | 31.30 | 80.3 | 80.8 | 43.0 | 43.3 | 0.1 | 104.6 | 0.3 | 202.4 | 0.5 | 350.0 | 0.01 | 8.9 |
| Middle Zinc Zone | Indicated | 43.42 | 56.0 | 78.1 | 10.8 | 15.0 | 0.1 | 77.4 | 0.4 | 343.6 | 0.8 | 739.4 | 0.01 | 13.7 |
| | Inferred | 9.32 | 54.2 | 16.2 | 8.8 | 2.6 | 0.1 | 15.6 | 0.4 | 74.1 | 0.8 | 162.3 | 0.01 | 2.5 |
| Lower Gold Zone | Indicated | 52.28 | 92.1 | 154.9 | 11.4 | 19.1 | 0.8 | 1,294.4 | 0.2 | 184.7 | 0.2 | 184.7 | 0.06 | 64.4 |
| | Inferred | 4.37 | 91.1 | 12.8 | 12.6 | 1.8 | 0.7 | 97.5 | 0.2 | 21.4 | 0.2 | 21.4 | 0.06 | 5.4 |

*Source: compiled by RPM GLOBAL, 2023*

**Notes:*

1. *CIM Definition Standards (2014) were used for reporting the Mineral Resources.*
2. *The Qualified Person (as defined in NI 43-101) for the purposes of the MRE is Anderson Candido, FAusIMM, Principal Geologist with RPM (the "QP")..*
3. *Mineral Resources are constrained by an optimized pit shell at a metal price of US$23.00/oz Ag, US$1,900.00/oz Au, US$0.95/lb Pb, US$1.25/lb Zn, US$4.00/lb Cu, recovery of 90% Ag, 98% Au, 83% Pb, 58% Zn and Cut-off grade of 40 g/t AgEq and reported as per Section 14.*
4. *Mineral Resources are reported inside the claim boundary.*
5. *Drilling results up to June 1, 2023.*
6. *The numbers may not compute exactly due to rounding.*
7. *Mineral Resources are reported on a dry in-situ basis.*
8. *Mineral resources are not Mineral Reserves and have not demonstrated economic viability.*

### 14.5.9 Recommendations

RPM highlights that the global Mineral Resources are not Mineral Reserves and have not demonstrated economic viability. They are suitable only for preliminary economic assessment study and can be used to guide further exploration planning. As a result, RPM recommends that further infill drilling be required to improve the confidence of the Mineral Resources for future advanced studies.

Additionally, RPM recommends completing a Preliminary Economic Assessment (PEA) of the Carangas Project incorporating both the Indicated and the Inferred Mineral Resources, the results of metallurgical test, and preliminary mine planning to generate a discounted cash flow model of the Project.

Below the conceptual pit constraint exists gold-dominated mineralized material of similar size and grade to the reported Mineral Resources of the Au Domain within the conceptual pit. This mineralized material has the potential to be converted to Mineral Resource for underground mining after further studies in the Preliminary Economic Assessment study stage. Gold mineralization remains open to the north and northeast at depth.

Based on the outcomes of the Mineral Resources estimate, RPM recommends additional drilling be undertaken. There is good potential to expand the Mineral Resource base and increase confidence in the Mineral Resource, which is required to make informed investment decisions.

### 14.5.10 Other Information

RPM is not aware of any other factors, including environmental, permitting, legal, title, taxation, socio-economic, marketing and political or other relevant factors, which could materially affect the Mineral Resource.

# 15. MINERAL RESERVE ESTIMATE

This section is not applicable as the Project has no known Mineral Reserves.

# 16. MINING METHODS

This section is not applicable.

# 17. RECOVERY METHODS

This section is not applicable.

# 18. PROJECT INFRASTRUCTURE

This section is not applicable.

# 19. MARKET STUDIES AND CONTRACTS

This section is not applicable.

# 20. ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL/COMMUNITY IMPACT

This section is not applicable.

# 21. CAPITAL AND OPERATING COSTS

This section is not applicable.

# 22. ECONOMIC ANALYSIS

This section is not applicable.

# 23. ADJACENT PROPERTIES

There are no other mineral properties adjacent to the Project.

# 24. OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

# 25. Interpretation and Conclusions

Carangas is a large silver-gold-lead-zinc polymetallic deposit hosted in caldera-diatreme volcanic complex of Tertiary age in the South American Epithermal-Porphyry Belt. Controlled by the temperature and pressure of the underlying hydrothermal system, mineralization is zoned into sperate zones: a near-surface Upper Silver Zone dominated by silver plus moderate amount of lead and zinc, a Middle Zinc Zone dominated by zinc plus minor amount of silver and lead, and a Lower Gold Zone dominated by gold plus small amount of silver, copper and zinc. Gold mineralization remains open to north and northeast directions at depth. Beyond the drilled area, there are multiple IP chargeability anomalies with similar geophysical signature to that of the known mineralization. These anomalies constitute targets for future drilling to assess if there is additional material suitable for consideration in Mineral Resources.

New Pacific has established a series of working procedures and protocols regarding core logging, sampling, core quality assurance/quality control (QAQC) and data validation which includes insertion of standards, duplicates, blanks and umpire check samples, with which the QP is satisfied. In the opinion of the QP, the data acquisition, analysis and validation comply with the industry best practices and are appropriate for Mineral Resource estimate and technical reporting and there are no other known significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information and Mineral Resource estimate.

A preliminary metallurgy test program has been completed by two well recognized laboratories in Canada. The test program includes five distinctively different composite samples taken from core sample rejects and comprises cyanide leach and flotation. The QP is satisfied with the testing procedures and the interpretations of the test results. The testwork has identified the critical processing procedures for different types of minerals and provided vital information on the selection of proper processing flowsheets to maximize economic values of the mineral resources.

Under the assumptions presented in this Technical Report, and based on the data available as of June 1, 2023, RPM estimated the Mineral Resources of the Project which meet the 2014 CIM Definition Standards, the 2019 CIM Best Practice Guidelines, NI 43-101 guidelines and show reasonable prospects of eventual economic extraction.

Previous work at the Carangas Project demonstrated potential to expand the Mineral Resources, and hence continuing exploration is warranted.

The existing Mineral Resources warrant conducting further studies to assess the potential project economics.

# 26. RECOMMENDATIONS

## 26.1 Drilling

Based on the outcomes of the Mineral Resource estimate and the current stage of the Project, RPM recommends additional drilling be undertaken.

- Infill drilling: the existing drilling grid is largely 50 m by 50 m in majority of the drilled area and supported the Indicated Mineral Resources category. An appropriate amount of infill drilling is needed in the core area of the known mineralization system to further confirm the continuity of mineralization, hence enhance the confidence in the Mineral Resources to facilitate future advanced technical and economic studies of the Project.
- Step-out drilling: gold mineralization continues below the conceptual pit constraint and remains open to the north and northeast directions. Therefore, step-out drilling is justified to unveil the potential of additional Mineral Resources.
- Exploration drilling: multiple strong IP chargeability anomalies were identified beyond the drilled areas. These anomalies displayed geophysical signature similar to that of the known mineralization system. It is reasonable to anticipate that these anomalies may host mineralization similar to the one drilled so far and hope for addition of Mineral Resources through new drilling campaigns in the future.

## 26.2 Geology Study, Mapping and Prospecting

- Maintain the partnership with the universities in Bolivia to continue geological studies on the Carangas deposit to further understand the mineralization styles and genesis, and support future exploration targeting.
- Initiate exploration programs of geological mapping and prospecting over the IP chargeability anomalies for refining targets of drilling test.

## 26.3 Processing and Metallurgy Tests

- RPM recommends running comminution testworks, including Bond low-energy impact work index, SMC Test®, Bond rod mill work index, Bond ball mill work index and abrasion index.
- Variability mineralized samples from different mineralization and oxidation extent in every mineralized zone need to be tested further for flotation and cyanide leach. Column leach for the low-grade gold mineralization.
- Conduct a comprehensive mineralogical investigation, mainly focused on zinc mineralization.
- Investigate the amenability of the gold mineralization to gravity concentration.
- Gravity concentration for gold mineralization
- Run additional cyanide leach tests for gold mineralization.
- Additional cyanide leach tests of silver/lead concentrate.
- Run thickening and filtration tests for flotation tailings.
- Environmental testing for the process tailings and mine waste rocks.
- Concentrate marketing study to understand the likely concentrate characteristics from each zone, payables, penalties, treatment/refining charges, and other applicable parameters for Carangas Project likely products.

## 26.4 Underground Mining Study

The Mineral Resources of this Technical Report are reported within a conceptual open pit shell. Below the conceptual pit constraint exists gold-dominated mineralized material of similar size and grade to the reported Mineral Resources of the Au Domain within the conceptual pit. This mineralized material has the potential to be converted to Mineral Resources for underground mining and needs to be investigated through relevant studies.

## 26.5 Techncial and Economic Studies

RPM recommends a Preliminary Economic Assessment (PEA) study of the Carangas Project that incorporates the known Mineral Resources, metallurgical test work, mine planning and a discounted cash flow model to develop a project net asset value ("NAV") and internal rate of return ("IRR").

## 26.6 Estimated Budget for Recommendations

The estimated budget to complete the main activities recommended above is USD 3,500,000, as outlined in Table 26-1.

**Table 26-1 Estimated Budget for Recommendations**

| Area | Estimated Budget |
|---|---|
| **Geology and Mineral Resources** | |
| Drilling 12,000 m | USD2,400,000 |
| Geology Study | USD100,000 |
| Geological Mapping and Prospecting | USD200,000 |
| **Sub-total – Geology and Mineral Resources** | **USD 2,700,000** |
| | |
| **Mining Study** | |
| PEA Study | USD400,000 |
| **Sub-total – Mining** | **USD 400,000** |
| | |
| **Mineral Processing and Metallurgy Tests** | |
| Comminution tests | |
| Flotation and cyanide leach analysis | |
| Column leach development | |
| Mineralogical investigation | |
| Gravity concentration studies | |
| Thickening and filtration for flotation tailings | |
| Environmental testing for the process tailings and mine waste rocks | |
| Concentrate marketing study | |
| **Sub-total – Mineral Processing** | **USD 400,000** |
| | |
| **Total Estimated Cost – Next Phase of Study** | **USD 3,500,000** |

Source: compiled by RPM GLOBAL, 2023

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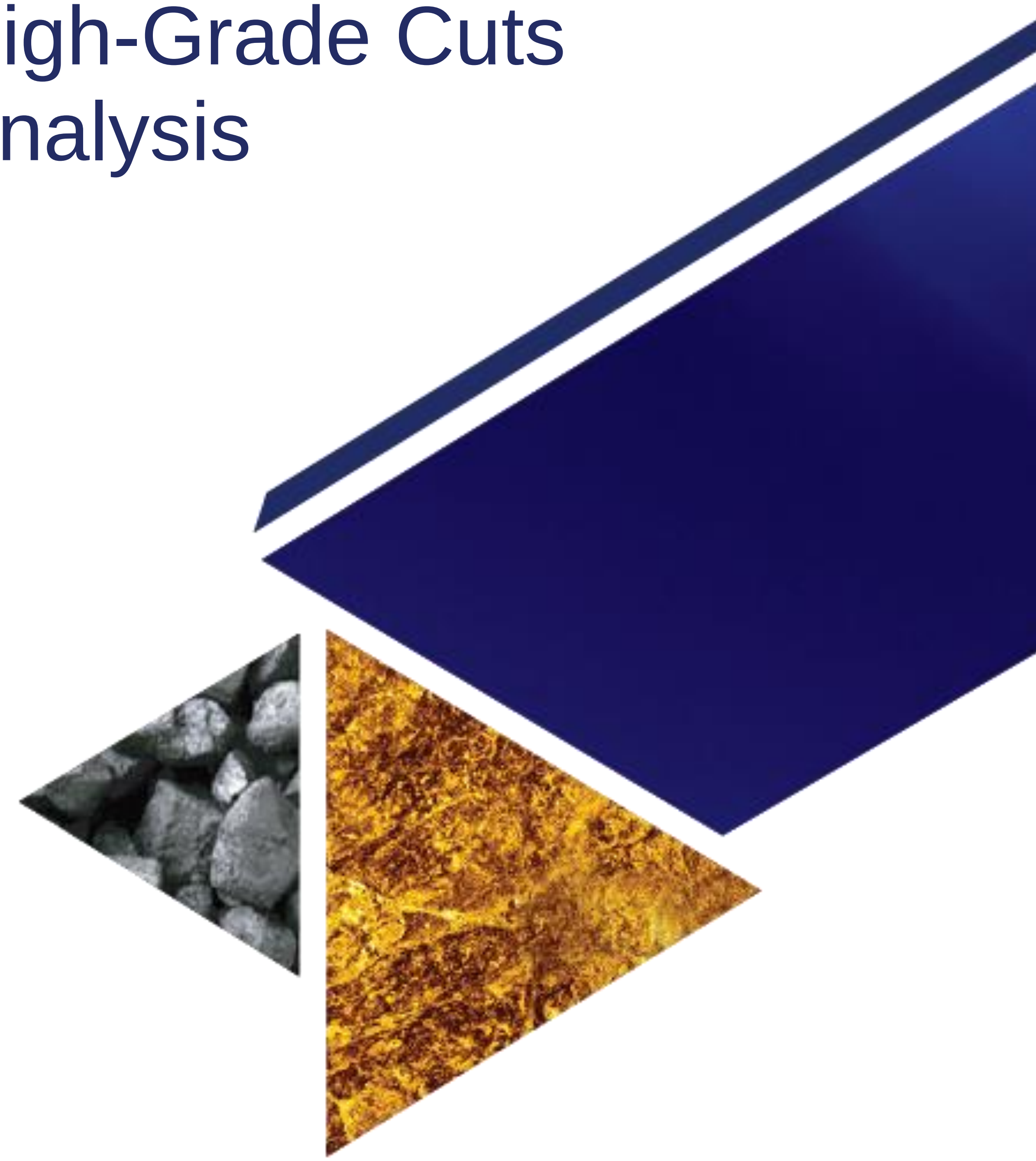
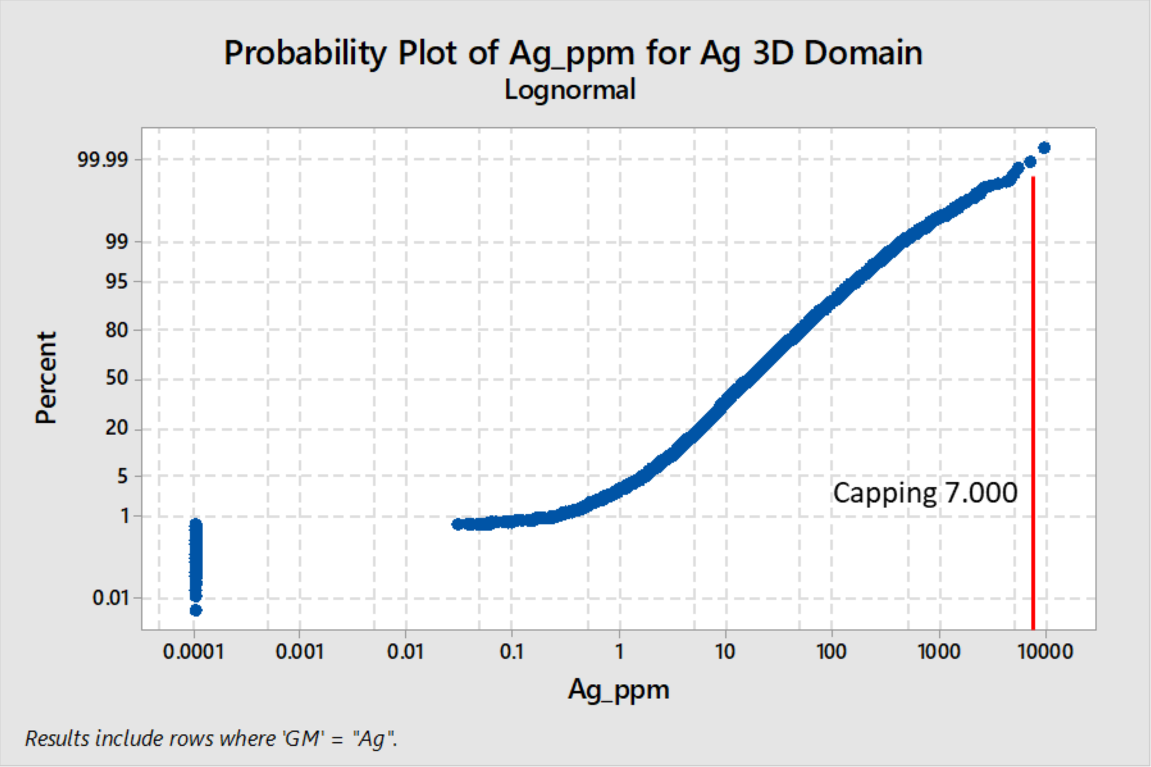
# Appendix A. High-Grade Cuts Analysis

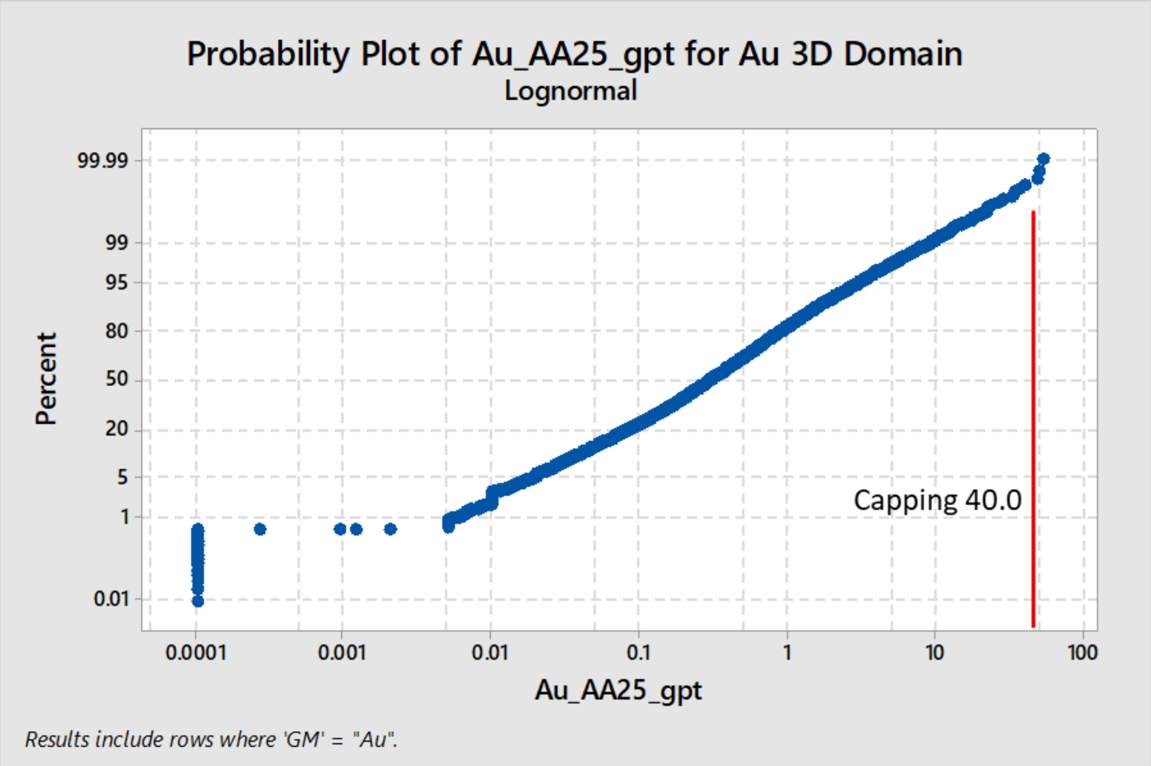


Ag 3D Domain – Capping Analysis



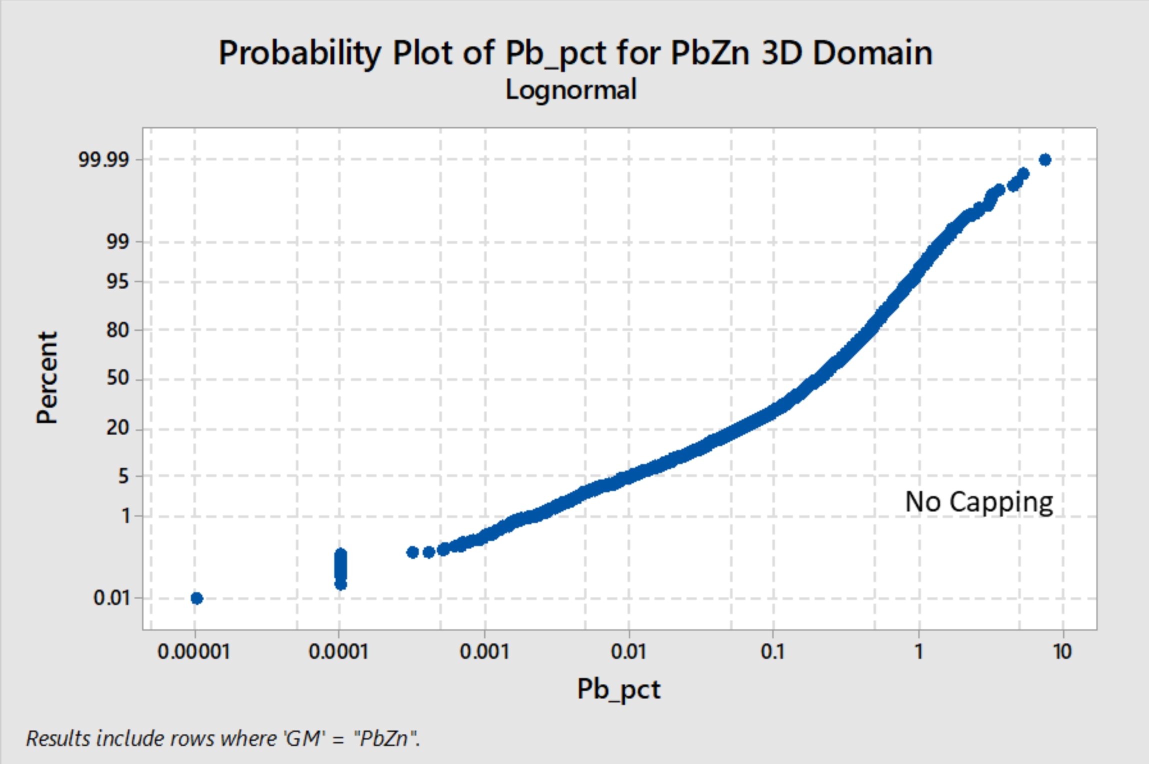

Source: compiled by RPM GLOBAL, 2023

Au 3D Domain – Capping Analysis




Source: compiled by RPM GLOBAL, 2023

PbZn 3D Domain – Capping Analysis

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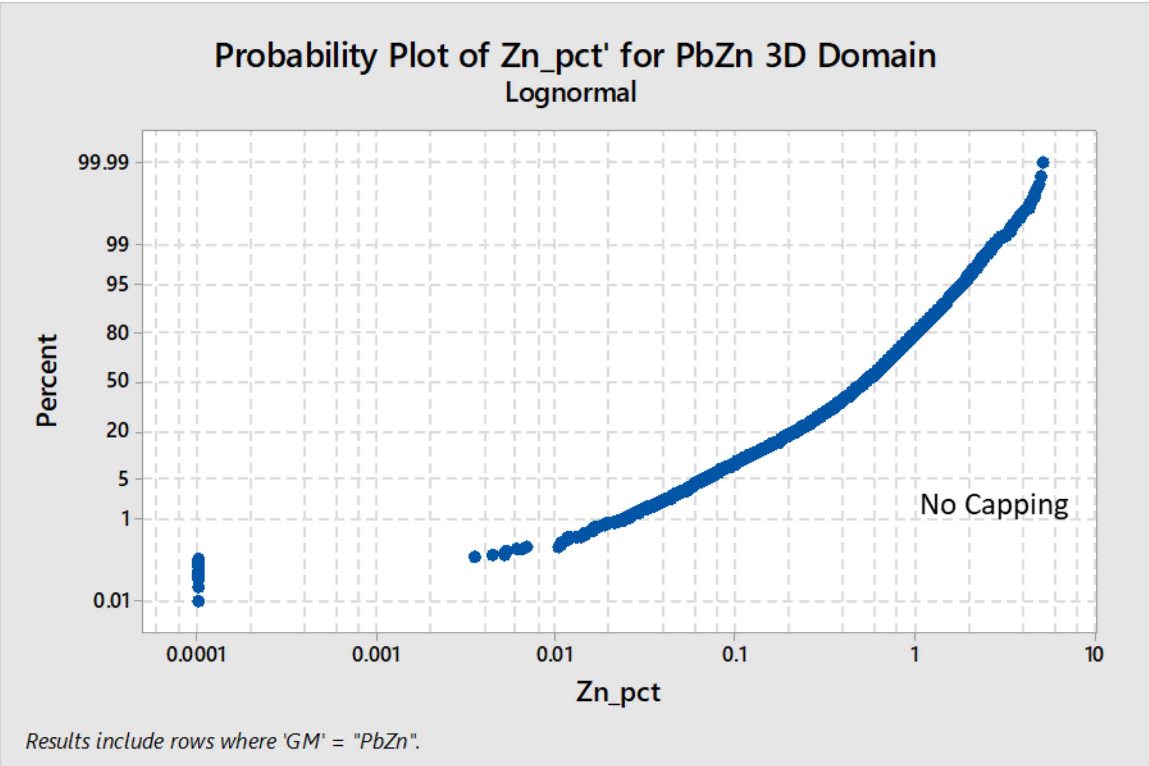


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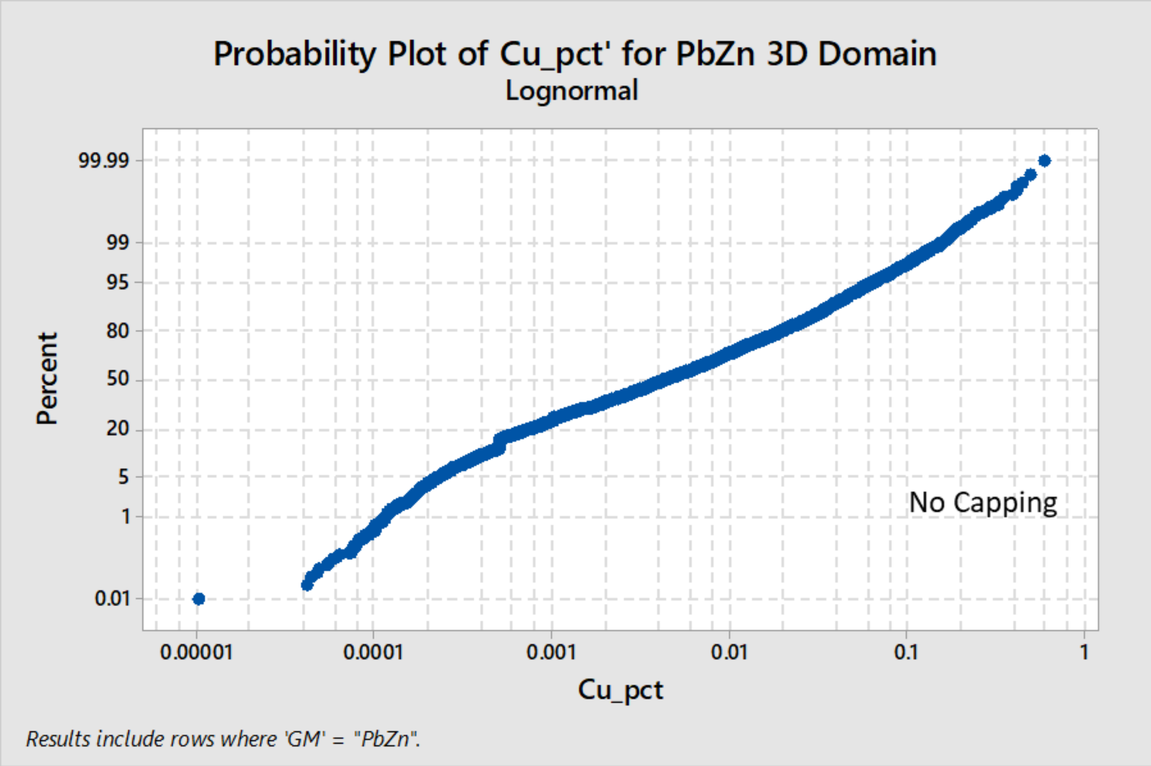
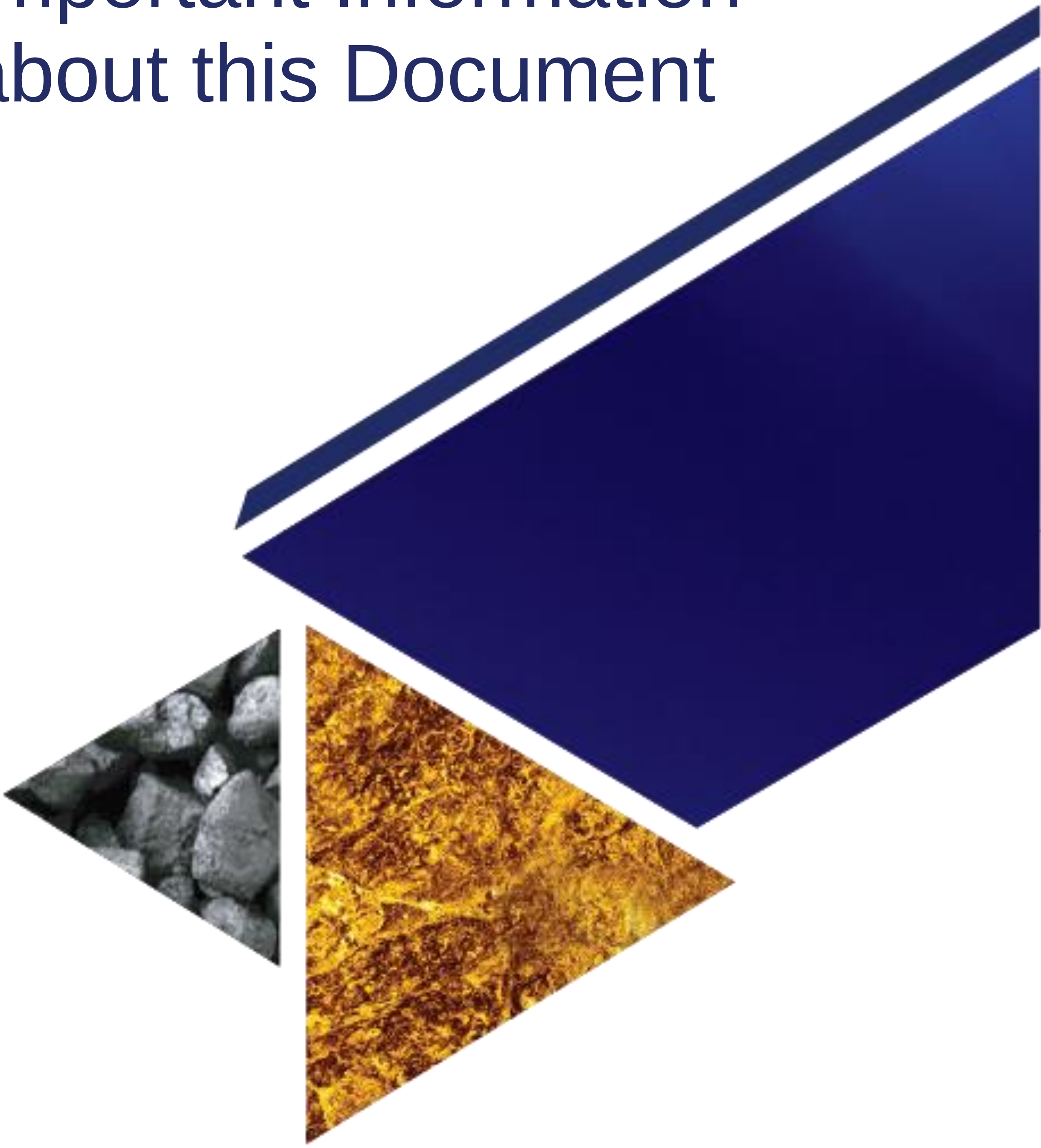



Source: compiled by RPM GLOBAL, 2023

# Appendix B.
## Important Information about this Document



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