# **RPMGLOBAL**



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**Qualified Persons:** 

Mr. Anderson Gonçalves Candido, FAusIMM



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# 1. SUMMARY

#### 1.1 Introduction

RPMGlobal Canada Limited ("RPM") was engaged by Ero Copper Corp. ("Ero", the "Company" or the "Client") to complete an Independent Mineral Resource Estimate Technical Report ("Technical Report" or the "Report") of the Furnas Copper Project (the "Furnas Project", "Project", "Property", "Furnas Property", or "Relevant Asset"), located in Pará State, Brazil. This Technical Report conforms to the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101").

In October 2023, Ero signed a binding term sheet (the "Term Sheet") with Salobo Metais S.A, a subsidiary of Vale Base Metals ("VBM", or "Vale"), to earn a 60% interest in the Furnas Project upon completion of several exploration, engineering and development milestones over a five-year period. In exchange for its 60% interest, Ero will solely fund a phased work program during the earn-in period and grant VBM up to an 11.0% "free carry" on future Project construction capital expenditures. The parties signed a definitive earn-in agreement (the "Agreement" or the "Earn-in Agreement") in July 2024, with terms and conditions that align with the Term Sheet. For additional details on the key terms and execution of the Agreement, please refer to the Company's press releases dated October 30, 2023 and July 22, 2024.

SDPM independent consultants ("SDPM"), engaged by Ero, compiled the Mineral Resource Estimation (MRE) process. All statistical analyses and mineral resource estimates have been verified to the extent possible by RPM and verified by the QP that is responsible for the contents of the Technical Report. SDPM and RPM are independent of the Company as such term is defined under NI 43-101.

# 1.2 Scope and Terms of Reference

RPM is an independent technical, environmental, and social consultant that provides resource evaluation, mining engineering, mine valuation, and environmental and social governance services to the resources and financial services industries.

This Report includes an independent mineral resource estimate for the Furnas Project, completed by SDPM and reviewed by RPM. RPM believes the Project has the potential for eventual economic extraction using underground mining techniques and conventional mineral processing methods to produce copper and gold.

RPM's technical team ("the Team") comprises geologists, metallurgists, and mining engineers. The Independent Qualified Person (QP), Mr. Anderson Goncalves Candido, conducted a site visit from October 16 to 19, 2023, to familiarize himself with the site conditions, verify the historical drill core, and assess the quality of the processes used in drill hole data acquisition. The purpose of the site visit was to review the mineral exploration results (including drilling) in connection with the exploration results and this Technical Report. During the site visit, the QP interviewed relevant Vale and Ero technical personnel to discuss the drilling procedures implemented throughout the various campaigns.

This Report includes information provided by Ero and Vale and, where applicable, such information was verified by RPM, either directly from the site visit or from reports completed during prior technical campaigns. All opinions, findings, and conclusions expressed in the report are those of the QPs named herein and are not warranted in any way, expressed, or implied. The Report excludes all aspects of legal, marketing, commercial, and financing matters, insurance, land titles, usage agreements, and any other agreements/contracts that the Company may have entered into except to the extent required pursuant to NI 43-101.

The information provided by the Company was sufficient, and nothing was discovered during the data review or during the preparation of the Report that indicates any material error, omission, or misrepresentation concerning the available technical information.

RPM has been paid and has agreed to be paid professional fees for preparing this Report. None of RPM's staff or sub-consultants who contributed to this Report have 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 to confirm the accuracy of factual material and the reasonableness of assumptions relied upon in the Report. The Report is based on information made available to RPM as of June 30, 2024.

# 1.3 Executive Summary

In October 2023, Ero and its wholly-owned subsidiary, Ero Brasil Participacoes II Ltda., signed a binding term sheet (the "Term Sheet") with Salobo Metais S.A, a subsidiary of Vale Base Metals ("VBM", or "Vale"), to earn a 60% interest in the Furnas Project upon completion of several exploration, engineering and development milestones over a five-year period. In exchange for its 60% interest, Ero will solely fund a phased work program during the earn-in period and grant VBM up to an 11.0% "free carry" on future Furnas Project construction capital expenditures. The parties signed a definitive earn-in agreement (the "Agreement" or the "Earn-in Agreement") in July 2024, with terms and conditions that align with the Term Sheet. For additional details on the key terms and execution of the Agreement, please refer to the Company's press releases dated October 30, 2023 and July 22, 2024.

The Furnas Project covers an area of approximately 98 square kilometers (km²) within the Carajás Mineral Province in Pará State, Brazil. The Furnas Project is an iron-ore copper-gold ("IOCG") project located approximately 50 kilometers southeast of VBM's Salobo operations and approximately 190 kilometers northeast of Ero's Tucumã Project.

Exploration at the Furnas Project commenced in the late 1960s with geological surveys and field assessments. During the 1970s, extensive stream sediment sampling identified the Mutum Target, a high-grade copper stream-sediment geochemical anomaly with values ranging from 250 ppm to 700 ppm Copper ("Cu"). Between 2001 and 2012, four surface drilling campaigns were conducted. During these campaigns, 284 drill holes totalling 90,154 meters of diamond drilling were completed.

The Furnas Project is hosted in an Archean volcanic-sedimentary sequence containing polymetallic mineralization controlled by litho-structural features.

As part of its overall work program, the Company intends to perform the following;

- develop block models incorporating planned infill and extensional drilling to prepare a mineral resource estimate,
- generate selective mine designs,
- perform confirmatory metallurgical test work,
- expand on prior process flow sheet design work,
- undertake additional geotechnical and environmental studies, and
- advance various community and social programs within the Furnas Project area.

#### **Property Description and Location**

The Furnas Project is located in the Carajás Mineral Province, which is known for its diverse mineralization. It includes the world's largest high-grade iron ore reserves and several large-scale deposits of copper-gold ("Cu-Au"), nickel laterite, manganese ("Mn"), gold ("Au"), and platinum group elements ("PGE").

The Furnas Project is located within the municipalities of Parauapebas and Marabá in the southeast region of Pará State in Brazil, approximately 20 km northwest of Parauapebas City.

The Furnas Project covers an area of approximately 98 km<sup>2</sup> and is comprised of two Prospecting and Exploration Licenses ("PELs"), with numbers 850.139/1995 and 856.384/1996, which are held by Vale

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Metais Básicos S.A. (Salobo Metais S.A.'s predecessor by amalgamation). The Furnas Project is approximately 7 km northeast of the Carajás National Forest (FLONACA) conservation area. All drilling locations and secondary roads from prior drill campaigns were restored according to the regulatory policies in place during prior drilling operations. Subsequent to entering into the Agreement in July 2024, Ero obtained an exploration license and commenced drilling in October 2024. For future drilling campaigns, additional environmental permits will need to be obtained by Ero with approval from the applicable environmental agencies (SECTAM and SEMA).

#### **History**

In the 1960's and 1970's the Brazilian Government Geological Surveys conducted 1:5,000 scale geological mapping. In 1993 high-resolution radiometric and magnetic geophysical surveys were completed by Vale S.A., which confirmed the earlier geochemical anomalies. Three soil sampling programs were completed by Anglo America and Vale S.A. in 2000, 2003, and 2006, which helped to better define previously identified geochemical and geophysical anomalies and emphasize the prospectivity of the project.

The first drilling campaign was conducted by Anglo America in 2001 and extended to 2003. Thereafter, three drilling campaigns (2003, 2005, 2012) were conducted by Vale S.A.

#### **Geology and Mineralization**

The Carajás Mineral Province contains two distinct Archean domains. To the south lies the older granite-greenstone terrains of Rio Maria, hosting the greenstone belt of the Andorinhas Supergroup. To the north lies the Itacaiúnas Belt, comprised of thick Archean volcano-sedimentary units of the Itacaiúnas Supergroup. The volcano-sedimentary terranes of the Carajás Mineral Province have an age of 2.7 billion years and were developed in an intra-cratonic basin within a rift zone, generating a polymetallic province that includes iron, Copper, Gold, nickel-laterite, Manganese, and PGE deposits.

The Furnas deposit has a defined strike length of approximately 9km. It is aligned along the Cinzento Transcurrent System, a major 100km-long, NW-SE structure, which also hosts the Salobo copper-gold deposit and forms the northern boundary of the Carajás Block. The metasedimentary siliciclastic rocks (Águas Claras Formation) and metavolcanic rocks (Grão Pará Group), both of Archean age, are the most relevant lithologies in the Furnas Project area.

Within the mineralized zone, rocks are commonly deformed and hydrothermally altered. The basement sequence is composed of granitoids and gneisses. The entire lithological assemblage of the Furnas trend is truncated to the east by the younger, Paleoproterozoic-age, Cigano Granite. The lithotypes in the deposit area have been grouped into three packages: (i) the footwall sequence, (ii) the mineralized zone, and (iii) the hanging-wall sequence. The footwall and hanging-wall sequences are composed of aluminous schists and amphibole schists, respectively, with variations in muscovite, biotite, and quartz content. The mineralized shear zone that hosts copper and gold mineralization is characterized by intense hydrothermal alteration and deformation. The core of the alteration zone is composed of biotite, garnet, grunerite, magnetite, and sulfide-bearing rocks with a silica-rich zone on the periphery. Furnas is geologically similar to other IOCG deposit along the Cinzento Shear Zone.

#### **Exploration**

The exploration of the Furnas Project began in the 1960's and 1970's leading to stream sediment and soil sampling programs. High-resolution, airborne, radiometric and magnetic geophysical surveys confirmed the anomaly in 1993. Ground magnetic, radiometric, induced polarization (IP), and Transient Electromagnetic (TEM) surveys were conducted by Anglo America in 2001 and Vale in 2011. In total, 3,493 soil samples were collected, over an area of 100 km²; a detailed topography survey was also completed.

Between the years 2000 and 2006, property license 850.139/1995 was owned by Anglo American, which developed the first geological work program and conducted the first exploration drilling campaign within the Furnas Project area. Vale S.A. acquired the mineral rights in 2006 and conducted various exploration drilling campaigns and additional studies to advance the Furnas Project. During the drilling campaigns, 68 drill core samples were analyzed by petrographic studies.



#### **Drilling**

Exploration drilling on the Furnas Project was conducted in four phases from 2001 until 2012. A total of 284 holes adding to a total length of 90,154 meters of diamond drilling were completed, including:

- Phase I ANGLO: 6,101m in 19 holes, drilled between 2001 and 2006.
- Phase II PKC-FURN-FD: 9,009m in 34 holes drilled between 2003 and 2005, a total of 34 holes were completed, totalling 9,009 meters of drilling.
- Phase III PKC-FURN-DH: 22, 267m in 65 holes between 2005 and 2007, to verify the lateral extensions of mineralization.
- Phase IV FUR-FURN-DH: 52,777 m of infill drilling in 166 holes between 2010 and 2012.

Ero was not involved in these exploration drilling programs.

# Sample Preparation, Assay, and QA/QC

Each drilling campaign had procedures and protocols for core logging, sampling, quality assurance/quality control ("QA/QC"), and data validation.

Geological logging included detailed lithology, alteration, mineralization, as well as structural, and RQD measurements. Drill cores were stored at Vale's Carajás core shed facility. In 2024 the core was transported to Ero's facility. Across all of the drilling campaigns, twenty-five percent of the drill core was sampled for geochemical analysis. In the first three drilling campaigns, one-meter sampling intervals were used. In the fourth campaign, one-meter intervals were used in the mineralized zone, and two-meter intervals were used in the weathered zone and waste rock.

The QP believes that the data acquisition, analysis, and validation procedures used in historical drill phases comply with the industry's best practices and are trustworthy for mineral resource estimates and technical reporting.

#### **Metallurgical Testing**

Vale completed a metallurgical testwork program using representative sample composites from the deposit. Comminution tests included the Abrasion Index ("Ai"), density, Drop-Weight Test ("DWT"), High Pressure Grinding Rolls ("HPGR"), Crushing Work Index ("CWi"), Rod Mill Work Index ("RWi"), and Ball Mill Work Index ("BWi").

Bench-scale flotation tests were performed with representative samples of the various mineralization styles to determine the optimal flotation conditions and performance. A variability study was conducted to assess how different ore characteristics impact metallurgical performance. A total of 19 samples (50 kg each) were selected for locked-cycle flotation tests, and 98 samples (10 kg each) for bench-scale cleaner flotation tests. The flotation testwork was supported by mineralogical characterization studies of samples, composites, and flotation products.

Pilot plant flotation tests were conducted on two representative samples of the main mineralogical types. Additionally, preliminary gravimetric concentration tests were completed on two representative samples.

An acid drainage generation potential study was also conducted on a range of samples, including waste, low-grade ore, sulfide ore, oxide ore, and flotation tailings, evaluated using the Modified Acid-Base Accounting ("MABA") method.

The metallurgical test results indicate that the ore is suitable for direct flotation, producing a commercial-grade copper concentrate with metallurgical recoveries of approximately 85.0% for copper (Cu) and 61.5% for gold (Au). The existing testwork results were incorporated into the Reasonable Prospects for Eventual Economic Extraction ("RPEEE") criteria for the Mineral Resource Estimate disclosed in this Report.



#### **Mineral Resources**

The Mineral Resource Estimate has been estimated by SDPM Consultants under the guidance of the QP with input from Ero's Furnas Project team, using data provided by Ero as of June 30, 2024. RPM believes that the Mineral Resource Estimate and underlying data comply with the industry's best practices and guidelines. RPM considers it suitable for public reporting. The independent QP, Mr. Anderson Goncalves Candido, completed the review and supervision of the mineral resource estimate using a thorough validation process. Also, the Mineral Resource Estimate process was under the supervision of and verified by Mr. Cid Gonçalves Monteiro Filho, FAusIMM (No. 329148), who is the Resource Manager of the Ero Copper Corp and is a non-independent "qualified person" within the meaning of NI 43-101.

The QP validated the RPEEE for the Furnas Project, which was developed by SDPM using the parameters provided by Ero. A mineable shape assessment was conducted using the Mineable Stope Optimizer ("MSO"), incorporating mineral resources and technical and economic parameters based on Ero's underground mining operations in Brazil.

Sill pillars, considered between sub-levels, represent approximately 10% of the total mineral resource tonnage. The resulting mineable shapes, as derived from the MSO software are conducive to underground mining methods and are bound to a cut-off grade of 0.1% for copper and 0.2 g/t for gold. The cut-off grade was determined using a consensus five-year metal price forecast, incorporating both industry projections and the Company's internal benchmarks.

The classification criteria for the mineral resource used by SDPM and validated by the QP considers several aspects including the kriging slope of the regression, number of drill holes, average sample spacing, maximum sample spacing, and post-processing to generate final classification.

There is one mineralized zone, referred to as hydrothermalite ("HD"), which can be subdivided into two domains (HD and HD\_2), which are separated by a fault. The primary host rock (RSL\_HOST) also contains copper mineralization and can be combined with the main mineralized area into a MSO stope. The mineral resource is stated within these three zones and is constrained by Mineable Shape Optimizer (MSO) at a metal price of US\$9,259/tonnes Cu and US\$1,900/oz Au, recovery is 85.0% Cu and 61.5% Au, resulting in a 0.35% CuEq cut-off. The mineral resource estimate for the Furnas deposit is presented in **Table 1-1**.

Table 1-1 Furnas Deposit - Total Mineral Resource Estimate as of June 30, 2024

Category	Tonnage	Cu	Eq	C	u	Au		
outogot,	Mt	%	kt	%	kt	g/t	Koz	
Indicated	122.9	2.9 0.79 970.7		0.61 743.8		0.39 1,528.3		
Inferred	225.6	0.77	1,733.0	0.60	1,362.1	0.34	2,498.3	

Source: compiled by RPMGLOBAL, 2024

Notes:

- 1- CIM Definition Standards (2014) were used to report 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 Mineable Shape Optimizer (MSO) at a metal price of US\$9,259/tonnes Cu and US\$1,900/oz Au, metallurgical recoveries of 85.0% Cu and 61.5% Au, resulting in a 0.35% CuEq cut-off and reported as per Section 14.
- 4-Foreign exchange rate of R\$5.10 to USD\$1.0.
- 5- Mineral Resources are reported inside the claim boundary.
- 4- Effective Date of June 30, 2024.
- 5- CuEq formula: CuEq = Cu grade + (Au grade x 0.03215 x (\$1,900 gold price x 61.5% gold metallurgical recovery / (0.01 x \$9,259/tonne copper price x 85.0% copper metallurgical recovery)
- 6- The numbers may not compute exactly due to rounding.
- 7- Mineral Resources are reported on a dry, in situ basis.
- 8- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- The Mineral Resources have been reported at a 100% equity stake and not factored for ownership proportions



RPM highlights that geological and internal dilution has been included in the mineralized interpretations; however, no ore loss or dilution factors have been applied. As such, the mineral resource estimate is considered undiluted.

The reported mineral resources have reasonable prospects for eventual economic extraction using underground mining methods. A CuEq cut-off sensitivity analysis was performed to understand the cut-off sensitivity within the total RPEEE mineral resource estimate. Table 1-2 presents the mineral resource sensitivity at a 0.6%, 0.8%, and a 1.0% CuEq cut-off grade.

Table 1-2 Mineral Resource Estimate Cut-off Grade Sensitivity Analysis

CuEq Cut-off	Category	Tonnage		CuEq		Cu	Au	
grade (%)		Mt	%	kt	%	kt	g/t	Koz
0.6	Indicated	66.4	1.10	730.5	0.84	555.3	0.55	1,179.9
0.0	Inferred	114.8	1.10	1,257.6	0.85	978.9	0.51	1,877.3
0.8	Indicated	51.2	1.22	624.1	0.93	477.9	0.60	984.5
0.6	Inferred	88.0	1.22	1,072.0	0.96	840.7	0.55	1,558.1
1.0	Indicated	35.2	1.36	479.8	1.04	364.7	0.69	775.3
1.0	Inferred	61.3	1.36	830.8	1.06	647.4	0.63	1,235.6

Source: compiled by RPMGLOBAL, 2024

# **Mining Method**

Vale conducted technical studies on hydrogeology and geotechnical aspects of the Furnas Project. The studies indicate good rock mass conditions and provide the first parameters for conceptual studies. The RPEEE indicates an underground mining scenario is preferred over surface mining methods. Ero is developing additional technical studies related to hydrogeology, geotechnical, and mining methods for the Furnas Project. These will improve the related models and provide additional information for further technical studies including future economic analysis.

# **Project Infrastructure**

The Furnas Project sits within fifteen kilometers of extensive regional infrastructure, including paved roads, airports, an industrial-scale cement plant, a power substation, and Vale's railroad loadout facility.

The regional infrastructure is adequate to support the project development and operation and includes access to water, power, road and railway logistics, airports, and medium-sized regional population centers.

# **Interpretation and Conclusions**

The QP is satisfied with the procedures and protocols performed by Vale, which followed industry best practices regarding core logging, sampling, QA/QC, and data validation.

In the opinion of the QP, the data and information provided by Vale and Ero is sufficient to complete this Technical Report, and no indication suggested any material error or misrepresentation during the review of the data and the preparation of the Report.

#### Recommendations

Based on the results of the mineral resources estimate and the conclusions of this Report, the QP recommends the following:

 Conduct a campaign of exploration and infill drilling at the Furnas Project to assess the continuity and limits of mineralization. Ero is planning up to 95,000m of drilling over the earn-in period, split into various phases, including resource infill drilling and exploration drilling, as outlined in the earn-in agreement.



- Initiate exploration programs that include geological mapping.
- Initiate geophysical surveys to confirm the continuity of mineralization at depth.
- Establish collaborative research programs to better understand the deposit's formation and the controls on mineralization to guide further exploration targeting.
- Conduct further processing and metallurgy tests to guide the project's upcoming advanced technical and economic studies.
- Conduct additional engineering studies to determine the economics of the Furnas Project.

The total estimated costs for the recommended work program, including all drill program phases as envisioned under the earn-in agreement, is US \$27.4 million.



# 2. INTRODUCTION

RPMGlobal Limited ("RPM") was engaged by Ero Copper Corp ("Ero", the "Company" or the "Client") to complete a Technical Report ("Technical Report" or the "Report") on the Furnas Copper Project (the "Project", "Property" or "Relevant Asset"), located in the Carajás Mineral Province, Brazil. This Technical Report conforms to the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101").

Ero is a publicly listed company that trades on the Toronto Stock Exchange and New York Stock Exchange under the ticker "ERO". Ero's principal asset is its 99.6% ownership interest in Mineração Caraíba S.A. ("MCSA"). MCSA's predominant activity is the production and sale of copper concentrate from the Caraíba Operations (formerly known as the MCSA Mining Complex), which is located within the Curaçá Valley, northeastern Bahia State, Brazil, and the development of the Tucumã Project (the construction was completed in 2024 and the project is currently ramping up to commercial production), located in Para State, Brazil. The Company also owns 97.6% of NX Gold S.A. ("NX Gold"), which owns the Xavantina Operations (formerly known as the NX Gold Mine), comprised of an operating gold mine located in Mato Grosso, Brazil.

In July 2024, Ero signed a definitive earn-in agreement ("Agreement") with Salobo Metais S.A, a subsidiary of Vale Base Metals ("VBM"), to earn a 60% interest in the Furnas Project upon completion of several exploration, engineering and development milestones over a five-year period. In exchange for its 60% interest, Ero will solely fund a phased work program during the earn-in period and grant VBM up to an 11.0% "free carry" on future Project construction capital expenditures. For additional details on the key terms and execution of the Agreement, please refer to the Company's press releases dated October 30, 2023 and July 22, 2024.

#### References:

- "Ero Copper", "Ero", "the Company," and "the Client" refers to Ero Copper Corp.
- "RPM" refers to RPMGlobal Limited and its representatives.
- "Project", "Furnas Project", "Property", "Furnas Property," or "Relevant Asset" refers to the Furnas Copper-Gold Project located in Brazil, which Vale S.A owns.
- Gold is described in grams per dry metric tonnes (g/t) with tonnage stated in dry metric tonnes.
- Copper is described in terms of percentage (%).

# 2.1 Site Visit

The RPM Team visited the project site from October 16th to 19th, 2023, to familiarize themselves with site conditions, sampling and sample handling procedures, core logging, and storage practices. They also discussed the technical aspects of the project with company personnel and VBM representatives.

During the visit, the RPM QP, along with representatives from Ero and VBM's technical teams, toured the core shed and project area. They reviewed core logging and sampling procedures, assessed mineral exploration efforts, and verified 21 drill holes by examining specific core intervals within the main mineralized zones and surrounding barren areas. The QP also discussed with the Company's staff regarding future exploration programs and technical work plans.

#### 2.2 Sources of Information

The author of the Technical Report reviewed the available project data and incorporated the results with relevant comments and necessary adjustments. Standard industry review procedures were followed throughout the report's preparation. The author leveraged the experience to assess the suitability of information from previous reports for inclusion and made adjustments as needed.



This Report contains technical information that requires subsequent calculations to derive subtotals, totals, and weighted averages. These calculations involve rounding, which may introduce a small margin of error. The author 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.

The primary source documents for the technical contents of this report were:

- Drill hole files (assay, collar, downhole survey, lithology, RQD, core recovery) in CSV format.
- Density measurements from drill holes in CSV format.
- QA/QC control samples.
- An orthophoto file in tif format; and
- A topography file in dxf format.
- Ero internal technical reports
- Vale internal technical reports
- Mr João Estevão (SDPM Consultants)

# 2.3 Participants and Responsibilities

The Qualified Person, Mr. Anderson Goncalves Candido, completed a site visit from October 16th to 19th, 2023, to review field procedures, previous works, and internal sample preparation. During this visit, RPM also observed and verified site geology, site conditions, sample handling procedures, and data quality. In addition, open discussions were held with company personnel and VBM representatives regarding the technical aspects of the project.

Project participants included:

- Mr. Anderson Goncalves Candido Author and Qualified Person for the Technical Report
- Mr. Stuart Smith Project Director
- Mr. Brian Hartman Principal Geologist
- Mr. Marcelo del Giudice Principal Metallurgist

#### 2.4 Effective Date

This Report, titled "Furnas Copper Project – Pará State, Brazil – NI43-101 Mineral Resource Estimate Technical Report", with effective date of June 30<sup>th</sup>, 2024, was prepared and signed by Qualified Person Anderson Goncalves Candido, a RPMGlobal Independent consultant.

#### 2.5 Limitations and Exclusions

RPM prepared this Report for Ero, which is subject to the terms and conditions of RPM's contractual engagement with Ero.

# 2.6 List of Abbreviations

The units of measurement used in this report conform to the metric system. Unless otherwise noted, all currency in this report is US dollars (US\$).



<u>Abbreviation</u> <u>Unit or Term</u>

Ai Abrasion Index

ANGLO Anglo American plc

ANM Agencia Nacional de Mineração (National Mining Agency)

Au Gold

BRHM Magnetite Hydrothermal Breccia

BWi Ball Mill Work Index

CKS Carajás Location

COB Overburden

Cu Copper

CuEq Copper Equivalent
CWi Crushing Work Index

DWT Drop Weight Test

Fe Iron

FF Iron Formation

FLONACA Carajás National Forest

FS Feasibility Study

g grams

g/t grams per tonne

HD Hydrothermalite

HDA Amphibole hydrothermalite

HDAM Amphibole hydrothermalite with magnetite

HDG Garnet-grunerite hydrothermalite

HDGM Garnet-grunerite hydrothermalite with magnetite

HDM Magnetite hydrothermalite
HPGR High-Pressure Grinding Roll

IATA International Air Transport Association

IBAMA Brazilian Institute of the Environment and Renewable Natural Resources

ICP Inductively Coupled Plasma

IOCG Iron oxide copper-gold mineral system

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k Thousand km kilometers

km<sup>2</sup> square kilometers

LCT Locked Cycle Test

m meter(s)
m³ cubic meter

MABA Modified Acid-Base Accounting

MCSA Caraíba Mining S.A.

Mn Manganese Mo Molybdenum

NAV net asset value

Oz Troy Ounces

Pb Lead pct percent

PEA Preliminary Economic Assessment

PELs Mining Rights

PGE Platinum Group Elements

ppm parts per million

QA/QC Quality-Assurance/Quality-Control

QP Qualified Person

RCL Chlorite-rich rocks

RFR Fresh rock
RPM RPMGlobal

RQD Rock Quality Designation

RSI Semi-weathered rock

RSL Silicic rock

RWi Rod Mill Work Index

SECTAM Executive Secretariat for Science, Technology, and the Environment

Sn Tin

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TTG Tonalite-trondhjemite-granodiorite geological terrains

USD US dollars

VBM Vale Base Metals

XAF Amphibolitic Schist

XTB Biotite schist



# 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 the author of this Report, where applicable, or based on observations made by the author of this Report.

The Qualified Person, as defined under NI 43-101, has relied on and believes there is a reasonable basis for this reliance, the contribution by the Company and João Estevão Júnior, of SDPM Consultants, who was engaged by the Company. The Qualified Person does not disclaim any responsibility for this information. The Qualified Person has relied on Ero, where applicable, for guidance on applicable taxes, royalties, and other government levies or interests applicable to revenue or income from the Project.

The Qualified Person has relied on the information provided by the Company regarding the background, history, ownership, and mineral rights, including land ownership and mineral rights status. The Qualified Person's scope specifically excluded all aspects of legal, political, land titles, and agreements, except where these factors directly impact technical, operational, or cost considerations.

The Qualified Person has not conducted research on 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 Furnas Project is located in the Carajás Mineral Province, within the municipalities of Parauapebas and Marabá in the southeast region of Pará State, Brazil (**Figure 4-1**). The coordinates of the center of the Property have a latitude of 5°54'20.98" S and a longitude of 50°00'37.26" W. The average altitude is approximately 370 meters. The Property has a total area of around 2,400 hectares. The deposit is approximately 20 km northwest of Parauapebas City and 18 km from the Carajás Urban Center.

**Figure 4-1** illustrates the location of the Furnas Project in relation to the Salobo and Paulo Afonso deposits, Ero's Tucumã Project, and other key copper, nickel, and iron ore deposits in the region.

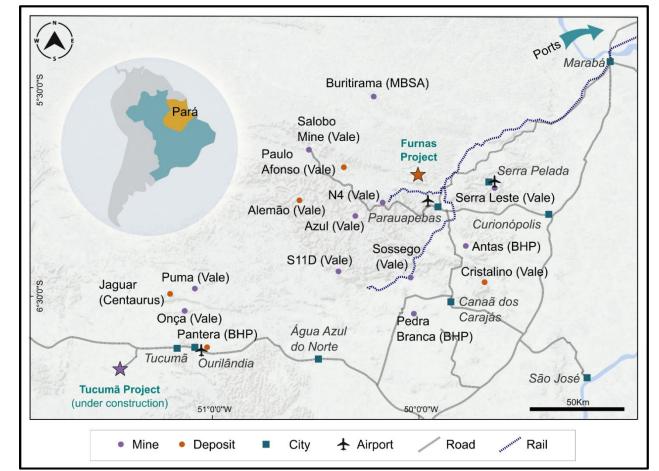


Figure 4-1 Furnas Project General Location Map

Source: Ero, 2024

# 4.1 Prospecting and Exploration Licenses (PEL)

The Furnas Project area is covered by two exploration permits under ANM processes 850.139/1995 and 856.384/1996, as presented in **Figure 4-2**.

For ANM process 850.139/1995 (permit number 12,957), the Final Exploration Report was submitted on July 31, 2008. The Final Exploration Report for ANM process 856.384/1996 (permit number 3,754) was filed on February 12, 2010. Both reports were approved, with a customary reduction in area to prevent overlapping permit boundaries, on July 5, 2011. The area for ANM process 850.139/1995 was reduced from 4,996.09 hectares to 4,904.39 hectares, while the area for ANM process 856.384/1996 was decreased from 5,000.00 hectares to 4,928.40 hectares. **Table 4-1** summarizes the legal status of the exploration permits for the Furnas Project.



**Table 4-1 Mineral Rights of Furnas Property** 

ANM process	Area(ha)	Municipality	Mineral	Holder	Exploration permit		Status	Current Status			
					Number	Date	Otatus	Garrent Status			
850.139/1995	4,904.39	Parauapebas	Nickel, Copper, and Gold	Vale S A	12957	07/13/2000	RFP release	on RFP approved, 07/05/2011			
030.139/1993	4,304.33	and Marabá	Thoron, Copper, and Cold	vale o.A.	12337	07/13/2000	07/31/2008	Mining concession application on 20/06/2014			
856.384/1996	4,928.04	Parauapebas	Gold, Copper, and Gold	Vale S.A.	\/ale S A	Vale S A	S.A. 3754	nn/ba/raag	04/20/1009	RFP release	on RFP approved, 07/05/2011
000.004/1990	4,920.04	and Marabá	Goid, Gopper, and Goid		3734	04/23/1990	02/12/2010	Mining concession application on 16/04/2013			

Source: compiled by RPMGlobal, 2024



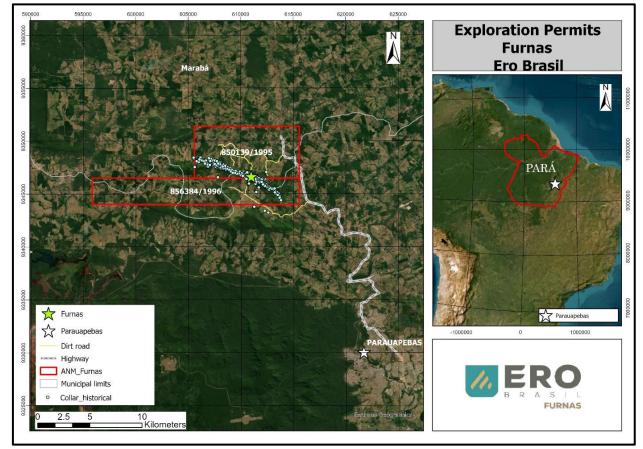


Figure 4-2 Location of Furnas Mineral Rights

Source: Ero. 2024

The deposit area includes portions of land owned by 30 different landowners, 26 of whom hold surface rights for settlements established by the Brazilian government, with each landowner typically owning approximately 35 hectares. The remaining landowners possess larger properties, exceeding 200 hectares, primarily in the southern part of the deposit.

# 4.2 Terms of the Earn-in Agreement

Furnas is an advanced-stage iron oxide copper gold (IOCG) deposit located approximately 50 kilometers southeast of Vale Base Metals (VBM) Salobo operations and around 190 kilometers northeast of Ero's Tucumã Project. With roughly 2,400 hectares, the project is situated within fifteen kilometers of extensive regional infrastructure, including paved roads, an industrial-scale cement plant, a power substation, and Vale's railroad loadout facility.

In July 2024, Ero signed a definitive Agreement with Salobo Metais S.A, a subsidiary of VBM, to earn a 60% interest in the Furnas Project upon completion of several exploration, engineering and development milestones over a five-year period. In exchange for its 60% interest, Ero will solely fund a phased work program during the earn-in period and grant VBM up to an 11.0% "free carry" on future Project construction capital expenditures. For additional details on the key terms and execution of the Agreement, please refer to the Company's press releases dated October 30, 2023 and July 22, 2024.

#### 4.3 Environmental Liabilities

The Furnas Project is located approximately 8 kilometers outside of the Carajás National Forest (FLONACA) conservation unit (**Figure 4-3**). The area is characterized by extensive pastures interspersed with preserved forest cover on topographic highs.



Floresta Nacional Tapirape-Aquiri
(IBAMA)

Project location

Tapirape-Aquiri National Forest

Deposito Furnas

Area de Preservação Ambiental

Floresta Nacional Carajás
(IBAMA)

Area Indígena Catete

LEGEND

Project location

Tapirape-Aquiri National Forest

Carajas National Forest

Carajas National Forest

Figure 4-3 Project location and environmental conservation units.

Source: Vale S.A., 2012

Since the first exploration programs conducted on the Furnas Project, prior owners have implemented environmental procedures related to vegetation suppression and drill platform rehabilitation, as well as other environmental aspects in compliance with Brazilian environmental law.

The Company received exploration permits and commenced its initial phase of exploration drilling in October, 2024. The Company will apply for new vegetation suppression permits in line with the planned exploration phases under the earn-in agreement following the national regulations. These permits and licenses are essential for project progression and subsequent development phases. To mitigate potential risks of delays, the company has already begun formal requests to government agencies for future exploration work on the Project.

The Qualified Person is not aware of any environmental liabilities associated with the Furnas Project, aside from the necessary permits for conducting work. To the best of his knowledge, there are no significant factors or risks that could impact access, title, or the right or ability to perform work on the property.



# 5. ACCESSIBILITY, CLIMATE, LOCAL INFRASTRUCTURE AND PHYSIOGRAPHY

RESOURCES,

# 5.1 Physiography and Climate

The Furnas region, located within the Carajás mineral province, features diverse topographical characteristics. The central Carajás area is marked by rugged mountains with steep slopes, contributing to a varied topography that may include deep valleys, expansive plateaus, and prominent escarpments, depending on the specific location within the region.

The project region's elevation is characterized by its highland plateaus and hills, with an average elevation of around 500 meters. The minimum elevations in the area are close to 200 meters, found in the lower foothills and river valleys, while maximum elevations reach approximately 900 meters at the highest points of the plateaus.

Vegetation in the Furnas area is also diverse and influenced by factors such as altitude, soil composition, regional agricultural activities, and local climate conditions. While the landscape varies across different vegetation types, tropical forests are a notable feature.

The hydrology of the Furnas region is defined by a network of rivers and streams that are vital for local drainage and ecosystem health. The hydrographic system of the Furnas Project is part of the Tocantins-Araguaia macro-hydrographic region (**Figure 5-1**-A and **Figure 5-1**-B), specifically situated within the microregion of the Itacaiúnas River basin (**Figure 5-1**-C). This hydrographic area includes the Gameleira, Sapucaia, and Pilão streams, all located on the left bank of the Parauapebas River(**Figure 5-1**-D and **Figure 5-1**-E). In **Figure 5-1**-E, the dotted line indicates the municipal boundary between Parauapebas to the south and Marabá to the north.

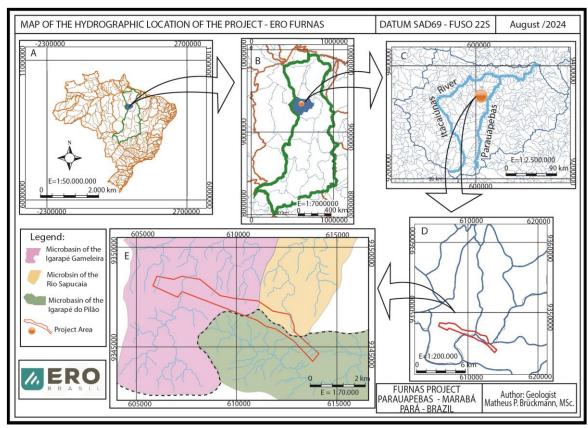


Figure 5-1 Map of the hydrographic location of Furnas Project

A) Tocantins River Basin in Brazil; B) Itacaiúnas River Basin; C) Project area within the Itacaiúnas Basin; D) Layout of the project area within the micro-basins; E) Detail of the project area and the three surrounding micro-basins.

Source: Ero, 2024

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One of the most significant water bodies in the area is the Itacaiúnas River, which flows through the Carajás region. This river serves not only as a vital water source but also plays an important role in the region's ecological system.

The climate in the project area is typically equatorial, with slight variations in the average monthly temperatures throughout the year. The average maximum temperature is 32°C, while the average minimum is 22°C. There are two distinct seasons: a warm and dry winter and a wet and humid summer. Approximately three-quarters of the annual precipitation occurs from December through April. In August, the average rainfall is about 10 mm, whereas in January, February, and March, monthly rainfall can exceed 200 mm. As a result, water availability for any planned future mining activities in the region is abundant and easily accessible. **Figure 5-2** presents the climate data for the project area, indicating an annual average rainfall of 2,000 mm. Given these climatic conditions, exploration and operations can occur year-round.

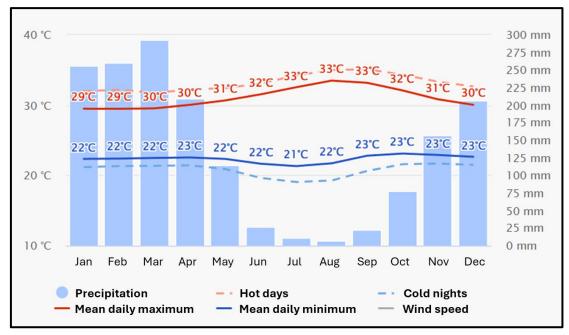


Figure 5-2 Average monthly temperature and rainfall at Project Region

Source: Meteoblue.com, 2024

# 5.2 Accessibility, Infrastructure, and Local Resources

The Furnas region is accessible through various transportation systems. The primary access route is from Parauapebas City along the Faruk Salmin municipal road, which spans approximately 5 kilometers and serves as the initial point of access to the area. From there, a 35-kilometer unpaved road leads to the target area within the deposit. Alternatively, helicopter access is available from the Carajás Urban Center, with a flight time of approximately 10 minutes to the project site. These access options are essential for logistical support, equipment transportation, and personnel movement in and out of the region. The development and maintenance of infrastructure within the broader Carajás region are closely linked to mining and project development facilities, ensuring that the site remains accessible year-round.

#### Infrastructure & Resources

- Rail Network: One of the key features of Carajás is the Carajás Railway, operated by Vale S.A. This
  railway system has 892 km of extension and is primarily used to transport iron ore and other minerals
  from the region to the ports. The railway's loading facility is located approximately 15 km southeast of
  the deposit.
- Roads: In addition to the railway, the region has an extensive network of roads, some of which are paved, connecting various mining sites and communities in the area.



- Airports: Carajás is served by the Carajás Airport (IATA: CKS), which provides domestic flights to major Brazilian cities. This airport is important for facilitating the movement of personnel and equipment to and from the region.
- Ports: Vale S.A. operates ports in the city of São Luís, Maranhão state, such as the Ponta da Madeira Terminal, which serves as a vital export hub for the mining industry from the Carajás region.
- Mining Infrastructure: The region hosts numerous mining suppliers and consulting companies that offer
  a wide range of services for mining operations and exploration projects. Local businesses provide
  essential services such as equipment maintenance, transportation, and catering to support these mining
  activities.
- Housing and Accommodation: Parauapebas and Marabá offer housing and accommodation facilities for the workforce, including residences, schools, hospitals, and other amenities for employees and their families.
- Research and Environmental Monitoring: Due to the emphasis on environmental stewardship, there are research facilities and environmental monitoring stations dedicated to studying and mitigating the impacts of mining activities on the local ecosystem.
- Energy Infrastructure: Adequate energy infrastructure, including power generation and distribution, is available in the region.
- Labour Personnel: Parauapebas and Marabá provide access to a skilled labor force, which is crucial
  for the mining industry. Employment opportunities in mining contribute significantly to the local
  economy.



# 6. HISTORY

The exploration and development of mineral deposits within the Carajás region began in the 1960s and 1970s when the Brazilian government initiated geological surveys and assessments. Initial exploration work included geological surveys and field assessments, during which extensive stream sediment sampling identified a significant anomaly known as the Mutum Target. Additionally, a soil sampling program during this period revealed further copper anomalies within the project area.

From the 1980s to the 1990s, exploration activities in the project were minimal. However, in 1993, a high-resolution geophysical survey using aerial magnetometry, gamma spectrometry, and electro magnetometry confirmed the earlier anomalies. In 2001, another soil sampling program was conducted, which expanded the previously identified anomalies and reaffirmed the property's geological potential.

Mineral right number 856.384/1996 was staked by Vale S.A. in 1996, and Vale subsequently conducted exploration, including drilling programs detailed in this report. Mineral right number 850.139/1995 was previously owned by Anglo American plc, which initiated geological work and several phases of drilling on the project. Vale S.A. acquired these mineral rights in 2006 and continued development with an additional drilling campaign to investigate the area in detail.

In 2001, exploration activities resumed with geological mapping and reopening the soil sampling grid to confirm a broader copper-gold anomaly coinciding with airborne magnetic anomalies. The project was renamed Furnas (prior to 2001 it was referred to as the Rio Itacaiúnas Project).

Exploration drilling on the Project was conducted in four phases from 2001 until 2012. A total of 284 diamond drill holes were completed, totalling 90,154 meters of drilling.

- Phase I ANGLO: The initial sub-phase commenced in 2001, and the last of four sub-phases was completed in 2006. Nineteen drill holes were completed, totalling 6,101 meters of drilling to verify the northern area and to test the lateral and depth extent of mineralization.
- Phase II PKC-FURN-FD: Commenced in 2003 and was completed in 2005. A total of 34 holes were completed, totalling 9,009 meters of drilling, with the objective of testing additional anomalies in the southern area of the project.
- Phase III PKC-FURN-DH: Commenced in 2005 and was completed in 2007 to verify lateral extension of mineralization. A total of 65 holes were completed for a total of 22,267 meters of drilling.
- Phase IV FUR-FURN-DH: Commenced in 2010 and was completed in 2012. An infill drilling program
  covering both the northern and southern areas. A total of 166 holes were completed for a total of 52,777
  meters of drilling.

In 2023, Ero Corp announced it entered an Earn-In Agreement with Vale Base Metals (VBM) to jointly explore and develop the Furnas Property. Under this agreement, the Company will cover 100% of the future expenditure on exploration and project development activities.

The QP is unaware of any prior Mineral Resource Estimate conducted for the project.



# 7. GEOLOGICAL SETTING AND MINERALIZATION

# 7.1 Regional Geology

The Furnas Project is located in the Carajás Mineral Province, known for its diverse range of mineralization (Monteiro et al., 2014), including the world's largest high-grade iron ore assets, and several large-scale deposits of Cu-Au (copper-gold), nickel laterite, manganese (Mn), gold (Au), and platinum group elements (PGE). This remarkable variety of seemingly distinct mineral deposits within the same province is the result of a complex geological and metallogenetic evolutionary process unique to the Carajás region.

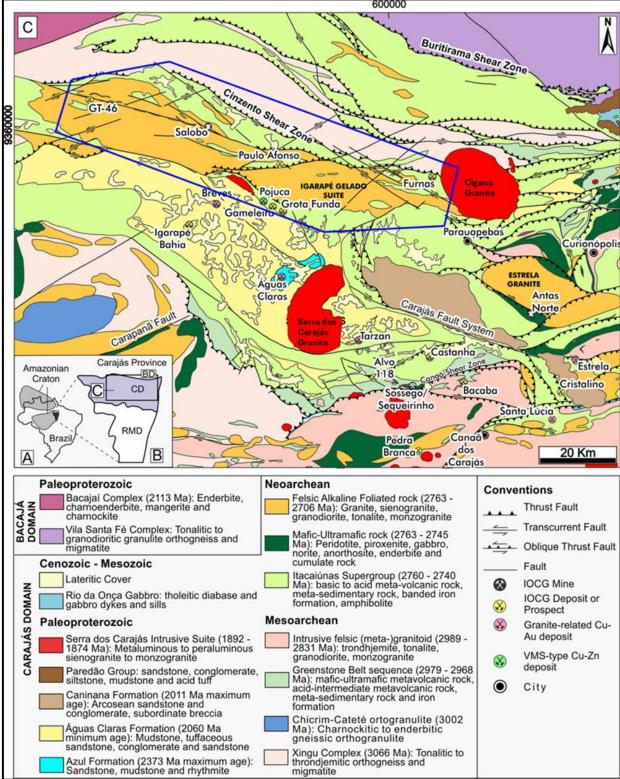
The Archean Carajás Province, located in the southern part of the Amazonian Carton in Brazil, is divided into two distinct structural domains (Vasquez et al., 2008) (**Figure 7-1** and **Figure 7-2**):

- Rio Maria Domain (south): Mesoarchean metavolcanic-sedimentary sequences of Andorinhas and Serra do Inajá Supergroups, with three main Mesoarchean magmatic events. The Paleoproterozoic sedimentary sequences of the Rio Fresco and Gemaque Groups cover the rocks.
- Carajás Domain (north): Mesoarchean basement rocks overlain by the Neoarchean metavolcanic-sedimentary units of Rio Novo Group and Itacaiúnas Supergroup, and the Paleoproterozoic metasiliciclastic Águas Claras Formation. Gneisses, migmatites (Xingu Complex), and orthogneisses (Pium Complex) form the oldest core of the Amazonian Craton (with a minimum Pb-Pb age of 3.05 billion years). They are observed at the base of the Carajás stratigraphic sequence. These terrains have undergone multiple deformation events characterized by intense compression and heating, resulting in migmatites. The Andorinhas Supergroup's supracrustal rocks are found within these terrains.
- In contrast, the Carajás volcano-sedimentary terrain, aged around 2.7 billion years (U-Pb in zircons), does not resemble other Archean geological formations globally. Unlike typical granite-greenstone terrains formed in magmatic arcs, the Carajás terrain developed in an intra-cratonic basin within a rift zone.

These different tectonic-magmatic regimes of the greenstone belts of the Andorinhas Supergroup and the rift sequences of Carajás resulted in distinct metallogeny for the two types of terrains. Quartz-gold veins in shear zones are the primary deposit type in the Andorinhas Supergroup, characterized by a compressional tectonic regime during continental accretion.



Figure 7-1 Map of the Carajás Mineral Province. 600000



A: Location of the Province within the Amazonian Craton. B: Division of the Carajás Mineral Province into Rio Maria (RMD) and Carajás (CD) domains. C: Geological map of the Carajás Domain with the major north mines and deposits highlighted. Source: Toledo et al., 2024.



Araguaia Supergroup Group Tocantins Fm Couto Quartzite, Schist and Ultramafic Rocks 1856 +/ Ma Acid and Moderate Tuff and Volcano Gorotire / Fm Paredão Conglomerates and Arenites I Group Buritirama Fm Iriri / Fm Sobreiro API Mica Rock, Limestone with Manganese Lenses Fm Aguas Claras Conglomerate, Sandstone, Siltstone and Argillaceous Rock œ RATIG Fm Cigarra Basalt, Sandstone and Rhyolite 2743 +/- 11Ma Banded Iron Formation Fm Carajas 2750 +/- 2Ma Quartzites and Phyllites 3000 +/- 100M Acid Ultramafic, Mafic and Metamorphic Volcanic Rocks, Chemical and Clastic Metamorphic Sediments 3002 +/- 14Ma Gneiss, Migmatite, Granulite and Amphibolite INTRUSIVE Olivine diabase (Cururu) 150 a 180 Ma NeoArquean Granites 2750 +/- 20Ma Gabbros and basic dikes Mafic - ultramafic complex and granodiorite 2763 +/- 6Ma 2860 +/- 40Ma 1850 +/- 50 Ma Paleoproterozoic granites Middle Archean quartzite, Tronje diorite and granodiorite

Figure 7-2 Stratigraphy of the Carajás Mineral Province.

Source: Vale S.A., 2012

Approximately 200 million years after the TTG (tonalite-trondhjemite-granodiorite) terrains, extensional tectonic events occurred at 2.76 billion years, leading to the formation of graben-horst systems in which the Grão-Pará Group was deposited. This group includes the bimodal volcanism (basalt-rhyolite) of the Parauapebas Formation and the thick volcanogenic-exhalative pile of the Carajás Formation. The latter hosts the iron ore deposits of Serra Norte, Serra Sul, and Serra Leste (total reserves and resources of 8.9 billion tons at 65% iron, Vale 20F Form, 2022). This was followed by the development of a wide basin with the deposition of detrital units of the Águas Claras Formation over an estimated 100 million years (Trendall et al., 1998).

The extensional tectonic regime that played a role in the formation of the Carajás rift resulted in iron (Fe) and iron-copper-gold (Fe-Cu-Au) deposits, as well as gold-platinum group metals (Au-PGM) and platinum group metals-nickel (PGM-Ni) deposits associated with ultramafic intrusive bodies (e.g., Luanga, Onça, and Puma). Around 2.57 billion years ago, a trans-tensional tectonic event led to the subsidence of rocks in the Carajás Basin and the Cinzento Transcurrent System and was accompanied by intense potassic-sodic-ferric hydrothermal activity in extensional zones. This event was responsible for the formation of several known IOCG deposits such as Alemão, Salobo, Cristalino, Sossego, Grota Funda, and Furnas.

A subsequent period of extensional tectonic movement and hydrothermal activity occurred around 1.85 billion years ago, known as the Uatamã event in the Amazon region. This event gave rise to orogenic granitic magmatism, such as the Carajás Granite, and the influx of hydrothermal fluids rich in Cu, Au, Mo and Sn. This event is responsible for the formation of mineral deposits such as Breves, Gameleira, and Águas Claras.

#### 7.2 Local Geology of Furnas Property

Mineralization at Furnas Project extends for 9 km along the 100 km-long NW-SE Cinzento Transcurrent System This system also hosts the Cu-Au Salobo deposit and represents the northern boundary of the Carajás Mineral Province.

Within the deposit area, there are metasedimentary siliciclastic rocks that have been correlated with the Águas Claras Formation and metavolcanic rocks apparently correlated with the Grão Pará Group, both of Archean age. In the mineralized zone, the rocks are commonly deformed and hydrothermally altered, and

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their original protoliths are often unrecognizable. The basement for these two sequences is composed of granitoids and gneisses, informally referred to as the "Furnas Granite" unit, which are prominently exposed in the western part of the deposit. The entire lithological assembly of the Furnas trend is cut to the east by the Paleoproterozoic Cigano Granite (ca 1.88 Ga, Machado et al., 1991).

The Furnas Project is geologically related to the Salobo mine through the Cinzento shear zone, which exhibits a strong relationship with the copper mineralization trend of the northern Carajás. The QP is of the opinion that the size and scale of the Salobo mine are not indicative of the stage, extent of mineralization, or economic potential of the Furnas Project.

#### 7.2.1 Lithotypes

The lithotypes in the deposit area have been grouped into three packages: the footwall sequence, the mineralized zone, and the hanging-wall sequence (**Figure 7-3**).

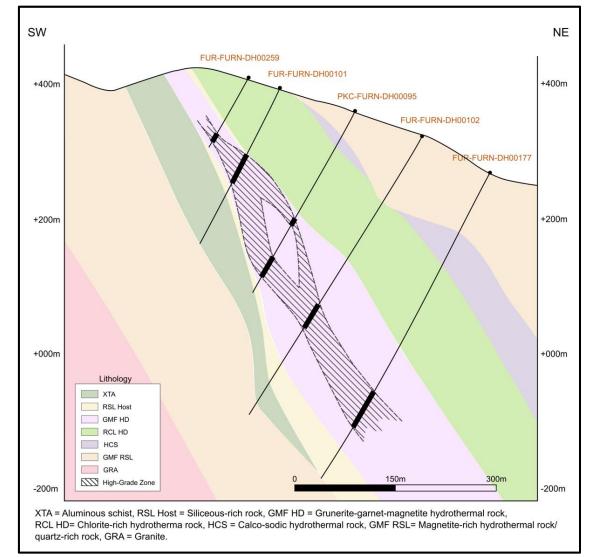


Figure 7-3 Cross-section (NE-SW direction) in the North-west Project area

Source: Ero, 2023

# **Footwall Sequence**

The footwall sequence, primarily composed of aluminous schists, occurs to the south of the deposit and has the largest spatial distribution among the local sequences. It is predominantly composed of muscovite-biotite-quartz-(garnet) schists with late-tectonic porphyroblasts of andalusite, kyanite, staurolite, sillimanite,



cordierite, and subordinately, tourmaline (**Figure 7-4**). Andalusite is the dominant aluminosilicate and is often replaced by chlorite.

This aluminous sequence also contains quartzite lenses and locally fine bands of magnetite-quartz-biotite-chlorite rocks, suggesting deformed and partially recrystallized iron formations.

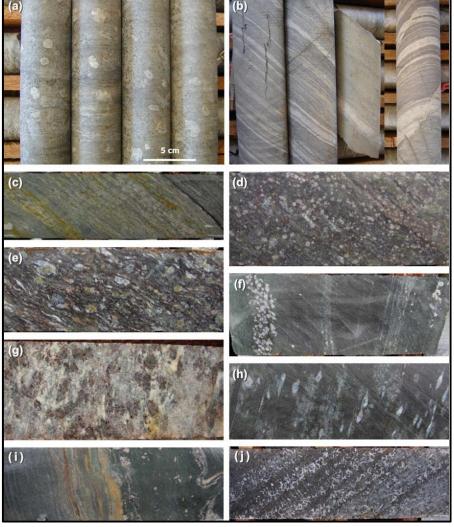


Figure 7-4 Lithotypes of the Footwall Sequence

a) Biotite-muscovite schist with andalusite porphyroblasts;
 b) Banded iron formation;
 c) Muscovite-quartz-biotite-garnet schist;
 d) Biotite-garnet schist;
 e) Biotite-quartz-andalusite schist with partially replaced andalusite;
 f) Biotite-garnet schist with garnets;
 g) Biotite-muscovite-andalusite schist with andalusite porphyroblasts;
 h) Biotite-andalusite schist;
 i) Iron formation with magnetite-quartz-biotite (left corner) and chlorite-quartz-amphibole (right corner);
 j) Biotite schist with kyanite bands.

Source: Vale S.A., 2012

#### Mineralized Zone

The shear zone that hosts copper and gold mineralization is characterized by intense hydrothermal alteration and deformation. It is primarily composed of siliceous rocks and rocks containing biotite, garnet, grunerite, and magnetite. Interspersed within these rocks are bands of massive magnetite and grunerite-garnet rocks rich in magnetite. Siliceous rocks in this zone include biotite-quartz schist, garnet-quartz schist, and massive quartz rocks (**Figure 7-5**). There is no evidence of exotic rocks in this structural zone.

The rocks in this zone are similar to those in the hanging-wall and footwall sequences. However, they exhibit assemblages rich in biotite, garnet, grunerite, and magnetite and display a high degree of deformation resulting from hydrothermal alteration processes.



The term "hydrothermalite" is used here to describe these rocks with intense hydrothermal alteration, where their original characteristics – mineralogy, texture, and structure – have been obliterated, and new minerals have been formed.

Garnet-grunerite hydrothermalites with or without magnetite (HDG / HDGM) are represented by rocks containing garnet, grunerite, varying percentages of magnetite, and quartz and biotite. Typically, these rocks exhibit foliation with preserved large garnet crystals. Hydrothermalites also occur, although in a restricted manner, in the footwall sequence, associated with aluminous schists and iron formations.

Magnetite hydrothermalite (HDM) consists primarily of magnetite and subordinately garnet and grunerite. This rock is the primary host of Cu-Au mineralization.

Amphibole-bearing hydrothermalites with or without magnetite (HDA / HDAM) are generally greenish and exhibit isotropic foliated textures. They consist of amphibole, commonly altered to biotite, chlorite, and magnetite. Sulfides (chalcopyrite and/or bornite) occur disseminated or in veins. This hydrothermalite represents a relatively low volume in the deposit but contains the highest copper grades.

Siliceous rocks (RSL) are rich in quartz and may preserve primary textures or appear massive, mylonitic, or brecciated, occasionally with a chalcopyrite matrix. These rocks result from a silica-rich hydrothermal process over different protoliths, such as granitoid rocks and quartzites.

Chlorite-rich rocks (RCL) occur in the NW portion of the deposit and likely result from lower-temperature hydrothermal processes over granitoids. Associated with these rocks are breccias composed of chlorite, hematite, silica, albite, and magnetite, with veins of carbonate (siderite) / quartz/epidote/albite/tourmaline/biotite, sometimes mineralized with chalcopyrite and pyrite.

Biotite schist (XTB) is widely distributed throughout the deposit and occurs near the mineralized zone. This rock exhibits mylonitic foliation marked by biotite and elongated quartz lenses and contains varying amounts of magnetite and garnet. Chalcopyrite occurs as disseminated within the rock and in vein-like structures.

The Furnas granite is often hydrothermally altered and brecciated, commonly exhibiting hematite infiltrations.



(a) (b) (d) (h)

Figure 7-5 Lithotypes of the Mineralized Zone

 a) Garnet-grunerite hydrothermalite; garnet porphyroblasts; b) Magnetite hydrothermalite; c) Amphibole-bearing hydrothermalite; d) Biotite schist with garnet bands; e) Brecciated granite; f) Andalusite-biotite schist; g) Gruneritegarnet-magnetite hydrothermalite; h) Siliceous rock; i) Biotite-grunerite-garnet hydrothermalite; j) Siliceous rock with fractures filled with fine hematite.

Source: Vale S.A., 2012

#### Hanging-wall Sequence

The hanging-wall sequence is composed of amphibole schists, primarily consisting of grunerite, chlorite, and biotite, overlain by muscovite-quartz schists and quartzites with discontinuous thin layers of iron formations (**Figure 7-6**). The amphibole schists are interpreted as products of deformation and metamorphism of mafic metavolcanic correlated with the Grão Pará Group.



(c)

Figure 7-6 Lithotypes of the Hanging-wall Sequence

a) Amphibole schist; b) Red-banded quartzite; c) Chlorite and magnetite-bearing rock. Source: Vale S.A., 2012

#### 7.2.2 Hydrothermal Alteration and Metamorphism

The Furnas Project displays features and mineral paragenesis indicative of a regional metamorphic event responsible for the generation of amphibole schists and kyanite-andalusite-biotite-muscovite schists. Additionally, there is evidence of a later hydrothermal event with potassic-calcic alteration accompanying the copper-gold mineralization. The distinct mineralogy of the deposit, characterized by abundant biotite, garnet, grunerite, and magnetite, suggests a syn-deformational hydrothermal alteration typical of the IOCG systems in Carajás.

The deposit exhibits two distinct styles of hydrothermal alteration: a deeper, high-temperature style and a shallower, lower-temperature style. The deep hydrothermal alteration style consists of an assemblage of biotite-garnet-grunerite-magnetite (chalco-potassic and ferric metasomatism). This alteration is also associated with the Cu-Au mineralization in the Gameleira - Grota Funda, Alemão, Salobo (fayalite with grunerite), and Sequeirinho (actinolite replacing grunerite) deposits.

In the NW portion of the deposit, an assemblage composed of epidote-chlorite-specular hematite occurs, which is associated with both well-foliated to mylonitic rocks and brittle deformation styles. This assemblage likely represents a lower-temperature calcic alteration that transitions to a hydrolytic assemblage (hematite-sericite-carbonate-chlorite), indicative of structurally higher levels in the IOCG systems.

At present, it is not clear whether this lower-temperature assemblage represents an edge zone of the Furnas system or if it consists of a shallower level within a high-temperature system at depth (Figure 7-7). If the narrower intervals of high-grade mineralization in the NW portion of the deposit are indicative of the upper portion of the IOCG system, then there is potential for more substantial high-grade mineralization at depth.



Change in higher levels, low temperature

Calco-potassic alteration, high temperature

Late granite cutting tothrough hydrothermally altered rocks

Surface

Not to scale

Figure 7-7 Hydrothermal Alteration Zones Geometry Model - Furnas Project

Source: Vale S.A., 2012

#### 7.2.3 Structural Model

The Furnas shear zone is a prominent linear feature evident in satellite images and aeromagnetic surveys situated in the central portion of the Cinzento Shear Zone. In the deposit area, the strongest hydrothermal alteration zone runs continuously along this structure, with widths ranging from 100 to 200 meters.

The proposed structural model for the deposit suggests that it was formed in extensional corridors (dilatational jogs) along the NW-SE shear zone (approximately N65W direction) with both strike-slip and dip-slip components (**Figure 7-8** and **Figure 7-9**). Recent studies indicate greater kinematic complexity, with indicators of dextral, sinistral, reverse, and normal movements, requiring further investigation for conclusive results.

The magnetite, chalcopyrite ± bornite breccias, exhibit cataclastic and hydrothermal foliations parallel to the pre-mineralization mylonitic foliations, with the implication that brittle deformation and hydrothermal alteration of the mineralizing event occur within pre-existing ductile shear zone. These foliations are defined by IOCG alteration minerals (grunerite, garnet, biotite, etc.), indicating that mineralization formed during episodic events of hydrothermal fluid ingress.

Furnas has multiple hydrothermal phases superimposed, characterizing a complex hydrothermal system that developed during progressive deformation over previously ductile shear zones.

The shear zone (foliations) has an average orientation of 300°/45° (strike/dip direction), parallel to the mineralized envelope directions. As depicted in **Figure 7-9**, high-grade mineralized shoots occur with shallow plunges, ranging from WNW to ESE.



Soil Geochemistry - Cu Interpolation

Cu above 200ppm (P<sub>ERS</sub>)

Drillhole collar

Cinzento shear-zone (inferred)

Projection UTM
Zone 225

Figure 7-8 Mineralization trend overlain on topographic contours

Source: Ero, 2023

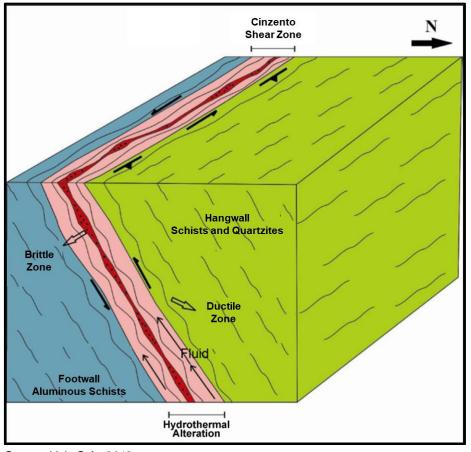


Figure 7-9 Shear Zone 3D Mineralization Model

Source: Vale S.A., 2012



#### 7.3 Project Mineralization

The mineralized zone is situated between the amphibole schists (metavolcanic rocks) and aluminous schists, presenting an anastomosed tabular shape oriented N65W and dipping between 40° to 70° to the NE, in conformity with the host rocks. However, local variations occur depending on each structural domain within the deposit. The mineralized zones, especially those with high grades (>1% Cu), have a plunge of 30° to 40° to the SE.

The southeastern portion of the deposit has been more extensively explored through drilling and is where the thickest mineralized intersections are found, reaching up to 131 meters in thickness.

The mineralized zone has a known panel thickness of around 131 meters and remains open at depth. Drill holes indicate that the weathering profile has an average thickness of 60 meters in the southeastern portion and 100 meters in the northwestern portion of the deposit. This weathering front separates the saprolitic/oxidized ore from the sulfide mineralization.

#### 7.3.1 Mineralized Zones

#### Saprolitic / Oxidized Mineralization

The Project features a well-developed weathering profile. The average thickness is 5.6 meters of soil/cover; the semi-weathered rock begins at 40 meters, and fresh rock starts occurring at about 76 meters (thickness estimated based on 22 drill holes conducted to characterize oxidization profile). However, these depths can vary widely depending on the location and the degree of lithological resistance to weathering.

Copper is concentrated at the base of the weathering profile near the contact with fresh rock. There is a clear relationship between Au and Ag assay results and higher Cu grades.

The primary minerals of the weathered zone are quartz, chlorite, biotite, garnet, kaolinite, and Fe oxyhydroxides. Higher copper grades are associated with increased biotite content. In contrast, more significant gold occurrences, generally found in the more weathered portions of the deposit, are richer in quartz and Fe oxy-hydroxides.

#### **Sulfide Mineralization**

Sulfide mineralization occurs primarily as chalcopyrite with subordinate bornite. However, in high-grade zones, chalcopyrite and bornite occur in equal abundance. Gold grades are generally significant and consistent (0.39 g/ton), a distinctive feature of the deposit.

The project's mineralization can be grouped into four main styles: vein, disseminated, massive, and brecciated (**Figure 7-10**).

The vein style is the most prevalent part of the project. Veins consist of chalcopyrite and, to a lesser extent, bornite, pyrrhotite, and pyrite, usually showing a stronger affinity with siliceous rocks, biotite schists, and amphibole hydrothermalites (**Figure 7-10**a).

The disseminated style of mineralization consists of chalcopyrite with subordinate bornite, or chalcopyrite and bornite in similar proportions. It occurs primarily associated with hydrothermalites rich in garnet-grunerite-magnetite (**Figure 7-10**b).

The massive style is composed of centimeter-thick bands rich in chalcopyrite with subordinate bornite. It has a limited distribution and is not associated with a preferential lithotype (**Figure 7-10**c).

The brecciated style is characterized by irregular infiltration of mineralization and gangue that can isolate host rock fragments (**Figure 7-10**d and e). Breccias are more developed in amphibole hydrothermalites and biotite schists.



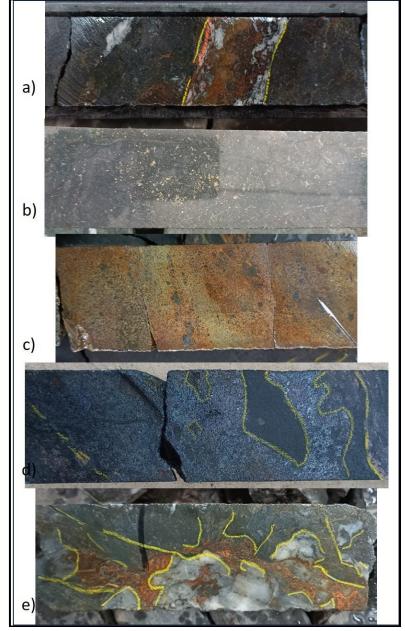


Figure 7-10 Furnas Project Mineralization Styles

a) Centimetric vein with chalcopyrite, magnetite, and quartz, cutting hydrothermalite to magnetite. b) Chalcopyrite is disseminated from hydrothermalite to magnetite. c) massive chalcopyrite cutting hydrothermalite to magnetite. d) hydrothermal breccia with bornite in the matrix, cutting hydrothermalite to magnetite. e) hydrothermal breccia with chalcopyrite in the matrix, cutting hydrothermalite to quartz. Source: Vale S.A., 2012

#### 7.3.2 Ore Typology

Based on the mineralogical paragenesis of the hydrothermal alteration, the sulfide ore in the deposit has been classified into the following types: siliceous rock (RSL), biotite schist (XTB), garnet-grunerite hydrothermalite, with or without magnetite (HDG/HDGM), magnetite hydrothermalite (HDM), and amphibole hydrothermalite, with or without magnetite (HDA/HDAM) (**Figure 7-11**).



Figure 7-11 Typology schematic sequence of the mineralized zone

HANGINGWALL: amphibole schists and quartzites
HOSTS:
Magnetite hydrothermalite
Garnet-grunerite-magnetite hydrothermalite
Amphibole-magnetite hydrothermalite
Biotite schist
Siliceous rock
FOOTWALL: Andalusite-biotite-muscovite schists

Source: Vale S.A., 2012

The siliceous rock type (RSL) is the most abundant and widely distributed along the shear zone, with a more pronounced presence in the southeastern part of the deposit. The types HDM, HDG, and HDGM are the main units of potential economic significance due to their highest and most consistent copper and gold grades. Below are descriptions of the main textural and petrographic aspects of these mineralization types:

**Garnet-grunerite hydrothermalite, with or without magnetite - HDG/HDGM**: This rock type is primarily composed of alternating bands of grunerite intercalated with garnet-rich bands, with varying percentages of magnetite and/or biotite. Porphyroblasts of garnet are common in the grunerite-rich bands, typically deformed and partially replaced by biotite/chlorite and sulfides. Bornite is the principal copper sulfide, with subordinate chalcopyrite, along with some chalcocite. The sulfides are intimately associated with late-stage quartz-feldspar pockets and veins.

**Magnetite hydrothermalite - HDM**: This banded rock consists of alternating layers of magnetite and amphibole (grunerite, hastingsite, actinolite, or hornblende) and quartz. It can be composed almost exclusively of magnetite (magnetites). Sulfidation predominantly occurs disseminated throughout the rock or in the form of stringers and quartz veins. Chalcopyrite is the main copper sulfide, occurring as coarse intergranular grains and fine inclusions in magnetite and amphiboles. Bornite and chalcocite occur in trace amounts.

Amphibole hydrothermalite, with or without magnetite - HDA/HDAM: This rock type consists of mylonitic rocks rich in hornblende with varying amounts of quartz, biotite, and chlorite. The mylonitic foliation (Sn) is defined by the orientation of biotite and chlorite sheets, with grunerite and hastingsite prisms surrounding garnet porphyroblasts. Chalcopyrite is the dominant copper sulfide and occurs in veins parallel or discordant to the Sn foliation. Bornite is locally predominant and often associated with chalcocite.

**Biotite schist - XTB**: This rock type consists of quartz-garnet-biotite schist with foliation defined by the biotite flakes. Quartz veins and garnet porphyroblasts, partially replaced by chlorite, quartz, potassic feldspar, and sulfides, occur along the foliation. Copper mineralization is irregular, occurring as disseminations and in fractures/quartz-feldspar veins. Biotite is locally chloritized and contains mineral inclusions with metamictic halos. Bornite is the primary copper sulfide, with some replacement by chalcocite.

**Siliceous rock - RSL**: At the microscopic level, this rock type preserves features of the originally metamorphosed sedimentary rocks (metarenites and metarkoses). Those interpreted as metarenites consist of granoblastic aggregates of quartz, with incipient foliation defined by discontinuous seams of biotite/chlorite and muscovite, associated with garnet, apatite, and ilmenite. The metarkoses are essentially composed of feldspars, with subordinate chlorite and quartz, with foliation defined by the muscovite sheets associated with Ti oxides. The predominant style of mineralization is brecciated, with a matrix of chalcopyrite and subordinate bornite.

#### 7.3.3 Litho-structural Controls of the Mineralization

The Project can be divided into five litho-structural domains based on host rock, structure, hydrothermal alteration, and mineralization characteristics (**Figure 7-12** and **Table 7-1**):

In Domain 1, at the extreme NW of the deposit, chloritic rocks predominate.



- In Domain 2, in the NW portion, the mineralized grunerite-garnet and the magnetite hydrothermalites occur, as well as thick bands of hematite breccias at the surface and magnetite breccias at depth.
- In Domain 3, in the central portion of the deposit, the hydrothermal package and the mineralization are less extensive.
- In Domain 4, in the southeast part of the deposit, grunerite-garnet hydrothermalites, with or without magnetite, associated with extensional structures, predominate; and subordinately, there are RSL and XTB, often forming breccias enveloping the richest part of the deposit (HDG HDGM HDM).
- In Domain 5, at the extreme southeast of the deposit, fractured and brecciated siliceous rocks predominate.

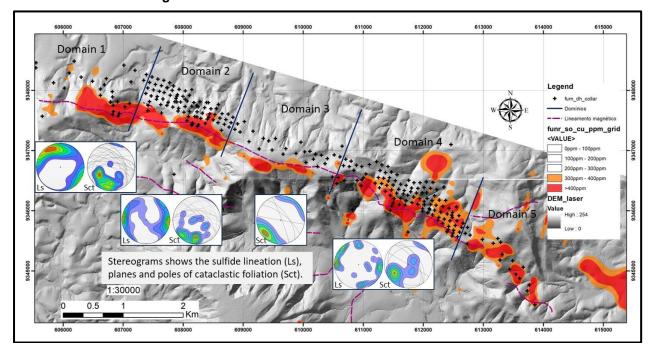


Figure 7-12 Mineralization trend and structural domains

Source: Ero, 2023



Table 7-1 Litho-Structural Domain Characteristics.

	Domain 1 D		Domain 2	Domain 3	Domain 4	Domain 5	
Ore minerals Cpy > Py > Mo Cpy >		Cpy > Py > Bor > Mo	Cpy > Py > Mo	Cpy, Bor, Au	Po+Py > Cpy > Bor		
Mineralization	on style	Breccia, fractures, and veinlets	disseminated and stringer veins		Disseminated stringer, Breccia, and veinlets	Breccia, veinlets, and fractures	
Sulfide zona	Sulfide zonation  Not observed  Py in the shallow levels and Cpy in the deeper zones		Not observed	Not observed	Po > Py > Cpy in the footwall (XTA)		
Mineralogy	Oxides	Hem > Mag Mag > Hem		Absent	Mag	Absent	
Willicralogy	Silicates	Chl, Qtz > Epi > Ab	Grt-Gru > Bio-Grt > Si > Amp	Bio-Grt > Gru > Qtz	Grt-Gru > Bio-Grt > Si > Amp	Bio-Grt > Gru + Grt > Qtz	

Cpy = Chalcopyrite, Bor = Bornite, Py = Pyrite, Amp = Amphibole, Chl = Chlorite, Grt = Garnet, Qtz = Quartz, Bio = Biotite, Mag = Magnetite, Hem = Hematite, Gru = Grunerite, Amp = Amphibole, Chl = Chlorite, Amp = Amphibole, Chl = Chlorite, Chlo

Source: Vale S.A., 2012



In addition to the five litho-structural domains, the deposit exhibits an anastomosed mineralized zone, highlighting thicker areas with sigmoidal geometries where the hydrothermalites with magnetite and the hydrothermalites with garnet-grunerite, with or without magnetite, are preferably found. These sigmoidal geometries are interpreted to represent local extensional zones that favor the concentration of mineralizing hydrothermal fluids.

The distribution of copper grades in relation to the lithotype codes in the database, as observed in **Figure 7-13**, indicated that mineralization is mainly contained in the HDGM, the RSL, and XTB lithotypes, with the HDGM hosting the highest grades.

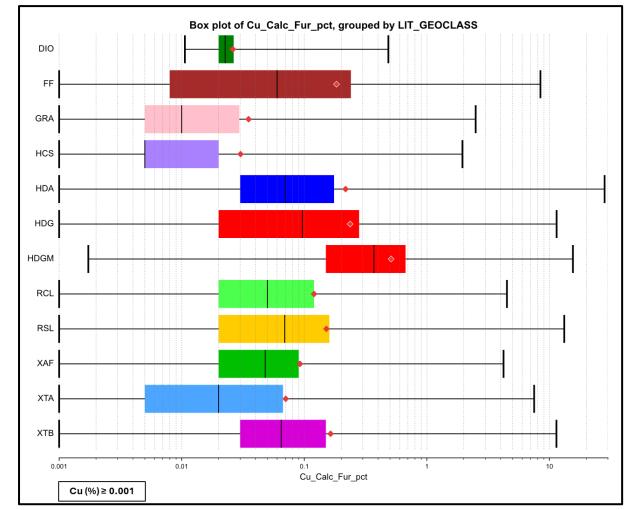


Figure 7-13 Variability between copper grades and Lithotypes

Source: Ero, 2024



#### 8. DEPOSIT TYPE

The Furnas Project has an approximate strike length of 9 km and is part of the Carajás Mineral Province. The mineralization in this province includes, in addition to the world's largest high-grade iron ore assets, and several large-scale deposits of Cu-Au, lateritic and sulfide Ni, Mn, Au, and PGE.

From a genetic point of view, Furnas can be classified as an IOCG deposit. IOCG deposits are characterized by the association of copper and gold mineralization with iron oxide minerals. These deposits typically form from hydrothermal fluids rich in iron and are often associated with fault systems and structural deformation zones.

The Furnas deposit exhibits key characteristics of IOCG deposits, including:

- Association with Iron Oxides: The deposit is associated with the presence of iron oxide minerals, such as magnetite and hematite. These iron oxides are commonly found in IOCG deposits.
- Copper and Gold Mineralization: IOCG deposits are known for hosting both copper and gold mineralization, which is the case at Furnas.
- Hydrothermal Alteration: The deposit shows intense hydrothermal alteration, including the presence
  of minerals like biotite, garnet, grunerite, and magnetite, which are indicative of hydrothermal
  alteration typical of IOCG systems.
- Structural Controls: IOCG deposits are often structurally controlled, and they are commonly found along fault systems and shear zones, which is consistent with the structural features observed at Furnas.

The exploration program was based on previous geological mapping targeting the mineralization geometry definition and trend identification. The geological model considers the main lithology domain boundaries and uses drill hole samples to model the main mineralized domains using implicit model techniques with adjustments (explicit inputs) following observed data in drill holes.



## 9. EXPLORATION

#### 9.1 Sampling and Mapping

Within the Project area of interest, an area totalling approximately 100 km² in size, 167 stream sediment samples were collected (33 by Anglo American do Brasil Ltda. and 134 by Vale S.A.). Soil sampling was carried out on a 200m x 40m grid in three stages:

- In 2000, 1,882 samples were collected.
- In 2003, 605 samples were collected, and
- in 2006, 1,006 samples were collected, for a total of 3,493 samples (**Figure 9-1**).

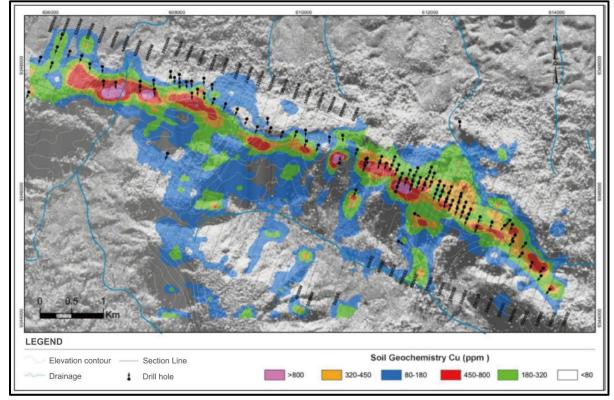


Figure 9-1 Furnas Soil Geochemistry (Cu) Map

Source: Vale S.A., 2012

The geological work carried out in various campaigns involved mapping the lines opened in the sampling grid, mapping roads and access points, and geological survey of stream sediment anomalies and anomalies of an airborne magnetic survey (**Figure 9-2**).

Geological mapping at a detailed scale of 1:5,000 was conducted using soil geochemical sampling points, ground geophysical surveys, airborne geophysical surveys, and drill core descriptions. The data from this mapping was used for lithological contact adjustments, a better definition of lithotypes, hydrothermal alteration processes, and the characterization of mineralization within the Project.



Figure 9-2 Furnas Deposit Geological Map

Source: Ero, 2023

# 9.2 Geophysics

The Furnas area was covered by high-resolution airborne geophysical surveys conducted in the Carajás region. In 1993, Vale S.A. conducted a helicopter-borne frequency-domain electromagnetic (EM) survey in addition to magnetometry and gamma-ray spectrometry at equidistant flight lines of 250m (**Figure 9-3**).

The aeromagnetic survey delineated anomalies oriented primarily in the NW-SE direction with moderate to strong magnetic gradients. This trend was corroborated by ground magnetometry surveys, which revealed a correlation between strong magnetic anomalies and magnetite-rich rocks hosting mineralization. This coincidence is also observed in the radiometric data, where high U/Th ratios show a good correlation with positive analytic signal anomalies as well as copper and gold anomalies in the soil.

In 2001, Anglo American conducted ground geophysical surveys in the project area using magnetometry and electromagnetic methods. In 2003, Vale conducted an induced polarization (IP) survey and, in 2005, magnetometry, radiometric, induced polarization (IP), and transient electromagnetic (TEM) surveys. Vale also conducted additional ground magnetometry and radiometry surveys in 2006. Finally, in 2011, a ground electromagnetic (EM) survey was conducted (**Figure 9-4**).



LECEND

| Section Line | Arraytic Signal | Arraytic Signal | Arraytic Signal | Drill hole | Arraytic Signal | Arraytic Signal | Drill hole | Arraytic Signal | Drill hole | Arraytic Signal |

Figure 9-3 Geophysical Survey of the Furnas Deposit - Analytic Signal

Source: Vale S.A., 2012

LEGEND

Elevation contour

Drainage

Drill hole

Section Line

Analytic Signal

Analytic Signal

Drainage

Drill hole

Section Line

Analytic Signal

Analytic Signal

Figure 9-4 Furnas Deposit Ground magnetic survey - Analytic Signal

Source: Vale S.A., 2012



#### 9.3 Petrographic Studies

Petrographic studies, for exploration purposes, were conducted on 68 drill core samples from the Furnas Project. These studies aimed to assist in characterizing lithological types, hydrothermal alterations, and defining protoliths.

The Vale S.A. petrography team conducted these studies in the Applied Mineralogy Laboratory at the Institute of Geosciences of the University of Brasília, and also in the Earth Sciences at the University of New England in Australia, and the CLM Petrography Ltd.

The petrographic studies supported the lithology drill core description, processing tests, and other technical studies.

## 9.4 Topographic Surface

The topographic surface or digital terrain model was the product of a detailed laser airborne survey with thirty-six scenes covering the entire deposit and adjacent areas (**Figure 9-5**). The scenes that encompassed the Furnas deposit were predefined by the Vale engineering team. The contour of this surface was created with primary lines spaced 5 meters apart and secondary lines spaced at one-meter intervals.

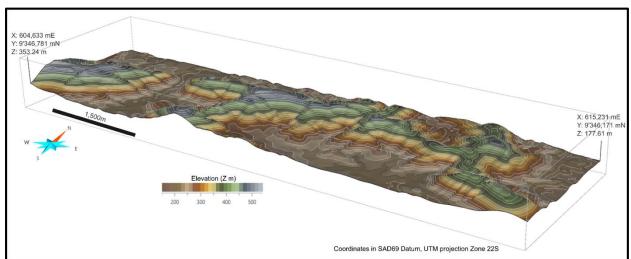


Figure 9-5 3D view of the topographic surface

Source: Ero, 2023



## 10. DRILLING

The drilling stages at Furnas Project began in 2001 with the ANGLO campaign, followed by three campaigns from Vale S.A.: hole labels PKC-FURN-FD, PKC-FURN-DH, and FUR-FURN-DH. Ero was not involved in the above-mentioned exploration drilling programs.

The exploration drilling program was completed in four phases between 2001 and 2012. A total of 90,154 meters were drilled in 284 diamond holes. Drill hole locations are shown in **Figure 10-1**, and drilling by year is shown in **Table 10-1**.

- Phase I ANGLO: Between 2001 and 2006, 19 drill holes were completed, totalling 6,101 meters.
- Phase II PKC-FURN-FD: Between 2003 and 2005, a total of 34 holes were completed, totalling 9,009 meters of drilling.
- Phase III PKC-FURN-DH: Between 2005 and 2007, a total of 65 holes were completed for a total of 22,267 meters of drilling to verify mineralization lateral extension.
- Phase IV FUR-FURN-DH: Between 2010 and 2012, a total of 166 holes were completed for a total of 52,777 meters of drilling with infill purposes.

Drill spacing varies in the project area. In the detailed area (mineralized zones), the spacing grid is approximately 100 m x 100 m within an overall drill grid of 200 m x 100 m, as shown in **Figure 10-1**. Inclined drilling is predominant, with an azimuth of  $200^{\circ}$  and a dip of  $60^{\circ}$ .

Sampling intervals varied between 0.75 and 2.50 meters, depending on whether the sample was taken from the mineralized zone or waste rock. In total, 61,218 core samples were generated.

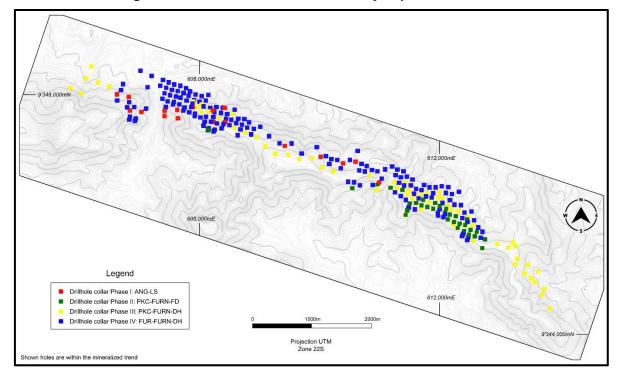


Figure 10-1 Drill hole Collar Locations by Exploration Phase

Source: Ero, 2023

Most drill holes pierce the mineralization almost orthogonal to the dip direction. Therefore, the intersected thickness of mineralization is similar to the true thickness in most areas, which is 80m on average. A few drill holes intercept the mineralization in an oblique direction, which increases the sample length but does not compromise the sample representativeness. **Figure 10-2** shows a typical



vertical section of the 3D model, showing the relationship between the drill holes and the interpreted outline of mineralization.

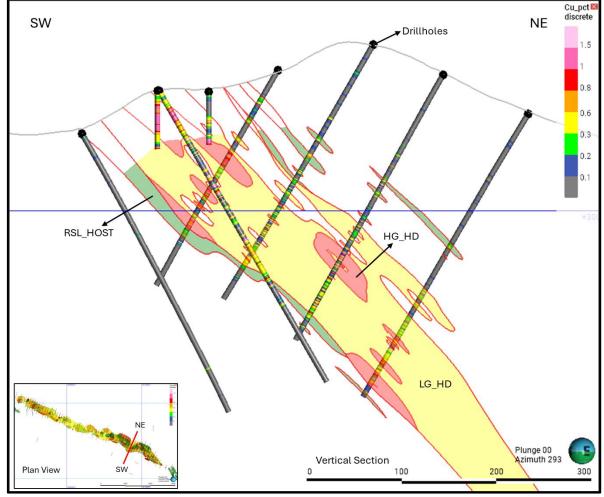


Figure 10-2 Typical Vertical Section of Mineralization Model

Source: RPMGlobal, 2024

Table 10-1 Drilling by Year in the Furnas Deposit.

Year	Meters Drilled	Number of drill holes
2001	959	4
2002	3,853	11
2003	6,159	22
2004	1,105	4
2005	11,015	37
2006	9,212	26
2007	5,074	14
2010	26,951	83
2011	23,588	71
2012	2,237	12
Grand Total	90,154	284

Source: Compiled by RPMGlobal, 2024



# 10.1 Drilling Type

Drilling was carried out using diamond core drilling equipment with a hydraulic mandrel and a fixed platform. The drilling diameters used were HQ (63.5 mm)/HTW (70.9 mm) for the oxidized horizon and NQ (47.6 mm)/NQ2 (50.8 mm) for the fresh rock. 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 labeled.

#### 10.2 Drilling Locational Data

Each drill hole was identified by placing a rectangular cement marker at the collar of the hole. On top of the marker, an aluminum plate was fixed containing drill hole information like drill hole number, azimuth and inclination, UTM coordinates of the point, and final depth.

All drill hole collar locations were surveyed utilizing proper equipment. RPM did not identify any bias in the drill hole survey results. The downhole deviations were measured using instruments such as Maxibor I and II, the Devi Flex, and the Tropari, with readings taken every 3 meters along the drill hole.

To validate the collar locations, a total of 36 drill hole collars from the campaign between 2001 - 2008 were re-surveyed, and the X, Y, and Z coordinates were compared to their markers. The results show a good correlation between X, Y, and Z with no major differences.

## 10.3 Drilling Sample Recovery

Core recoveries were calculated by measuring the length of the core recovered from each 3m run. The average core recovery is higher than 95%. Recovery was lower in the weathering zones where more than 90% of core intervals have a core recovery equal to or greater than 80%. In the opinion of the QP, there are no known factors of drilling, sampling, and core recovery that could materially impact on the accuracy and reliability of the results.

#### 10.4 Drill Core Sampling and Assay Results

Through the various exploration campaigns, drill holes intercepted several intervals of mineralization, including the main high copper-gold grade hydrothermalite and its variations. In general, the hydrothermalite (HDG, HDM, HDGM) is primarily Cu-Au mineralization lithology composed of alternating bands of grunerite intercalated with garnet-rich bands. A summary example table with significant drilling results is presented in Appendix A.

#### 10.5 Database Verification

During the site visit, RPM discussed the drill hole database, verified core box evidence, and other related items, and considered them appropriate and consistent for the Mineral Resource Estimation process. Further information is provided in **Section 12**.



# 11. SAMPLE PREPARATION, ANALYSES AND SECURITY

## 11.1 Sample Collection

Before drill core sampling began, the drill core was photographed and logged, with depth intervals marked and sample intervals selected by the geologist responsible for the logging.

Lithological contacts were respected only for the two most recent campaigns (advanced phases). After logging, the drill cores were cut perpendicular to the foliation fabric, if present. In the weathered zone, including the soil and decomposed saprolite domains, the drill core was cut using a chisel and hammer to collect a half-core sample.

In all drilling campaigns, a quarter of the recovered core sample was collected. In the first three drilling campaigns, one-meter sampling intervals were used. In the fourth campaign, one-meter intervals were used in the mineralized zone, while two-meter intervals were used in the weathered zone and waste rock.

According to the sampling form, samples weighing 3 to 5 kg were placed in pre-numbered plastic bags, which were then sealed with twine. The samples were submitted for preparation at the laboratory located in the Vale S.A. core shed at the Carajás mine facility. The remaining drill cores were archived there with appropriate identification and stored in core storage warehouses until 2024, when they were transferred to Ero's core shed at Parauapebas and stored in core storage.

# 11.2 Assay Laboratory Sample Preparation and Analysis

#### 11.2.1 Sample Preparation

Throughout the drilling campaigns, different sampling methods were adopted, with a significant portion of the preparation information lost for historical work. For each sampling method used, different physical preparation procedures were adopted. All the exploration samples were prepared in one of the following laboratories: Vale S.A. Carajás Laboratory, Intertek-Parauapebas-PA, Intertek - Nova Lima-MG, SGS GEOSOL, or Lakefield-Geosol, typically accompanied by a sample dispatch letter.

The primary chemical laboratory, Lakefield Geosol, conducted analyses from 2003 to 2007, while SGS-Geosol handled analyses from 2010-2011. Both laboratories hold certifications, including ABNT NBR ISO 9001, ABNT NBR ISO 14001, and ABNT NBR ISO/IEC 17025.

In general, the preparation procedures adopted for the drill core samples were as follows:

- Drying in an oven with a controlled maximum temperature of 60°C.
- Crushing below 4 mm using jaw crushers.
- Homogenization and quartering, with 50% of the sample (±1.5 kg) being packed and archived.
- Grinding in ring mills with a passing rate of >95% through a 0.105 mm sieve.
- Homogenization and quartering in Jones-type splitters with a 6 mm opening, obtaining 200 g aliquots.

The remaining aliquots from the quartering were packed and archived in the Vale S.A. core shed at the Carajás mine facility until 2024 when they were transferred to Ero's core shed at Parauapebas and stored in the core storage facility.

#### **11.2.2 Assays**

During the drilling campaigns, various analytical laboratories were used for chemical assays. The selection of the analytical methods and the number of elements assayed varied over time. The history of the chemical assays can be summarized as follows:



- Multielement geochemical package with digestion by multi-acid solution and analysis by atomic absorption for the drill holes ANG-LS-FD001 to ANG-LS-FD004. Copper content reported in PPM.
- Multielement geochemical package with digestion by aqua regia and analysis by ICP-ES for the drill holes ANG-LS-FD005 to ANG-LS-FD019. Copper content reported in PCT
- Multielement geochemical package with digestion by aqua regia and analysis by ICP for drill holes ANG-LS-FD005 to ANG-LS-FD019, PKC-FURN-DH00035 to 00085, PKC-FD001 to 034. Copper content reported in PCT.
- Multielement geochemical package with digestion by multi-acid solution and analysis by ICP-OES and MS for the drill holes FUR-FURN-DH00100 to FUR-FURN-DH00100. Copper content reported in PPM.
- Copper was analyzed using multi-acid digestion and analysis by atomic absorption, Copper content reported in PCT. All copper multielement/ICP analyses from the nominal cutoff of Cu ≥ 2000 PPM were determined by this technique.
- Iron was analyzed using multi-acid digestion and analysis by ICP, reported in PCT. All iron multielement/ICP analyses from the nominal cutoff of Fe ≥ 15 PCT were determined by multi-acid digestion and analysis by Atomic Absorption. If Fe> 50 PCT, digestion by multi-acid solution and analysis by X-ray Fluorescence were performed.
- Sulfur (total) determined by LECO furnace and infrared analysis for drill holes ANG-LS-FD019, PKC-FURN-FD035 to 099, FUR-FURN-DH00100 to FUR-FURN-DH00253.
- Fluorine was determined by fusion and ion-specific readings for drill holes ANG-LS-FD017 and ANG-LS-FD018.
- Gold was determined by fire assay/ICP-AES for drill holes ANG-LS-FD017 and 018 and PKC-FURN-FD001 to FD019.
- Gold was determined by fire assay/atomic absorption for the remaining drill holes in the database.

#### 11.3 Bulk Density

Specific Gravity tests were conducted within the same intervals used for chemical assays. For fresh rock samples, the Jolly Method was employed, which involved determining the weight of the dry sample and the weight of the sample when fully immersed in water. For the density tests, the samples were coated with paraffin or plastic film. Density values were obtained from representative samples of the intervals associated with the drill hole sampling plan, with a minimum size of 10 cm and a maximum size of 30 cm.

These tests were performed for both weathered and fresh rock samples, with a smaller quantity of density tests conducted for saprolite and transition horizons. In total, 47,960 determinations were made, and 28,469 samples were used in the block model density determinations.

#### 11.4 Quality Control Data

The Furnas Project had several drilling campaigns and various quality control programs applied across the drill campaigns. As the Project progressed, more control samples were added to monitor and assess all stages of the sampling, preparation, and chemical analysis processes. All drilling programs completed on the Project were performed with insertions of control samples like certified reference materials (CRMs or standards), blanks, and duplicates in the normal sample sequences on a batch-by-batch basis. The overall statistics for QA/QC control samples are presented in **Table 11-1**.

The adopted QA/QC procedures to validate the historical database and to prepare for Mineral Resource estimation follow the guidelines of the Company Technical Assurance Statement (Appendix B).

The QA/QC samples comprise 16% of all Furnas samples submitted to the laboratory. RPM is of the opinion that adequate QA/QC protocols were in place during the drilling operations to cover all drilling samples used to compile the Mineral Resource estimate.



Table 11-1 QA/QC samples status

<b>Drilling Campaign</b>	N Drill holes	N Samples	QA/QC Control Samples	% of Total Primary Samples
Anglo	16	6,101	698	11%
PKC-FURN-FD	34	9,009	646	7%
PKC-FURN-DH	65	22,267	2,063	9%
FUR-FURN-FD	169	52,777	11,134	21%
TOTAL	284	90,154	14,541	16%

Source: Compiled by RPMGlobal, 2024

## 11.4.1 Quality Control of Historical Data

The type of quality control applied to the historical data is presented in **Table 11-2**. In the PKC-FURN-FD campaigns (2003 to 2005), no standard or blank samples were included; therefore the assessment of analytical accuracy, contamination is compromised. Control samples, such as blank and pulp duplicates were included in the PKC-FURN-FD and the PKC-FURN-DH campaigns with easily identifiable codes by the analytical laboratories (BR and DP). The inclusion of standards occurred in the ANGLO and PKC-FURN-DH campaigns (**Table 11-2**), while blank samples were only included in the ANGLO campaigns.

Table 11-2 Summary of the analytical quality control applied to historical drilling data.

Drilling Campaign	Drill holes	Applied QC
ANGLO (2001/2002/2003/2006)	ANG-LS-FD001 to ANG-LS-FD019	Project blank, pulp duplicate, and standard
PKC-FURN-FD (2003/2005/2006)	PKC-FURN-0001 to PKC-FURN-0034	Cleaning blank and pulp duplicate
PKC-FURN-DH (2005/2006/2007)	PKC-FURN-DH00035 to PKC-FURN-DH00099	Cleaning blank, pulp duplicate, and standard
FUR-FURN-DH (2005/2006/2007)	FUR-FURN-DH00100 to FUR-FURN-DH00265	Cleaning and project blanks, coarse, pulp, and secondary lab duplicates, and standard

Source: Vale S.A., 2012

The absence of core duplicates in all evaluated drilling campaigns prevents a definitive assessment of data quality. To address this issue, in 2024, Ero conducted a resampling program analyzing 3.5% of the total mineralized samples from the available core, including 28% of quality-control samples.

At the beginning of 2024, Ero developed a technical study related to drill core quality control. In this study, the Ero team and an independent consultant reprocessed the drilling database (all four historical drilling phases) to validate the historic data. No major biases that could impact geological modeling and Mineral Resource estimation were identified. According to the report, the results are satisfactory and within acceptable standards, and no major biases were observed. Error rates for pulp and coarse duplicates remained within the conventionally accepted limits (<10%), which indicates that the preparation and analytical procedures were adequate for these types of mineralization. The global biases of all drilling phases and laboratories were within the conventionally accepted limits, which indicates that the analytical accuracy at the primary laboratories was adequate. Furthermore, no significant contamination was detected in any of the laboratories.

As the reprocessing drill core analysis results are reasonable and within acceptable limits, the next sections discuss the results for the FUR-FURN-DH drilling campaign, which is the most relevant database in terms of sample numbers and control samples. All chart results from the reprocessing drill core analysis are detailed in **Appendix C**.



#### **FUR-FURN-DH Drilling Campaign**

The FUR-FURN-DH campaign's quality control program included the blind insertion of pulp and coarse duplicates, blanks, and CRMS in sample batches submitted to SGS Geosol. Later, Vale conducted a re-assay of pulp duplicates at ALS, the secondary laboratory.

Most of the quality control results remained within the conventionally accepted limits and can be deemed as sufficiently precise and accurate for mineral resource estimation, as verified below.

Three types of duplicates were inserted in sample batches submitted to SGS Geosol during this campaign: coarse duplicates (CD), pulp duplicates from different batches (PDD), and pulp duplicates from the same batch (PD). In total, 3,045 duplicates were assayed, and the results for Au and Cu are presented below.

The Cu and Au failure rates for each duplicate type ranged between 1.1 and 2.4% and 2.2% and 5.9%, respectively (**Table 11-3**). As a result, the crushing, pulverization, and assay procedures for both Cu and Au during this campaign are deemed adequate for this type of material.

Table 11-3 Summary of pulp duplicates of FUR-FURN-DH drilling phase

	FUR-FURN-DH - Duplicates Failures						
Element	Duplicate Type	Element	Pairs	Failures No.	Failures Rate (%)		
	CDP	Cu	760	8	1.1		
Cu	PDD	Cu	211	5	2.4		
	PD	Cu	1,352	18	1.3		
	CDP	Au	976	21	2.2		
Au	PDD	Au	353	21	5.9		
	PD	Au	1,716	93	5.4		

Source: compiled by Ero, 2024

Eight different CRMs were used to assess the accuracy during the FUR-FURN-DH drilling phase, covering low, medium, and high grades of Au and Cu. All CRMs were prepared using material from Vale's Carajás Cu-Au deposits, which underwent several certifications. In total, 1,526 CRMs were assayed for Au and Cu.

Individual Cu biases during the FUR-FURN-DH campaign ranged between -3.5% and 1.6%, and the global bias was -1.5%, which is within acceptable accuracy ranges. The CVs ranged between 2.8% and 3.9% (**Table 11-4**), which confirms the good analytical precision observed for Cu in pulp duplicates.

The global bias for Cu in the FUR-FURN-DH campaign is acceptable (-1.5%), and every CRM individual bias is within the acceptable limit (from -3.5% to 1.6%), with low coefficients of variation (2.8% to 3.9%), as presented in **Table 11-4**. Consequently, the analytical precision and accuracy for Cu are sufficiently good.



Table 11-4 Summary of CRM statistics for Cu (FUR-FURN-DH drilling phase)

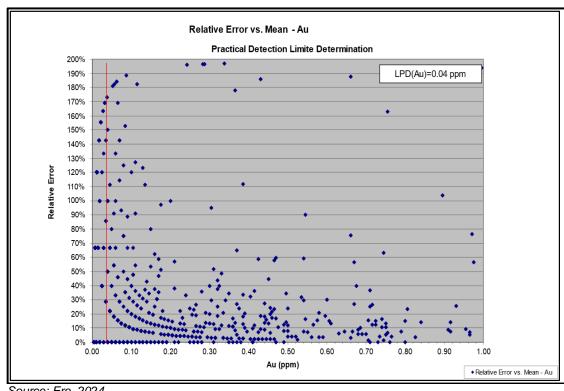
	FUR-FURN-DH - Cu CRM Statistics									
CRM	Element	Unit	BV	Mean	Samples	ocs	OCS (%)	Bias (%)	CV (%)	Global Bias (%)
BREV-001	Cu	(%)	0.39	0.39	264	2	0.8	-0.3	2.9	
BREV-002	Cu	(%)	0.94	0.92	379	19	5.0	-2.8	2.9	
BREV-003	Cu	(%)	1.82	1.76	255	3	1.2	-3.5	3.6	
CUOX-001	Cu	(%)	0.41	0.41	103	1	1.0	1.6	3.9	-1.5
CUOX-002	Cu	(%)	1.80	1.78	27	1	3.7	-1.7	2.9	1.0
MSSO-001	Cu	(%)	0.44	0.45	370	3	0.8	1.3	3.5	
MSSO-002	Cu	(%)	0.88	0.87	76	4	5.3	-1.1	3.7	
MSSO-003	Cu	(%)	2.70	2.68	52	0	0.0	-0.4	2.8	

BV (best value), OCS (out-of-control samples), CV (coefficient of variation).

Source: compiled by Ero, 2024

For gold, the results show that the CRMs with BVs lower than 0.18 ppm Au presented individual biases (-5.9% and -10.9%, **Table 11-5**) and higher coefficients of variation, which are common in very low-grade samples, as shown in the PDL graph (**Figure 11-1**). Consequently, the analytical precision and accuracy in the Au low-grade ranges are not sufficiently good, while for medium and high grades, they are. Also, CRMs with medium and high grades showed more acceptable biases (from -1.1 to -4.0). The global bias for Au in the FUR-FURN -DH campaign was acceptable (-2.9%, **Table 11-5**).

Figure 11-1 Relative error vs Au mean of pulp duplicates (red line: PDL)



Source: Ero, 2024



Table 11-5 Summary of CRM statistics for Au (FUR-FURN-DH drilling phase)

	FUR-FURN-DH - Au CRM Statistics									
CRM	Element	Unit	BV	Mean	Samples	ocs	ocs (%)	Bias (%)	CV (%)	Global Bias (%)
BREV-001	Au	(ppm)	0.14	0.14	264	4	1.5	-2.0	14.6	
BREV-002	Au	(ppm)	0.40	0.39	379	10	2.6	-1.1	10.4	
BREV-003	Au	(ppm)	0.68	0.65	256	4	1.6	-3.8	5.8	
CUOX-001	Au	(ppm)	0.05	0.05	88	3	3.4	-10.5	17.8	-2.9
CUOX-002	Au	(ppm)	0.17	0.16	21	0	0.0	-5.9	11.0	0
MSSO-001	Au	(ppm)	0.06	0.05	366	11	3.0	-3.9	25.7	
MSSO-002	Au	(ppm)	0.08	0.07	75	1	1.3	-4.0	15.2	
MSSO-003	Au	(ppm)	0.28	0.28	52	1	1.9	-1.3	6.0	

Source: compiled by Ero, 2024

The relative accuracy between SGS Geosol and ALS was evaluated through the RMA analysis of 595 pulp duplicates submitted to the latter.

The R<sup>2</sup> indicates a good correlation between the two laboratories both for Au (0.990) and Cu (0.998, **Table 11-6**). The relative bias of SGS Geosol as compared with ALS is also within acceptable limits for both elements (Au, -5.1%; Cu, -1.6%, **Table 11-6**).

Table 11-6 RMA summary for Au and Cu (FUR-FURN-DH drilling phase)

	FUR-FURN-DH - RMA Parameters - Reanalysis vs. Original Sample								
Element	R <sup>2</sup>	Accepted Pairs	Outliers	Outliers (%)	m	Error (m)	b	Error (b)	Bias (%)
Cu (%)	0.998	581	14	2.4	1.016	0.002	-0.014	0.005	-1.6
Au (ppm)	0.990	553	42	7.6	1.051	0.004	-0.004	0.006	-5.1

Source: compiled by Ero, 2024

In total, 2,504 blank samples of three different types were inserted into the batches submitted to SGS Geosol, two of which originated from the project waste rocks (blanks PBK and QT2). No significant contamination was observed in SGS Geosol chemical results (**Table 11-7**).

Table 11-7 FUR-FURN-DH Blanks control samples statistics

	FUR-FURN-DH - Statistics to Blanks								
Blank Type	Element	Blanks	Unit	Max Previous Sample	Max Blank	PDL	Max Ratio	Contaminated Samples	Contamination Rate (%)
Coarse	Cu	997	%	6.65	0.05	0.02	2.5	0	0
Blank	Au	997	ppm	12.24	0.42	0.04	10.5	1	0.1
PBK	Cu	1120	%	6.42	0.33	0.02	16.5	19	1.7
PBK	Au	1120	ppm	5.07	0.46	0.04	11.5	4	0.4
QT2	Cu	388	%	5.79	0.5	0.02	25	6	1.5
Q12	Au	387	ppm	6.11	0.33	0.04	8.25	1	0.3

Source: compiled by Ero, 2024



For copper in the oxidized zone drill holes, in addition to using the atomic absorption methodology, sequential copper analysis was also used which is divided into three analyses as follows:

Cu-CN\_AAS76F\_pct (cyanide soluble copper); Cu-SUL\_AAS76F\_pct (sulfuric acid soluble copper); and Cu-RES\_AAS76F\_pct (residual copper).

The sum of these three analyses should correlate with the global analysis by atomic absorption. It was observed that the correlation between sequential copper and copper analyzed by atomic absorption is good (0.97) (**Figure 11-2**).

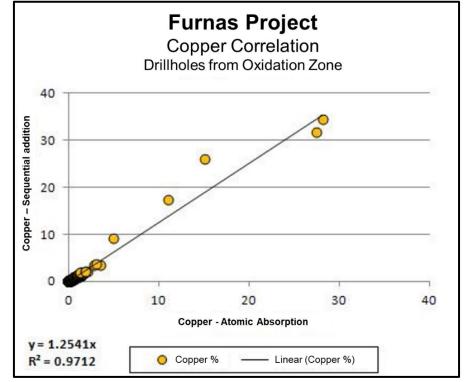


Figure 11-2 Correlation between copper (%) analyses

Source: Vale S.A., 2012

## 11.5 Security and Storage

The standard operating procedures guide proper and consistent logging and core collection practices to ensure that proper core handling procedures, quality control, and required documentation are undertaken. During the site visit, the QP was able to verify the whole process related to Data Security and Storage.

All drill core from the Furnas project are stored at the Ero's core shed facility at the Parauapebas City. During the drilling operation period, the drill core was directly transported from the drill rig to the Vale S.A. core logging facility (Furnas camp facility or Carajás core shed). After logging and sampling, the core boxes and pulp samples were stored in the core shed. A chain-of-custody procedure is followed whenever samples are moved between locations to the laboratories and to the core shed for storage and evidence of materiality. After the sample preparation, the remaining core is archived with appropriate identification and stored in a drill core storage warehouse in the Vale S.A. facility at Carajás mine (Figure 11-3).

In the middle of 2024, Ero initiated the transfer of all available Project core boxes to Ero's warehouse facilities at Parauapebas City (**Figure 11-4**).



Figure 11-3 Drill Core Storage Facility



Source: RPMGlobal., 2023

Figure 11-4 Ero's Drill Core Storage Facility



Source: Ero, 2024



# 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 QA/QC process is well established, and the results support the Mineral Resources Estimation process.

The reprocessed drilling database compiled by Ero is reasonable. It shows an acceptable standard with no significant bias that could undermine reliability. RPM did not identify any material concerns with the geological and analytical procedures or the quality of the results at the Furnas Project.

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

The insertion rate of control samples is 16%, which is within the adherence levels for industry benchmarks (15-20%).

RPM is of the opinion that the results are acceptable and consistent with industry standards and recommends that Ero Copper Corp maintain a continuous QA/QC program for future exploration/infill drill campaigns to maintain the database quality.



#### 12. DATA VERIFICATION

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

The QP conducted a site visit from October 16<sup>th</sup> to 19<sup>th</sup> 2023 to familiarize himself with site conditions, review drill core, review sampling and sample handling procedures, and discuss technical aspects of the project with Company personnel as part of this report. The QP performed the following validation steps:

- Examined core from drill holes and compared observations with descriptive log records.
- Verified the mineralization types in drill core boxes.
- Inspected the drill core storage facility.
- A field visit to the Furnas area was completed.

The site visit was accompanied by Ero and VBM geologists previously in charge of drilling, sampling, and geological mapping for the project.

#### 12.1 Data Verification Measures

RPM did not identify any data inaccuracies or misrepresentations of the underlying drill hole data such as collar locations, survey data or assay results in the database.

The drill database was received in a digital format, and RPM performed a systematic review of the data in Excel and the Leapfrog software.

RPM visited the Furnas Project in October 2023, viewed the Furnas land area core shed, and discussed various topics with the company's project geologists. RPM examined mineralized drill hole intersections, downhole survey and assay data, survey data, acquisition protocols, logging and sample preparation procedures, quality assurance procedures (QA) and quality control (QC) results.

Ero supplied the digital topographic file. After a validation process, RPM did not find any inaccuracies related to the topography surface and collar locations.

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

#### 12.2 Database Validation

All geological datasets were subjected to quantitative and qualitative validations to detect possible inconsistencies in the data. The validations applied were related to topics such as drill hole coordinates and depth, topographic surface vs. coordinates, chemical analysis, logging, drill recovery, lithotype codes, and rock density.

RPM did not identify any inconsistency during this database validation.

#### 12.3 Validation of Mineralization

RPM reviewed the Furnas property, mineralized drill intercepts and sample preparation logs during the site visit. RPM reviewed a total of 21 mineralized drill core intercepts, as listed in **Table 12-1**, at the core shed located at the Vale S.A. core shed facility at the Carajás mine site.

The mineralization styles were verified in drill core intercepts. **Figure 12-1** presents some core mineralization intercepts.



Table 12-1 Verified Drill Core Intervals during the site visit.

Hole	From	То	Length
PKC-FURN-FD003	83.00	121.00	38.00
PKC-FURN-FD014	80.00	143.00	63.00
PKC-FURN-FD024	58.00	117.00	59.00
PKC-FURN-DH00036	236.00	272.00	36.00
PKC-FURN-DH00037	119.00	157.00	38.00
PKC-FURN-DH00038	295.00	319.00	24.00
PKC-FURN-DH00042	218.00	274.00	56.00
PKC-FURN-DH00059	69.00	97.00	28.00
PKC-FURN-DH00072	159.00	170.00	11.00
PKC-FURN-DH00095	182.00	197.00	15.00
PKC-FURN-DH00098	274.00	295.00	21.00
FUR-FURN-DH00102	293.50	325.40	31.90
FUR-FURN-DH00108	388.00	443.00	55.00
FUR-FURN-DH00110	80.00	167.40	87.40
FUR-FURN-DH00118	473.00	562.00	89.00
FUR-FURN-DH00144	288.80	338.40	49.60
FUR-FURN-DH00145	165.00	186.00	21.00
FUR-FURN-DH00177	381.10	436.00	54.90
FUR-FURN-DH00203	140.00	160.00	20.00
FUR-FURN-DH00232	210.00	230.00	20.00
FUR-FURN-DH00259	95.00	114.60	19.60

Source: RPMGlobal, 2023



Hole From To
FUR-FURN-DH00177 389.0 390.0
PKC-FURN-DH00059 92.0 93.0

Figure 12-1 Drill core mineralization intercepts examples.

Source: RPMGlobal, 2023

#### 12.4 Drill Hole Location Validation

During the site visit, RPM visited the Furnas Project land area (**Figure 12-2**) but was unable to verify the location of any drill collars due to the lack of an access agreement between the landowners and Vale S.A. or the Company at the time of the visit.

Given the quality of procedures applied to the drilling work, RPM is of the opinion that the drill hole locations are accurate and did not present any material issues that could affect the results presented in this technical report. RPM is of the opinion that the drill hole database was compiled to an appropriate standard and followed industry guidelines at the time it was compiled.



Figure 12-2 Furnas Project land area

Source: RPMGlobal, 2023



#### 12.5 Core Logging, Sampling, and Storage Facilities

Vale S.A. developed logging and sampling procedures based on experience of the technical team and industry standards. Geological logging included lithology, alteration, weathering, structure, and mineralogy. During the site visit, RPM verified several representative core intervals to assess logging quality. No issues were noted. The weathering zone contacts were observed, along with copper and gold mineralization.

At the time of the drilling program, core photography and core recovery measurements were performed by technicians under the supervision of a geologist and digitally recorded in a geological database. During the site visit, RPM reviewed the current sample preparation and chain of custody procedures and found them to be in line with industry standards.

The cores were stored at the Vale S.A. core shed facility at the Carajás mine complex. In late 2023 and the beginning of 2024 Ero prepared its core shed and transported all related core boxes to this new location for proper data management following company guidelines. The pulp samples and coarse rejects were also transported to Ero core shed facility.

noted that the technical team keeps a well-organized workflow and a good core storage plan that guarantees transparency and materiality of the drill core database.

# 12.6 Ero's Drill Core Resampling Campaign

A resampling campaign of 3.5% of the mineralized samples was conducted to evaluate the sampling procedure with the goal of comparing 1/4 core sample to 1/2 core sample. The program totalled 541 core samples for verification.

The resampling was within the estimated domains HD and RSL, with a 0.2% Cu cut-off, and respecting the intervals assayed by Vale. The samples were distributed along the 9 km mineralized trend and representative of the deposit's variability in terms of copper grade, lithological and structural domains, and drilling campaign. It aimed to ensure a comprehensive evaluation of the sampling procedures throughout Furnas' drilling history.

Control samples were inserted over the campaign, totalling 149 samples (28%) from the 690 analyzed samples. It contemplates pulp and coarse duplicates, certified reference materials, and fine and coarse blanks. The preparation and analytical methods were correlated to those used in the previous drilling phases.

The campaign was concluded in October 2024. The results were analyzed by the campaign and summarized in an internal report of Ero. The quality-control samples results are reasonable, with duplicate failure rates below 10%, CRM biases between –5% and +5%, and a contamination rate of 0.0%. The results indicated that the Cu and Au assay data corresponding to the resampling campaign can be deemed sufficiently precise and accurate.

The comparative analysis of the original assays and those of the resampling campaign were conducted using the RMA analysis (Reduced Major Axis Method), which showed a general correlation between the original assay and the resampling of 97% for Cu and 93% for Au, while biases of –3.3% (Figure 12-3) and 2.5%, respectively. Therefore, the results support the Cu and Au assay data from the drilling campaigns can be deemed sufficiently precise and accurate to be used in the estimation of Mineral Resources and reserves.



RMA Plot Core Samples - Cu (%)
Furnas Project - Resampling Program - All Samples

All Samples

- Cu (%)
- Trace (RIAM)

RMA: Ye1.033X-0.031

Accepted Pairs 520
Outliers 21
Bias -3.3%

Figure 12-3 RMA chart - Cu core samples

Source: Ero, 2024

# 12.7 RPM Opinion on the Validity of the Data

The database validation performed by RPM did not identify any material issues that could impact the current database.

RPM is of the opinion that the Furnas Project database complies with industry standards and is adequate for geological interpretation and Mineral Resource estimation within the classifications applied.



# 13. MINERAL PROCESSING AND METALLURGICAL TESTING

#### 13.1 Current Metallurgical Results

Metallurgical test programs on samples from the Furnas deposit began in mid-2003. The initial phase, conducted by Vale's Mineral Development Centre (CDM), aimed to evaluate the technological, mineralogical, and metallogenetic characteristics of the sulfide copper ore from the Furnas deposit. The testwork completed up to the date of this report includes mineralogical analysis, crushing, flotation, and locked-cycle flotation tests. The results indicate that the ore is amenable to recovery through direct flotation, with average metallurgical recoveries of 85.0% for Cu and 61.5% for Au. Chalcopyrite and bornite are the primary copper-bearing minerals, although some samples also contained significant amounts of copper in the form of chalcocite and covellite. The main gangue minerals included quartz. feldspars, amphiboles, biotite, chlorite, garnet, pyrite, and magnetite. The principal deleterious elements identified were fluorine, chlorine, uranium, and thorium. Five ore types have been identified within the deposit: (i) RSL: siliceous rock; (ii) HDM: hydrothermalite with magnetite; (iii) HDGM: hydrothermalite with garnet and magnetite; (iv) HDA-HDAM: hydrothermalite with amphibole and magnetite; and (v) XTB: biotite schist. These ore types differ in mineralogical composition, copper sulfide liberation, and pyrite content. The ore types with higher magnetite content—HDM and HDGM—exhibited finer copper sulfide liberation and potentially higher levels of pyrite. The siliceous rock (RSL) was characterized by significant quartz content and a relatively balanced proportion of bornite and chalcopyrite.

A summary of the metallurgical testwork program completed for the Project is shown in **Table 13-1**.

**Table 13-1 Metallurgical Testwork Samples** 

Metallurgical Test	Selected Samples (#)	Sample Mass (kg)	Samples tested (#)
Bulk Tests			
Comminution	5	100	5
Flotation	6	50	5
Variability Tests			
Cleaner Flotation	119	10	98
LCT	19	50	19
Complete Grinding Test	15	50	
Simplified Grinding Test	138	20	
Ai			158
BWi (Anaconda)			158
Density			158
Axb			153
CWi			153
PLI			158
Ab CLP			158
Mdot			106
BWi			30
DWi			24
Ab DWT			5

Source: Vale S.A., 2012



The comminution test program, conducted in 2006, aimed to assess the crushability and grindability of the samples, as well as to evaluate copper liberation and rougher flotation performance of the sulfide ore. The study included a range of tests: Al (abrasion index) tests, real density measurements, both complete and simplified Drop Weight Tests, Point Load Tests, Crushing Work Index, Herbst-Fuerstenau grinding tests, laboratory High-Pressure Grinding Rolls (HPGR) testing, and Anaconda rod and ball mill Work Index both before and after HPGR processing.

The mineralized zones were classified as having high resistance to rod mill grinding (RWi = 18.90 kWh/t) and high resistance to ball mill grinding (Wi = 19.35 kWh/t). It also showed high impact resistance (Ab = 16.76), high compression resistance (Ab = 15.81), and medium abrasiveness (Ai = 0.246 g).

Based on these results, a circuit with the lowest installed power requirement was selected. This circuit includes primary crushing with a gyratory crusher, secondary crushing with cone crushers and vibrating screens, and tertiary crushing in a closed circuit using HPGR and vibrating screens. For the grinding stage, a closed-circuit system with a ball mill and hydrocyclones was proposed. In the regrinding stage, a Vertimill mill and hydrocyclones were considered in a closed circuit.

Environmental studies conducted in 2011 aimed to assess the potential for acid drainage generation across 70 samples of waste rock, low-grade or marginal ore, sulfide ore, oxide ore, and mineral processing tailings (flotation). The evaluation involved static prediction tests (MABA), chemical analysis, and mineralogical characterization of all samples, as well as residue classification tests.

The MABA test results indicated that 24 samples were classified as potentially acid-generating, 18 samples as uncertain, and 28 samples as non-acid-generating. Flotation tailings were classified as non-acid-generating and categorized as Class II B waste—non-hazardous and inert, with a low potential for acid generation based on static test results.

In 2012, Vale completed a further test program that focused on sulfide, transition, and oxidized variability samples. The sulfide studies included:

- (i) Bench-scale flotation tests were conducted on representative samples from different ore types to establish standard flotation parameters. The tests included rougher flotation, open cleaner tests, and locked-cycle flotation. The optimized flotation conditions were as follows: primary grinding to a P80 of 150  $\mu$ m; flotation circuit consisting of a rougher stage, regrinding of the rougher concentrate to a P80 of 20  $\mu$ m, followed by cleaner, recleaner, and scavenger stages for cleaner tailings. Amyl xanthate and sodium dithiophosphate were used as collectors, while MIBC and polyglycol alcohol served as frothers. Sodium silicate acted as a dispersant. Rougher flotation was conducted at pH 10, adjusted with lime, and cleaner flotation at pH 12, also adjusted with lime. For samples with high pyrite content, sodium cyanide was added during the regrinding stage.
- (ii) A variability flotation study was conducted on 122 samples to assess the influence of sample characteristics—such as location, lithotype, grade, and mineralogical composition—on metallurgical performance and concentrate quality. The samples from the study exhibited copper grades ranging from 0.14% to 2.17%, gold grades from 0.04 to 1.12 g/t, and average values for key elements as follows: 0.62% Cu, 0.31 g/t Au, 0.51% S, 18.95% Fe, 24.5% Si, 1365 ppm F, 1380 ppm Cl, 10 ppm U, and 10.4 ppm Th. Chalcopyrite and bornite were the primary copper-bearing minerals, with chalcocite-covellite also present. Some samples contained 10-20% of copper in the form of sulfide minerals dispersed within silicates.

The main gangue minerals included quartz, feldspars, amphiboles, biotite, chlorite, garnet, pyrite, and magnetite. Fluorine was concentrated in biotite, amphiboles, and apatite, while chlorine was predominantly found in biotite, with smaller amounts in amphiboles and chlorite.

The sulfide mineralization from Furnas exhibited variable metallurgical performance in flotation. Bench-scale flotation tests revealed average copper and gold concentrate grades of 38% and 15 g/t, with recoveries of 85.0% and 68.0%, respectively. The average concentrations of deleterious elements in



the concentrate were 450 ppm for F, 420 ppm for Cl, 24 ppm for U, and 13 ppm for Th. Copper and gold recoveries varied significantly, ranging from very high values (>90%) to very low values (<30%). The copper grade in the flotation concentrate also showed considerable variability, ranging from 19% to 53%, depending on the mineralogy of the copper sulfides and the presence or absence of pyrite.

(iii) Continuous flotation tests were conducted in a Mini Pilot Plant (MPP) using two representative samples from the main ore types. The two samples tested were the HDM sample, with feed grades of 0.74% Cu and 0.38 g/t Au, and the RSL sample, with feed grades of 0.55% Cu and 0.12 g/t Au.

For the RSL sample, a high-purity flotation concentrate was produced, containing over 90% copper sulfides with a grade of 38% Cu and a high copper recovery of 87%, despite the low initial sample grade. Although the concentrate was of high purity, elevated levels of U+Th were observed.

For the HDM sample, a concentrate with 28% Cu was obtained, consisting of 73% copper sulfides, 9% pyrite, and approximately 12% silicates. Due to the presence of silicates in final concentrate, the fluorine and chlorine levels in the concentrate were elevated. The copper recovery for this sample was 85.0%.

(iv) In the case of the transition samples, approximately 50% of the copper was present as copper sulfide minerals. Flotation recovery of these sulfides was high (around 92%), and the flotation conditions required for their concentration were conventional. As a result, the transition ore did not pose any flotation challenges and could be blended with sulfide ore without adversely affecting its floatability. However, because only about 50% of the copper in the transition ore was recoverable by flotation, the overall copper recovery decreased as the proportion of transition ore in the blend increased. Up to 20% of transition ore could be blended with sulfide ore without significant loss in recovery.

The oxide mineralization studies focused on defining the process flowsheet for copper and gold recovery. The first evaluation of the potential for copper and gold extraction from the oxidized copper ore was conducted in 2007. This involved selective sampling and extensive characterization of the oxide ore, including mineralogical and chemical analysis, as well as solubility tests.

Mineralogical characterization revealed that copper in the oxide zone was primarily hosted in phyllosilicates (chlorite and biotite), with smaller amounts in manganese oxides and copper oxyhydroxides (such as cuprite and spertiniite). In the transition zone, some samples showed copper concentrated in sulfide minerals (chalcopyrite, bornite, and chalcocite-covellite), while others, likely closer to the oxide zone, predominantly contained copper in phyllosilicates (chlorite and biotite) and manganese oxides.

In 2011, hydrometallurgical testwork was carried out to evaluate copper and gold leaching using various reagents. For the oxides, sequential copper leaching tests yielded a 56% copper extraction using sulfuric acid (48 hours) and 4.8% using sodium cyanide, resulting in a total copper extraction of 61%. When using direct cyanidation, copper extraction was 9.3% for the oxides. For the transition zone material, sequential leaching achieved 56% copper solubility in acid and 37% in cyanide, giving a total copper extraction of 94%. Direct cyanidation of the transition material resulted in a copper extraction of around 70%.

Diagnostic copper leaching tests for the oxide samples from Furnas demonstrated that copper could be effectively extracted through three sequential leaching stages with redox potential control: (i) in a free-acidic environment, (ii) in a reducing medium, and (iii) in an oxidizing medium, or by using a process that compensates for these conditions. With this diagnostic leaching approach, the average copper extraction was approximately 91% for the oxides. The transition zone was found to be more soluble in acidic solutions with redox potential control compared to the oxides.

Manganese phases containing copper could be effectively accessed through redox potential control at values below 450 mV, with low acid consumption (~20 kg H<sub>2</sub>SO<sub>4</sub>/t ROM). This suggests that blending



the oxide and transition ores and applying a single process route—whether in a heap or tank leach—would be feasible, as the limiting factors are primarily associated with the oxide ore.

Gold in the oxides from Furnas was cyanide-soluble, meaning it was readily liberated and easily leached in a single cyanidation stage. Kinetic tests provided more detailed insights than the standard 24-hour cyanidation test, revealing the extraction priority between copper and gold and helping to define optimal reaction time parameters. These tests demonstrated that approximately 90% of the gold could be extracted within 8 hours of cyanidation, with an average cyanide consumption of 627 g NaCN/t ROM.

The recommended process route for gold recovery was traditional cyanidation, using either heap or tank leaching. However, if gold extraction was considered in a separate cyanidation stage, it would be advisable to first remove copper to minimize high cyanide consumption associated with copper cyanide complexes.

Process approaches to enhance copper and gold recoveries included magnetic separation of flotation tailings to recover magnetite, ore sorting for pre-concentration of the sulfide ore, and gravity concentration for gold recovery from both sulfide and oxide ores.

**Table 13-2** displays the metallurgical assumptions used for the Mineral Resources estimate. The assumptions are based on the average values from the metallurgical testwork results as of the date of this report to allow for the RPEEE approach.

**Table 13-2 Metallurgical Assumptions for Mineral Resources Estimate** 

Metallurgical Assumption	Value Used for RPEEE
Copper Recovery (%)	85.0%
Gold Recovery (%)	61.5%

Source: Compiled by RPMGlobal, 2024

#### 13.2 Geometallurgical Work Plan

A plan of additional geometallurgical studies was developed to optimize recovery and better understand flotation response, including:

- A mineralogical study to identify the host minerals for deleterious elements such as fluorine, chlorine, uranium, and thorium, as well as to assess their liberation characteristics and mineralogical associations.
- An investigation into the mineralogical associations of gold, its liberation, and the identification of mineral phases related to gold.
- Extension of the sulfide ore variability study, with a larger sample size to improve understanding of ore variability.
- Characterization of copper-associated minerals, along with variability leaching diagnostic studies and kinetic tests for copper extraction in a blend of oxidized and transition ores.
- Expansion of studies on transition ore through detailed chemical and mineralogical characterization, along with flotation and leaching tests on a broader range of samples.
- Development of a comprehensive and rigorous geometallurgical program, coupled with a mining plan aimed at minimizing ore variability and optimizing beneficiation plant performance.
- Integration of a pilot plant campaign for the Furnas sulfide and oxidized ores to evaluate copper and gold extraction on a larger scale.

The first tests are in progress, including LCT tests, variability tests, and ore sorting (Figure 13-1). Over the coming years, the geometallurgy program will be continuously enhanced, with additional tests incorporated throughout the Company's planned drilling campaigns.



These additional studies have been designed to refine process routes, improve recovery efficiencies, and optimize the overall Project.

FURNAS SULFIDE
Sample 1-3 mm)

LCT samples 19 samples (50kg)

Open samples 35 samples (30kg)

19 + 35 = 54 samples

Sample split (1 kg bags)

All samples (54)

Open samples (20)

Open samples (20)

FURNAS SULFIDE
Sample 19 samples (30kg)

Open samples 35 samples (30kg)

Indicate the samples (30kg)

Samples storage (100 g)

ICT samples (31)

Open samples (41)

Open samples (42)

Open samples (42)

Open samples (43)

Open samples (44)

Open samples (44)

Open samples (45)

Open samples (50kg)

ICT (45)

Open samples (50kg)

Open samples (50kg)

ICT (45)

Open samples (50kg)

Open samples (50kg)

ICT (45)

Open samples (50kg)

Open samples (50kg)

ICT (50)

Open samples (50kg)

ICT (50)

Open samples (50kg)

ICT (50)

Figure 13-1 Matrix of planned geometallurgical studies of the Furnas Project

Source: Ero, 2024



## 14. MINERAL RESOURCE ESTIMATE

The definitions of the Mineral Resource categories used in this report are consistent with those defined by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) and adopted by NI 43-101. 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." Mineral Resources are subdivided in order to increase geological confidence into Inferred, Indicated, and Measured categories.

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

A Mineral Reserve is defined as the "economically mineable portion of a Measured and/or Indicated Mineral Resource" demonstrated by studies at the Pre-Feasibility or Feasibility level as appropriate. Mineral Reserves are classified into Proven and Probable categories; however, RPM notes that no Mineral Reserves are reported in this Report.

The information contained in this Report is based on information provided to RPM by Ero or SDPM Consultants and verified by RPM where possible. All statistical analyses and mineral resource estimates have been performed by independent SDPM and verified to the extent possible by RPM.

#### 14.1 Statement of Mineral Resources

The Mineral Resource Estimate has been estimated by SDPM consultants under the review and direction of the QP and with appropriate input from the Furnas Project team. The database was provided by Ero with an effective date of June 30, 2024. 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 independent QP, Mr. Anderson Goncalves Candido, has completed a review of the Mineral Resource Estimate using an appropriate validation process. The Mineral Resource Estimation process was also supervised and reviewed by Mr. Cid Gonçalves Monteiro Filho, FAusIMM (No. 329148), who is the Resource Manager of the Company and a qualified person as defined by NI 43-101.

Mineral Resources have been reported using a conceptual Mineable Shape Optimizer (MSO) constraint assuming an underground mining method and a modelled cut-off grade of 0.1% copper and 0.2 g/t gold. The MSO was determined using a five-year consensus forecast of industry metal prices and Ero's internal benchmarks.

The Reasonable Prospects for Eventual Economic Extraction (RPEEE) for the Furnas Project were developed by SDPM's independent consultant company utilizing the parameters provided by Ero. A Mineable Shape assessment was conducted using the Mineable Stope Optimizer (MSO), incorporating resources and technical and economic parameters based on Ero's mining operations in Brazil. The current Mineral Resources Statement excludes the crown pillar (50m below the surface). It includes the sill pillars, as there are additional studies to define a proper mining method and sill pillar recovery strategy. The sill pillars currently represent 10% of the total Mineral Resource tonnage. The metal price of US\$9,259/tonne Cu and US\$1,900/oz Au and the recoveries of 85.0% Cu and 61.5% Au have been used. The copper equivalent (CuEq) formula is as follows:

CuEq = Cu grade + (Au grade x 0.03215 x (\$1,900 gold price x 61.5% gold metallurgical recovery / (0.01 x \$9,259/tonne copper price x 85.0% copper metallurgical recovery)).

Two zones of mineralization can be identified, HD and HD\_2, in addition to a host rock (RSL\_HOST) that contains some Cu values and can be combined with the main mineralized area in an exploitation scenario. The Mineral Resource is stated within these three zones. The Mineral Resource Estimate for the Furnas deposit is presented in **Table 1-1**.



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

Table 14-1 Furnas Project Total Mineral Resource Estimate as of June 30, 2024

Category	Tonnage	CuEq		C	u	Au	
	Mt	%	kt	%	kt	g/t	Koz
Indicated	122.9	0.79	970.7	0.61	743.8	0.39	1,528.3
Inferred	225.6	0.77	1,733.0	0.60	1,362.1	0.34	2,498.3

Source: compiled by RPMGLOBAL, 2024

Notes:

- 1- CIM Definition Standards (2014) were used to report 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 Mineable Shape Optimizer (MSO) at a metal price of US\$9,259/tonnes Cu and US\$1,900/oz Au, metallurgical recoveries of 85.0% Cu and 61.5% Au, resulting in a 0.35% CuEq cut-off and reported as per Section 14.
- 4-Foreign exchange rate of R\$5.10 to USD\$1.0.
- 5- Mineral Resources are reported inside the claim boundary.
- 4- Effective Date of June 30, 2024.
- 5- CuEq formula: CuEq = Cu grade + (Au grade  $\times$  0.03215  $\times$  (\$1,900 gold price  $\times$  61.5% gold metallurgical recovery / (0.01  $\times$  \$9,259/tonne copper price  $\times$  85.0% copper metallurgical recovery)
- 6- The numbers may not compute exactly due to rounding.
- 7- Mineral Resources are reported on a dry, in situ basis.
- 8- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- The Mineral Resources have been reported at a 100% equity stake and not factored for ownership proportions

RPM highlights that geological and internal dilution has been included in the mineralized interpretations; however, no ore loss or dilution factors have been applied. As such, the mineral resource estimate is considered undiluted.

The reported mineral resources have reasonable prospects for eventual economic extraction using underground mining methods. A CuEq cut-off sensitivity analysis was performed to understand the cut-off sensitivity within the total RPEEE mineral resource estimate. **Table 14-2** presents the mineral resource sensitivity at a 0.6%, 0.8%, and a 1.0% CuEq cut-off grade.

**Table 14-2 Mineral Resource Estimate Cut-off Grade Sensitivity Analysis** 

CuEq Cut-off grade (%)	Category	Tonnage	CuEq		Cu		Au	
		Mt	%	kt	%	kt	g/t	Koz
0.6	Indicated	66.4	1.10	730.5	0.84	555.3	0.55	1,179.9
	Inferred	114.8	1.10	1,257.6	0.85	978.9	0.51	1,877.3
0.8	Indicated	51.2	1.22	624.1	0.93	477.9	0.60	984.5
	Inferred	88.0	1.22	1,072.0	0.96	840.7	0.55	1,558.1
1.0	Indicated	35.2	1.36	479.8	1.04	364.7	0.69	775.3
	Inferred	61.3	1.36	830.8	1.06	647.4	0.63	1,235.6

Source: compiled by RPMGLOBAL, 2024

RPM notes that geological and internal dilution has been included in the mineralized interpretations; however, no ore loss or dilution factors have been applied. As such, the Mineral Resources are considered undiluted.



#### 14.2 Mineral Resource Database

A comprehensive dataset was provided to SDPM Consultants, including the drill hole samples used in the estimate and the resulting resource classification. All drill holes used in the resource estimate were completed as described in **Section 11** and graphically depicted in **Figure 10-1**. 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;
- A 1m detailed topography file in .shp format.

The Furnas Project database contains records from 284 diamond drill holes (DD) totalling 90,154 meters. RPM notes that all drill data was collected directly by the previous owners and provided to Ero through an Earn-In Agreement with Vale. Ero completed an independent data review as detailed in **Section 11** and uploaded this data for storage in the Company's database, which contained a total of 42,365 core recovery measurements from 274 drill holes. The average core recovery within the modeled mineralized zone is 98%, ranging from 0% to 100%. Poor sample recoveries (less than 50%) represent a small portion of the database, not exceeding 1% of the total recovery measurements.

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

A total of 47,960 specific gravity (SG) measurements from 272 diamond drill holes are available from the Furnas deposit. The measurements were calculated using the weight in air versus the weight in water method using the Jolly method. The total number of density samples within the mineralized domains is 28,469, as detailed in **Table 14-3**, and is the basis for the bulk density estimation process.

Domain Density (t/m³) Minimum N Samples Stdev Maximum HD 3.14 0.38 16,688 1.31 4.95 HD\_2 1,794 3.11 0.28 1.88 4.14 RSL\_HOST 2.75 0.24 9,987 1.23 4 14

**Table 14-3 Density Statistics** 

Source: compiled by RPMGLOBAL, 2024

# 14.3 Geological and Mineralization Interpretation

The interpretation of the copper and gold mineralization was based on geological logging and geochemistry, primarily using lithological grouping, as shown in **Table 14-4**.

Geological interpretations of the grouped lithological units, the geological structure, alteration, and the different lodes of mineralization were used to guide and interpret the shape of the mineralized wireframes for Cu and Au grades. Since the Cu and Au grades have different distributions, the 3D models were constructed independently and combined with post-processing procedures. A study was developed to evaluate the continuity of mineralization along strike and dip. A threshold of 0.6% Cu and 0.4 g/t Au was used to define high and low-grade lodes for each mineralization domain. This has resulted in numerous domains being interpreted per mineralization domain, as shown in **Table 14-5**.

Wireframe solids were constructed based on implicit modeling with local adjustments using polylines and points utilizing a variety of hole lengths and the inclusion of small portions of geological dilution. The oxidation zone (OXI) was also modeled using downhole geologic weathering codes. Weathering log data was provided to RPM, which was used to create a base of oxidation surface and top of fresh



rock to further constrain the mineralized domains and allow separation of material types into oxide and fresh. RPM reviewed the surfaces and found them to be appropriate for the style of mineralization and deposit lithologies.

**Table 14-4 Lithology Groups for Modeling** 

Group Litho	Litho Geology	Litho Description	Group Litho	Litho Geology	Litho Description
	FF	Iron Formation		SOL	Soil
	HAD	Amphibolitic Hydrothermalite	SOL	СОВ	Eluvium, Colluvium or Soil
	HDAM	Magnetic Amphibolitic Hydrothermalite	DIO	DIO	Diorite
	HDG	Garnet Hydrothermalite		DIA	Diabase
	HDGM	Garnet Grunerite Magnetite Hydrothermalite		RCL	Chloritized Rock
HD	HDM	Magnetite-bearing Hydrothermalite	RCL	XAF	Amphibolite Schist
	BRH	Hydrothermal Breccia		RSI	Semi-Weathered Rock
	BRHH	Hematite-bearing Hydrothermal Breccia		RSL	Siliceous Rock
	BRHM	Magnetite-bearing Hydrothermal Breccia	RSL	QTZ	Quartzite
	VEI	Quartz Vein		RFR	Siliceous Fresh Rock
	ANF	Amphibolite			

Source: compiled by RPMGLOBAL, 2024

**Table 14-5 Mineralization Domains** 

Litho Domain	Grade Domain	Copper Domain Cu threshold	Gold Domain Au threshold
HD	HD_HG	Cu ≥ 0.6%	Au ≥ 0.4g/t
110	HD_LG	0.2% ≤ Cu < 0.6%	0.1g/t ≤ Au < 0.4g/t
HD_2	HD2_HG	Cu ≥ 0.6%	Au ≥ 0.4g/t
110_2	HD2_LG	0.2% ≤ Cu < 0.6 %	0.1g/t ≤ Au < 0.4g/t
RSL HOST	RSL_HG	Cu ≥ 0.6%	Au ≥ 0.4g/t
1.02_11001	RSL_LG	0.2% ≤ Cu < 0.6%	0.1g/t ≤ Au < 0.4g/t

Source: compiled by RPMGLOBAL, 2024

Mineralized domains were constructed using Leapfrog Geo<sup>TM</sup> software, taking into account all major lithologies and the high and low grades of each domain as described above. The main mineralized domains were developed for Cu and Au (**Figure 14-1**) as described below:

- HD domain: generated using Hydrothermalite lithology and its associations with local adjustments using lines and points to better structural control. This domain was split into High-grade and Lowgrade for both Cu and Au grades.
- HD\_2 domain: is the HD domain in the west region of the deposit, controlled by a sub-vertical fault
  that divides this sector from the main HD domain. This domain was split into High-grade and Lowgrade for both Cu and Au grades.



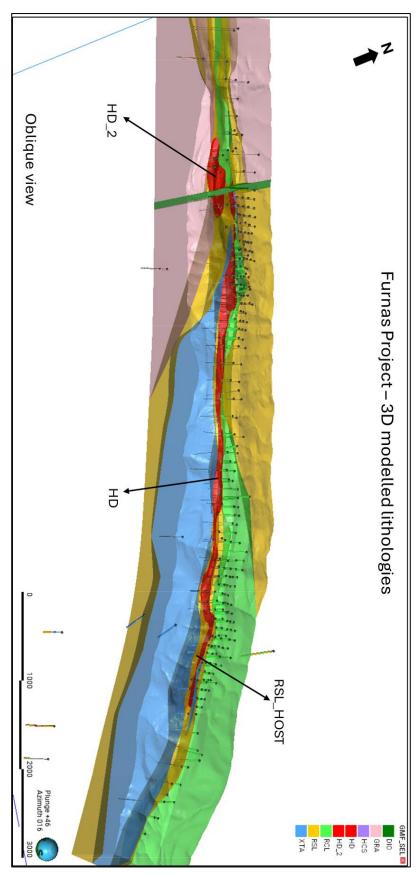
• RSL\_HOST domain: generated using the RSL lithology that is in direct contact with the HD domain. Additional structural control was included, using lines and points for better control.

Based on the local geological knowledge, a variable orientation was used for some domains, including the HD domain. The variable orientation is based on HD lithology contacts that control the variable trend to build the 3D model.

**Figure 14-2** shows a vertical section of the 3D model, showing the relationship between the mineralized domains and the alteration model.



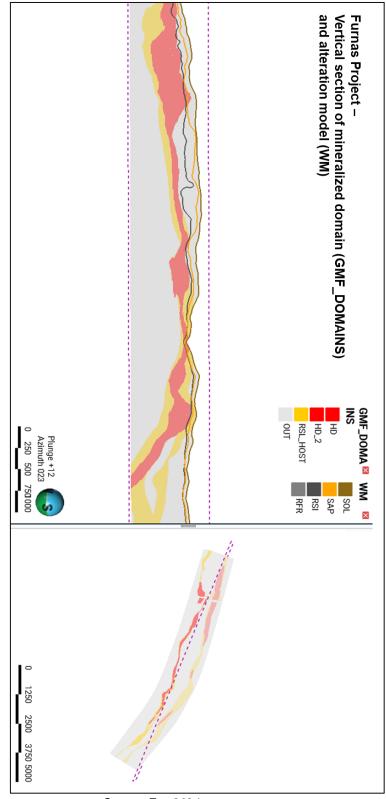
Figure 14-1 Three-Dimensional View of the Furnas Geological Model



Source: compiled by RPMGLOBAL, 2024



Figure 14-2 Vertical Section of Mineralization Model and Alteration Model



Source: Ero, 2024



## 14.4 Sample Selection and Compositing

The 3D model of the mineralized zones was used to define the drill hole intersections. Separate intersection files were generated for each resource domain. A review of sample lengths indicated that a 1m sample length was the dominant sample length; however, a 2m weighted length was used to create the composite samples to reduce the variability and coefficient of variation. Reducing the coefficient of variation during the compositing stage reduces the risk of metal loss when applying high grade sections. The Cu grade statistics before and after compositing are shown in **Figure 14-3** for the HD HG domain as an example. The compositing process uses the following method:

- Sample composite within a hard boundary.
- A 2m composite length is the average length.
- If the residual end length is less than 1m, distribute it equally to other samples.
- The composite covers all hard boundary intervals.

RPM checked the 2m weighted composites for spatial correlation with the wireframe objects, and no issues were noted. RPM considered the selected composite length to be representative of local variations.

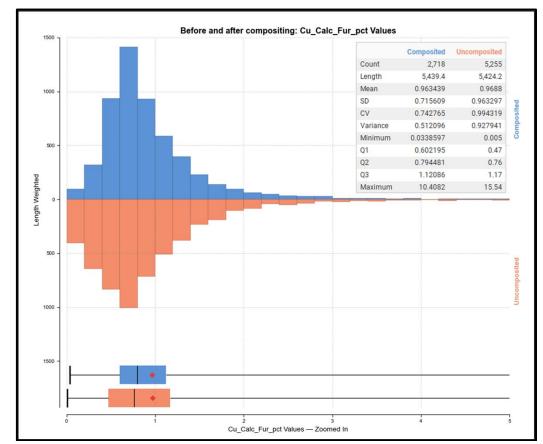


Figure 14-3 Cu grade statistics before and after compositing for HD\_HG domain

Source: compiled by RPMGLOBAL, 2024

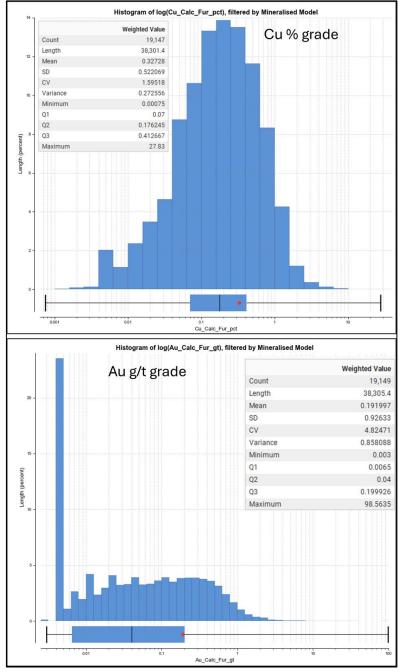
## 14.4.1 Statistical Analysis

A full exploratory data analysis was conducted. Univariate statistics, histograms and box-whisker plots were generated to examine the data set and determine grade capping and compositing requirements. Log histograms for copper and gold composites are shown in **Figure 14-4**, and univariate statistics for all mineralized domains are shown in **Table 14-6**.

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Figure 14-4 Log Histogram for 2 m Composites – all mineralized model



Source: compiled by RPMGLOBAL, 2024



Table 14-6 Univariate Statistics of Grade Composites by Domain

Domain	Grade Domain	Variable	N Sample	Mean	Standard deviation	Minimum	Maximum
	HD_HG	Cu %	2,718	0.96	0.72	0.033	10.40
HD	TID_TIG	Au g/t	2,228	0.74	1.99	0.010	60.48
115	HD LG	Cu %	3,615	0.35	0.22	0.005	3.74
	TID_LG	Au g/t	3,088	0.23	0.36	0.005	12.85
	HD2 HG	Cu %	-	-	-	-	-
HD_2	1102_110	Au g/t	73	0.70	0.46	0.085	2.48
	HD2 LG	Cu %	508	0.38	0.22	0.045	1.48
	TIDZ_LO	Au g/t	347	0.20	0.15	0.010	1.60
	RSL_HOST_HG	Cu %	256	0.92	0.56	0.027	3.99
RSL_HOST	NOL_11001_110	Au g/t	117	0.52	0.34	0.005	1.94
	RSL_HOST_LG	Cu %	1,605	0.31	0.28	0.010	4.64
	NOL_HOOT_LO	Au g/t	649	0.19	0.69	0.005	16.99

Source: compiled by RPMGLOBAL, 2024

## 14.4.2 Treatment of High-Grade Assays

The application of high-grade cuts reduces the impact of extreme grade outliers on the grade estimate. It is intended to prevent these statistical outliers from having a significant impact on the mineral resource estimate. All assays above the cut value were assigned the cut value. This was done to eliminate any high-grade outliers in the assay populations that would result in a conditional bias within the resource estimate. The high-grade cuts applied to the composites were determined from the histograms and log probability plots for Cu and Au elements. A detailed domain study was completed, and it was concluded that some domains have specific top cut values for Cu and Au elements as shown in **Table 14-7**.

**Table 14-7 Top Cut Values into Mineralized Domains** 

Domain	Variable	Minimum	Maximum	Capping Value
HD	Cu %	0.005	10.40	10.00
HD	Au g/t	0.005	60.47	10.00
HD_2	Cu %	0.044	1.48	not applied
110_2	Au g/t	0.009	2.48	not applied
RSL_HOST	Cu %	0.009	4.63	not applied
K3L_11031	Au g/t	0.005	16.99	10.00

Source: compiled by RPMGLOBAL, 2024

## 14.5 Trend Analysis

The continuity of mineralization was validated by variography, which analyzes the spatial relationships between sample composites to identify the main directions and ranges of grade continuity. Variography also assesses the random variability, known as the 'nugget effect,' within the deposit. The results provide the basis for determining appropriate kriging parameters for resource estimation.

Experimental variograms were interpreted for all mineralized domains within Cu and Au elements, considering the number of samples and the orientation of each domain. All variograms were generated using Leapfrog Edge software and reviewed by RPM to validate the results.



In general, a structured spherical model was created using two structures in addition to the nugget, which was found to effectively represent the experimental variogram. The orientation of the mineralization plane was consistent with the interpreted wireframe for the main mineralized zones. The experimental variograms were calculated with the first direction aligned with the primary mineralization continuity, the second direction aligned within the mineralization plane at a 90° angle to the first, and the third direction oriented perpendicular to the mineralization plane across its width. The variograms showed reasonable structure. Figure 14-5 illustrates the directional variogram models used in the resource estimation for copper in the high-grade HD domain. Additionally, the model variogram parameters are presented in **Table 14-8**.

HG\_Cu\_HD 39 → 333 Major Axis Variogram for Cu\_Calc\_Fur\_pct Values (Semi-)Variogram (0.514099) Total Sill: 1.0 26879 15063 7369 20618 12211 38195 0.8 0.6 0.4 0.2 Distance 26 → 086 Semi-major Axis Variogram for Cu\_Calc\_Fur\_pct Values 55118 (Semi-)Variogram (0.514099) Total Sill: 1.036499 <u>331</u>46 8.0 0.6 2142 0.2 100 300 200 400 500 600 Distance 40 → 200 Minor Axis Variogram for Cu\_Calc\_Fur\_pct Values 2569 (Semi-)Variogram (0.514099) 1569 1804 2850 1407 Total Sill: 1.0 0.6 0.4 20 50 30 40 Distance

Figure 14-5 Directional Variogram for Copper (high-grade HD domain)

Source: Ero Copper, 2024



# **Table 14-8 Variogram Modeling by Mineralized Domain**

Grade Domain	Litho Domain	Rotation Angles <sup>1</sup> (°)		Nugget	Structure 1			Structure 2					
Copper	Litilo Domain	Az	Dip	Pitch	Nagget	C1	Major	Semi-major	Minor	C2	Major	Semi-major	Minor
Cu	HD	20	50	55	0.20	0.65	200	140	4	0.15	220	160	15
HG	HD_2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
(High Grade)	RSL_HOST	20	50	55	0.15	0.65	200	140	3.5	0.20	220	160	15
Cu	HD	20	50	55	0.15	0.65	200	140	3.5	0.20	220	160	15
LG	HD_2	20	50	55	0.15	0.65	200	140	3.5	0.20	220	160	15
(Low Grade)	RSL_HOST	20	50	55	0.15	0.65	200	140	3.5	0.20	220	160	15
OUT	OUT	20	50	55	0.20	0.80	200	160	25				

Grade Domain		Rotation Angles <sup>1</sup> (°)			Structure 1				Structure 2				
Gold	Gold Litho Domain		Dip	Pitch	Nugget	C1	Major	Semi-major	Minor	C2	Major	Semi-major	Minor
Au	HD	20	50	55	0.15	0.75	190	135	3.2	0.10	220	190	7
HG	HD_2	20	50	55	0.15	0.75	190	135	3.2	0.10	220	190	7
(High Grade)	RSL_HOST	20	50	55	0.15	0.75	190	135	3.2	0.10	220	190	7
Au	HD	20	50	55	0.15	0.75	190	135	3.2	0.10	220	190	7
LG	HD_2	20	50	55	0.15	0.75	190	135	3.2	0.10	220	190	7
(Low Grade)	RSL_HOST	20	50	55	0.15	0.75	190	135	3.2	0.10	220	190	7
OUT	OUT	20	50	55	0.10	0.65	190	135	3	0.25	220	190	10

<sup>1</sup> The rotation angles are shown in Leapfrog Edge conventions

Source: compiled by RPMGLOBAL, 2024

N.A. - Not available data



#### 14.6 Mineral Resource Estimation

SDPM, an independent consulting firm, constructed a three-dimensional digital estimation workflow for Cu and Au elements and compiled the Mineral Resource model based on statistical analysis of the data provided. RPM believes that the Mineral Resource estimate meets the general guidelines of the CIM definition standards for reporting Mineral Resources at the Indicated and Inferred confidence levels.

#### 14.6.1 Block Model

A block model has been created for the Furnas Project covering the main mineralized area and adjacent areas. The block model is rotated 20 degrees (clockwise) and the block sizes were selected based on the geometry of the mineralization, drill grid spacing, density of assay data and the selected mining unit. The selected block model dimensions were 25m x 25m x 4m (X, Y, Z) with sub-cells and a minimum block size of 6.25m x 6.25m x 2m. The block model origins, extents and attributes are shown in **Table 14-9**.

**Table 14-9 Furnas Block Model Definition Parameters** 

Model Parameters	Х	Υ	Z					
Minimum corner:	604,836.31	9,347,125.02	-352					
Number of Blocks	401	99	238					
Parent Block Size (m)	25	25	4					
Rotation Degree (clockwise)	-	-	20					
FIELD NAME	DESCRIPTION							
	SOL - Soil							
<b>WM</b> (Weathering)	SAP - Saprolite							
<b>www</b> (weathening)	RSI - Altered Rock							
	RFR - Fresh Rock							
	DIO - Diorite	RCL - Chloritic Roc	ks					
	GRA - Granite RSL - Siliceous Rocks							
GMF (Lithologies)	HCS - Calciosilicate Rocks	ate Rocks RSL_HOST - Siliceous Host ROCKS						
	HD - Hydrothermal Zone	XTA - Aluminous S	chist					
	HD_2 - Hydrothermal Zone 2							
	HD_HG	RSL_HOST_ HG						
Demain Out / Demain Au	HD_LG	RSL_HOST_LG						
Domain Cu / Domain Au	HD2_HG	DOMAIN_OUT						
	HD2_LG	DOMAIN_OUT_OX	I					
Density	Density							
Cu_pct	Estimated Cu by Ordinary Kriging							
Au_gt	Estimated Au by Ordinary Krig	ging						
CuEq	Equivalent Copper Underground							
Class (Resource Classification)	on) 1 – Indicated, 2 – Inferred							

$$\label{eq:cuequation} \begin{split} &CuEq\_UG = Cu\_pct + Au\_gt*((0.03215*Au\_Price*Au\_Rec) / (0.01*Cu\_Price*Cu\_Rec)) \\ &Source: compiled by RPMGLOBAL, 2024 \end{split}$$



#### 14.6.2 Block Model Strategy and Analysis

A series of upfront test models were completed to define an estimation methodology that met the following criteria:

- Representative of the current Furnas 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.
- It is robust and repeatable within the mineralized domains.
- Supports multiple domains.

Several test scenarios were evaluated to determine the optimal procedures and parameters to be used to achieve the specified criteria. A Kriging Neighbor Analysis (KNA) was also developed to evaluate the best discretization, sample number, and block size parameters. Each scenario was based on Ordinary Kriging (OK), Inverse Distance Squared (ID2), and Nearest Neighbor (NN) interpolation methods.

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

#### 14.6.3 Search Strategy and Grade Interpolation Parameters

Each mineralized wireframe object was used as a hard boundary for Cu and Au interpolation. That is, only composite samples within each object were used to interpolate blocks within the same object. The Ordinary Kriging (OK) algorithm was selected for grade interpolation of Cu and Au for all mineralized domains, with each using its specific parameters as shown in **Table 14-10**. The OK algorithms were selected to minimize smoothing within the estimate and to provide a more reliable weighting of clustered samples and the high-grade tenor of the mineralization. The Inverse Distance (ID) algorithm was used for grade validation.

A combination of major and semi-major isotropic and anisotropic search ellipsoids was used in the interpolation process based on the variograms, the number of samples used to estimate a block and the relative orientations of mineralization. The search ellipsoid orientations used for interpolation corresponded to the general orientation of the mineralized veins in each domain. Typically, four passes were made over mineralized domains. For unassessed blocks, the average grade for the domains was assigned. Discretization was four x four x 2 (points per block) for all estimated blocks. The OK estimation parameters for Cu grade are presented in **Table 14-10** and the complete Cu and Au grade estimation methods and parameters are presented in **Appendix D**.



Table 14-10 Copper Grade Ordinary Kriging Parameters by Mineralized Domain\*

	General		Е	llipsoid Range	s	Variable	Number o	of Samples	0	utlier Restrict	ions	Max Samples
Domain	Grade Variable	Estimation Pass	Maximum	Intermediate	Minimum	Orientation	Minimum	Maximum	Method	Distance %	Threshold	per Hole
HG_Cu_HD	Cu_pct	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
HG_Cu_HD	Cu_pct	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
HG_Cu_HD	Cu_pct	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
HG_Cu_HD	Cu_pct	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Cu_HD	Cu_pct	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Cu_HD	Cu_pct	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Cu_HD	Cu_pct	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Cu_HD	Cu_pct	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Cu_HD2	Cu_pct	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Cu_HD2	Cu_pct	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Cu_HD2	Cu_pct	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Cu_HD2	Cu_pct	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
HG_Cu_RSL_HOST	Cu_pct	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
HG_Cu_RSL_HOST	Cu_pct	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
HG_Cu_RSL_HOST	Cu_pct	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
HG_Cu_RSL_HOST	Cu_pct	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Cu_RSL_HOST	Cu_pct	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Cu_RSL_HOST	Cu_pct	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Cu_RSL_HOST	Cu_pct	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Cu_RSL_HOST	Cu_pct	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
DOMAIN_OUT	Cu_pct	Pass 1	75	75	16	Yes	4	12	Clamp	50	0.25	2
DOMAIN_OUT	Cu_pct	Pass 2	150	150	16	Yes	4	12	Clamp	25	0.25	2
DOMAIN_OUT	Cu_pct	Pass 3	200	200	16	Yes	4	12	Clamp	15	0.25	2
DOMAIN_OUT	Cu_pct	Pass 4	600	600	32	Yes	4	12	Clamp	6	0.25	4

<sup>\*</sup> There is no HG\_Cu\_HD2 domain for Cu estimation Source: compiled by RPMGLOBAL, 2024



## 14.6.4 Bulk Density Interpolation

A total of 28,469 specific gravity (SG) measurements were used to estimate density for the resource block model. RPM determined that the required number and distribution of SG measurements allowed for direct estimation of density within the block model. The Ordinary Kriging (OK) method was used and provided a good result compared to other methods. The density interpolation strategy and parameters are described in **Table 14-11**.

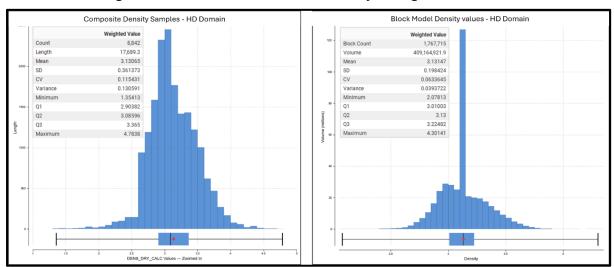
**Table 14-11 Density Estimation Parameters** 

Domain	E	llipsoid Range	S	Variable	Number o	f Samples	Max Samples
	Maximum	Intermediate	Minimum	Orientation	Minimum	Maximum	per Hole
HD	300	300	24	Yes	4	12	2
HD_2	300	300	24	Yes	4	12	2
RSL_HOST	300	300	24	Yes	4	12	2

Source: compiled by RPMGLOBAL, 2024

The overall results are strongly related to the density database, as expected, and the validation process shows a reasonable comparison, as shown in the histograms of samples and block model for the HD domain in **Figure 14-6**. The sample histogram geometry is reproducible to the estimated blocks, and the mean and standard deviation show a good comparison.

Figure 14-6 HD Domain Estimation Density Histogram Validation



Source: RPMGLOBAL, 2024

For the barren lithologies, the overall sample average values were applied. The average density values are shown in **Table 14-12**.



Table 14-12 Block Model Density Average Values by Lithology

Lithology Code	Estimation Method	Mineralized Domain	Density Average Value
RSI	Average Value	No	2.74
SAP	Average Value	No	2.09
SOL	Average Value	No	1.66
DIO	Average Value	No	3.06
GRA	Average Value	No	2.73
HCS	Average Value	No	2.74
HD	Ordinary Kriging	Yes	3.13
HD_2	Ordinary Kriging	Yes	3.11
RSL_HOST	Ordinary Kriging	Yes	2.75
RCL	Average Value	No	2.96
RSL	Average Value	No	2.76
XTA	Average Value	No	2.89

Source: RPMGLOBAL, 2024

#### 14.6.5 Block Model Validation

The block model validation process includes visual comparison of block estimates with composite grades in section views, evaluation of local versus global estimates for ordinary kriging, and analysis of swath plots. A four-step process was used to validate the block model estimate, as described below:

- Average grade comparison for each main domain;
- Block Model volume validation on mineralized domains:
- 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 topcut composite file against the block model grades for each domain. The results of Cu and Au elements for main domains are tabulated in **Table 14-13** and show a reasonable correlation with some domains having differences of approximately 9%. The differences between the composites and the block model indicate that the blocks have grades ranging from -9% to 2% compared to the composites. The differences are due to the smoothing effect of ordinary kriging as well as the outlier restriction applied during estimation.

A volumetric check was performed to ensure that the block model accurately represents the wireframe volumes of the mineralization and no significant discrepancies were found. **Table 14-14** presents this comparison, and shows reasonable agreement across all mineralization domains.



Table 14-13 Composite vs. Block Model Grade Statistical Validation

DOMAIN	Variable	Sample Grade	Model Grade	Difference in Grade	Difference (%)
HD_HG	Cu %	0.96	0.94	0.02	-2%
חט_חט	Au g/t	0.74	0.74	0.00	-1%
HD2_HG	Cu %	-	-	-	-
TID2_TIG	Au g/t	0.70	0.66	0.04	-5%
RSL_HG	Cu %	0.92	0.88	0.04	-4%
KOL_HG	Au g/t	0.52	0.48	0.05	-9%
HD_LG	Cu %	0.35	0.33	0.01	-4%
TID_EG	Au g/t	0.23	0.22	0.01	-3%
HD2_LG	Cu %	0.38	0.38	0.00	1%
1102_0	Au g/t	0.20	0.21	0.00	2%
RSL_LG	Cu %	0.31	0.29	0.02	-6%
NOL_LO	Au g/t	0.19	0.18	0.01	-6%

Source: SDPM, 2024

Table 14-14 3D Volumetric Model comparison

DOMAIN	Wireframe Volume (m³)	Model Volume (m³)	Difference (m³)	Difference (%)
HD	460,080,000	460,077,656	2,344	0.00%
HD_2	107,380,000	107,373,828	6,172	0.01%
RSL_HOST	706,630,000	706,666,094	-36,094	-0.01%
TOTAL	1,274,090,000	1,274,117,578	-27,578	0.00%

Source: RPMGLOBAL, 2024

Swath plots were developed to compare interpolated block grades between the Ordinary Kriging (OK) and Inverse Distance (ID) interpolants along distance slices in the X, Y, and Z directions. The swath plot analysis for the Cu is shown in **Figure 14-7** and shows that the OK estimated grades have a reasonable correlation with the ID interpolant results. While the swath plots maintain the overall trend between the OK and ID methods, there is a variation in individual slices. This is often due to the smoothing of block grades inherent in the Ordinary Kriging algorithm and the estimation parameters used. It is particularly noticeable when grade variations occur over short distances or when the search ellipse used for sample selection is significantly wider than the width of the swath plot slice.

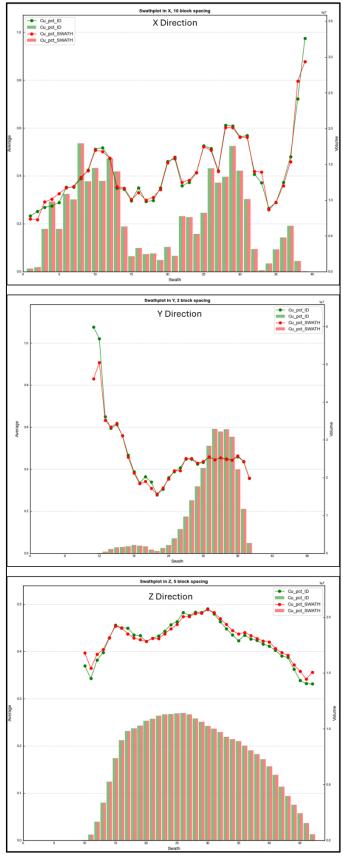
Additionally, the validation of the interpolated block model was assessed by using visual assessments and validation plots of block grades versus capped assay grades and composites. The review showed a good comparison between local block estimates and nearby assays without excessive smoothing in the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

Figure 14-8 shows visual comparisons for the Cu grade of the Furnas Deposit. Visual comparisons for Cu and Au elements were developed, and the results are acceptable. The block model grade fits the composite samples and has 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. A reasonable degree of smoothing was observed due to a combination of the block dimensions, the OK algorithm, and the wide drill spacing at some locations.

Based on the validation results, RPM believes that the estimate is a reasonable representation of the composites and is consistent with the known controls on the mineralization and the underlying data.



Figure 14-7 Swath Plot along X, Y, and Z Direction for Cu (%) Validation



Source: RPMGLOBAL, 2024



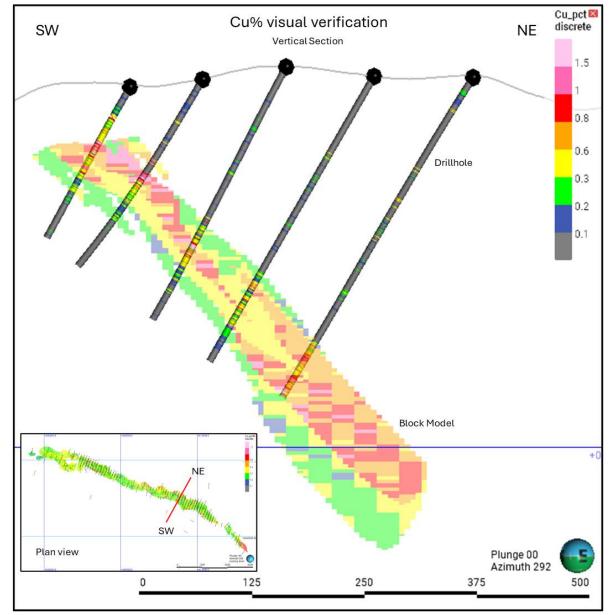


Figure 14-8 Cu (%) grade Section View Validation of Block Model

Source: RPMGLOBAL, 2024

#### 14.6.6 Resource Classification

Mineral Resources were classified by CIM Best Practice Guidelines. The block model was classified as Indicated and Inferred Mineral Resource based on data quality, sample spacing, vein, and grade continuity.

As noted in the geological interpretation, the mineralization varies between the domains, resulting in variations in geological model and grade continuity. This is illustrated when the variography interpretation is compared between the main mineralization zones. While all exhibit moderate to high nuggets, there is variability within the zones. While there are variations observed within the closer spaced holes (80m by 80m), all domains show good continuity along strike and down dip with relative consistency evident in the thickness of the structures. While there is good geological continuity along strike and down dip, there is evidence and it is interpreted that local variations in grade and thickness will occur between the current drill spacing due to the nature of the structures resulting in discontinuous pods of domains, particularly in the High Grade (HG) and Low Grade (LG) domains.



Given the likelihood of further local grade variation with further drilling within the good geological continuity, RPM considers the current data suitable to provide a good estimate of tonnage and metal content within the current drilling spacing on a global scale. RPM considers the 100m by 100m 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 the SDPM consultants and validated by RPM for the Mineral Resource takes into account a number of criteria including the kriging slope of the regression, number of drill holes, average sample spacing, maximum sample spacing and post processing to avoid the "spotted dog" effect. The classification criteria are as follows:

#### Indicated:

Blocks must accomplish the following criteria:

- Kriging slope of regression > 0.3
- Minimum number of drill holes = 2
- Average sample distance < 75m</li>
- Maximum Sample Distance < 150m</li>
- Post-processing to adjust the "spotted dog" effect

#### Inferred:

Blocks that are not classified as indicated and must follow the criteria:

- Minimum number of drill holes = 2
- Average sample distance < 150m</li>
- Post-processing to adjust the "spotted dog" effect

A block model view of the Mineral Resource classification is shown in Figure 14-9.

**RPMGLOBAL** 

Class Resource Classification - visual verification SW NE Indicated Vertical Section Inferred Potential Drillhole Block Model SW Plan view Plunge 00 Azimuth 293 0 125 250 500

Figure 14-9 Classified Mineral Resources Block Model

Source: RPMGLOBAL, 2024

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

The Reasonable Prospects for Eventual Economic Extraction (RPEEE) for the Furnas Project was developed by SDPM, an independent consulting firm, using parameters provided by Ero. The underground scenario was used as it provides the best value to the project. A Mineable Shape assessment was performed using the Mineable Stope Optimizer (MSO), incorporating resources and technical and economic parameters based on Ero's mining operations in Brazil.

The consulting company (SDPM) responsible for assessing the RPEEE criteria for mineral disclosure has conducted a trade-off study on mining methods, comparing open pit, open pit plus underground, and underground options. This study utilized benchmarking costs and geotechnical assumptions related to crown and sill pillars based on Ero's operating mines, with various scenarios exploring different panel sizes. Ultimately, underground mining was the selected method for RPEEE reporting. This method was selected because the results were better than the open pit scenarios and were consistent with Ero's strategic plan for the Furnas project.



The reader is advised that the conclusion from the RPEEE analysis that the Mineral Resources show reasonable prospects for eventual economic extraction is solely for the purpose of reporting Mineral Resources and does not represent an economic assessment nor an attempt to estimate Mineral Reserves.

The 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 June 30, 2024.
- CIM Definition Standards on Mineral Resources and Reserves were used for the Furnas Project Mineral Resource Estimate.
- Industry 5 years long-term consensus average prices of metals as of June 2024 were used for all calculations as itemized in Table 14-15.
- Mineral Resources are not mineral reserves and do not demonstrate economic viability.
- Minor variations may occur during the addition of rounded numbers.
- The MSO (June 2024) was generated based on the assumptions listed in Table 14-15 and the input parameters described below. These assumptions were based on Ero's internal benchmarks and preliminary metallurgical data.
- RPM is not aware of any other factors, such as environmental, permitting, legal, marketing, or other relevant issues, that could materially affect the Mineral Resource estimate.

Table 14-15 Commodity Prices used in the Stope Optimizer

Commodity	Unit	ł	Value Assumption
Metal Prices	Gold (Au)	US\$/oz	1,900.00
	Copper (Cu)	US\$/tonnes	9,259.00

Source: compiled by RPMGLOBAL, 2024

#### Input Parameters for MSO

The calculation of the cut-off grade was based on the following assumptions: mining operating costs, on-site process operating and G&A costs, taxes, metallurgical recoveries, metal payable percentages and other variables. The methodology used converted gold to a copper equivalent and all calculations were made on this basis. The equation used to calculate copper equivalent is shown below.

CuEq = Cu\_pct + Au\_gt \* ((0.03215 \* Au\_Price \* Au\_Rec) / (0.01 \* Cu\_Price \* Cu\_Rec))

#### Where:

Cu\_pct: copper grade (%)

Au\_gt: gold grade (g/t)

Au\_Price: gold price

Au\_Rec: gold metallurgical recovery

Cu\_Price: copper price

Cu\_Rec: copper metallurgical recovery

The main assumptions in the stope optimizer process are presented below:



- Average underground stope panels size: 6m to 24m
- Crown pillar with 50m and sill pillar with 8m every 72m production panel
- Sill Pillar included in Mineral Resource figures.
- Mining operating cost: 25.14 US\$/tonne of ore
- Process operating cost: 8.94 US\$/tonne of ore
- G&A cost: 6.86 US\$/tonnes of ore
- Metallurgical recovery: 85.0% for Cu and 61.5% for Au
- Metal payable percentages: 97% for copper
- Taxes: 1.94%

The current Mineral Resource Statement excludes the crown pillar (50m below surface). It includes the sill pillars as additional studies are underway to define an appropriate mining method and sill pillar recovery strategy. The sill pillars currently represent 10% of the total Mineral Resource tonnage. A mining recovery of 100.0% and a mining dilution of 0.0% have been applied for the calculation of the resource cut-off.

RPM has independently verified the parameters and results of the Mineable Shape Optimizer (MSO) and has not identified any major bias that could materially affect the Mineral Resource numbers. The QP is of the opinion that the current MSO calculation is adequate to constrain the Mineral Resources.

#### Optimization Disclaimer

RPM highlights that the Mineable Shape Optimizer (MSO) used to define the depth and extent to report the underground Mineral Resource is preliminary. The MSO constraint may be subject to change after further technical studies in a future stage of the Project.

USD 9,259/tonne for Cu and USD 1,900/oz for Au prices were selected to determine the maximum extension of potential MSO mining stopes based on historical prices. RPM notes that these prices are above the current long-term consensus forecasts; however, the USD gold price is currently higher, as such, RPM utilized a higher price to determine the maximum extension of potential MSO mining stopes based on the current resource.

While a detailed schedule and trade-off analysis has not been completed to confirm the optimal mining method, given the sub-vertical continuous style of mineralization, an underground approach is reasonable. Additional mining design and more detailed and accurate cost estimate studies are required to confirm the viability of extraction.

RPM notes that Mineable Shape Optimizer (MSO) constrained Mineral Resource demonstrate reasonable prospects for eventual economic extraction and highlights that the MSO underground panels do not constitute a scoping study or a detailed mining study, which are 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 and similar operations within the Company. In conclusion, RPM considers the MSO constrained Mineral Resources to demonstrate reasonable prospects for eventual economic extraction. However, it highlights that additional studies and drilling are required to confirm economic viability.

RPM highlights that geological and internal dilution has been included in the mineralized interpretations; however, no ore loss or dilution factors have been applied. As such, the Mineral Resources are considered undiluted.



#### 14.6.8 Recommendations

RPM highlights that the global mineral resource estimates are not mineral reserves and have not demonstrated economic viability. RPM recommends that further infill drilling be completed to improve the confidence of Mineral Resources for future advanced studies, including economic trade-off studies.

In addition, RPM recommends that a Preliminary Economic Assessment (PEA) be completed on the Furnas Project incorporating both the indicated and inferred mineral resources, the results of metallurgical testwork, and preliminary mine planning to generate a discounted cash flow model of the roject.

#### 14.6.9 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



## **16. MINING METHODS**

The project area already has some technical studies related to hydrogeological, hydrology and geotechnical aspects (TEC3, 2012). The RPEEE indicates good prospectivity for an underground mining scenario. Ero is developing additional technical studies related to hydrogeology, geotechnical, and mining methods for the Furnas Project. These studies have been developed to improve technical models from prior work programs and support future economic studies.

## 16.1 Hydrological Aspects of the Project

The project is situated in the Parauapebas River basin, which is characterized by shallow soils with a significant clay content. Hydrologically, this characteristic reflects a low soil permeability, increasing its surface runoff coefficient and reducing its underground storage capacity, which impacts the low water availability during dry periods and the higher likelihood of intermittent watercourses. The project area has few locations prone to flooding, such as the headwaters of the drainages; however, due to the steep topographic gradient and rapid surface runoff, any potential flooding that may occur will be of short duration.

#### 16.1.1 Water Availability

To evaluate the feasibility of water use, flow rate regionalization for the relevant river sections and a water balance analysis for the project area were performed. This enabled establishing the relationship between water demand and availability in sections with potential for utilization. Results from the assessment indicate that, in accordance with current legislation, the Parauapebas River has sufficient capacity to meet the water demand of the Furnas Project.

In order to update the existing hydrological conceptual model, the hydrological, hydrogeological, and hydrochemical characteristics were defined primarily through fieldwork, analysis of pre-existing databases, assessment of physicochemical parameters, and bibliographic research.

## **16.1.2 Currently Ongoing Work**

In 2024, an environmental monitoring matrix was developed, and its implementation is currently in progress. This matrix aims to establish a network of water instrumentation, including measurement instruments such as limnimeters, spillways, a climate monitoring station (measuring rainfall, temperature, evapotranspiration, etc.), monitoring wells, and piezometers. Based on the data collected over at least one hydrological year, an updated hydrological conceptual model will be prepared to support the development of a future numerical model.

## 16.2 Geotechnical Aspects of the Project

#### 16.2.1 Soil

The geotechnical information of the Furnas Project is based on surface mapping and rotary drilling conducted in the area. The alluviums present in the main drainage areas are predominantly composed by sand, varying from fine to coarse, and containing variable amounts of pebbles and boulders formed by different types of rocks, such as schist, hydrothermalite, laterite, and quartzite. These pebbles and boulders reflect the local geological context.

The colluvial soil, found throughout nearly the entire project area except in elevated portions, is characterized by a predominantly silty to silty-sandy matrix containing pebbles of various sizes. In some areas, boulders and rock blocks are also present. The average estimated thickness of this soil is approximately 12 meters.



In the higher topographic areas, particularly in the central and west-central regions, residual soil, also known as saprolite, has been identified. This soil exhibits a silty-clayey to silty-sandy texture and a pinkish coloration, with fine quartz pebbles and occasionally relict quartz veins.

Rock outcrops in specific areas, such as the southwestern and northeastern portions of the project, include a variety of rock types. These include granitoids, which display a medium to coarse grain size and pinkish coloration, often banded and containing pegmatitic veins; schists, characterized by their foliated texture; hydrothermalites, which have been altered by hydrothermal processes; and siliceous rocks, primarily composed of quartz and frequently fractured, showing evidence of water percolation at depth.

#### 16.2.2 Rock Mass

The geotechnical description of the rock mass of the Furnas Project primarily uses the RMR (Rock Mass Rating) system and classifies the rock mass into four main classes:

- Class V (Very Poor Rock Mass): Located mainly in the surface portions, this rock mass is primarily composed of saprolite and intensely altered rocks with variable thicknesses between 9 and 35 meters. The RMR values for this class are below 20. The strength and alteration vary from R0/W5 to R1/W4.
- Class IV (Poor Rock Mass): This class, situated below Class V, has thicknesses ranging from 7 to 65 meters. It is characterized by a high degree of fracturing and alteration, with RMR values between 20 and 40, and strength and alteration between R2/W3 and R3/W4.
- Class III (Fair Rock Mass): Located below Classes V and IV, with thicknesses between 10 and 85 meters, this class presents moderately altered and fractured rocks, with RMR values between 40 and 60. The strength and alteration vary between R3/W2 and R4/W3.
- Class I-II (Good/Very Good Rock Mass): Representing the majority of the rock mass volume and occurring at average depths greater than 50 meters, this class is composed of sound to slightly altered rocks, with reduced fracturing. The strength and alteration values range from R5/W2 to R6/W1, with RMR values above 60.

Analyses indicate that below a depth of 100 meters, there is an almost absolute predominance of Classes I-II rock masses, with RMR values ranging from 60 to 100. This highlights the high quality of the rock mass in this depth range, which facilitates the selection of various mining methods.

#### 16.2.3 Ongoing Work

The drilling RQD data is being validated through photographic analysis and a new geotechnical model is currently being developed. Additionally, a laboratory testing campaign is planned to support the numerical model for the proposed mine.



# 17. RECOVERY METHODS



## 18. PROJECT INFRASTRUCTURE

The Furnas deposit is located approximately 50 kilometers southeast of VBM's Salobo operations. Covering an area of approximately 2,400 hectares, the Project sits within fifteen kilometers of extensive regional infrastructure, including paved roads, airports, an industrial-scale cement plant, a power substation, and Vale's railroad loadout facility. A map of the Carajás Mineral Province and Project location is shown in **Figure 4-1**.

The project distance approximately 679 km from the city of Belém and less than 50 km from the Parauapebas city. Parauapebas is a mid-size city with approximately 250,000 inhabitants. Most of the essential services can be sourced from Parauapebas.

The regional infrastructure is adequate to support the project development and operation. Figure 18-2 displays the project site and the regional infrastructure. Distance of the key infrastructures to site are presented below:

- Nearest pavemented road 10km
- Nearest transmission line 22.5km
- Vale's railway Station

   26km
- Nearest power substation

   29km
- Parauapebas City (urban area) 30km
- Nearest Airport 51km

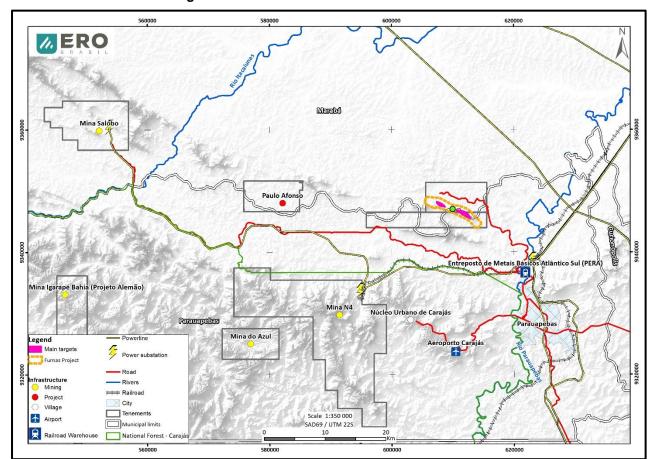


Figure 18-1 Nearest Infrastructure Facilities

Source: Ero, 2024

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# 19. MARKET STUDIES AND CONTRACTS



# 20. ENVIRONMENTAL STUDIES, SOCIAL/COMMUNITY IMPACT

PERMITTING,

**AND** 



# 21. CAPITAL AND OPERATING COSTS



# 22. ECONOMIC ANALYSIS



# 23. ADJACENT PROPERTIES



# 24. OTHER RELEVANT DATA AND INFORMATION



## 25. INTERPRETATION AND CONCLUSIONS

The Furnas deposit has a defined strike length of approximately 9km. It is aligned along the Cinzento Transcurrent System, a significant NW-SE structure measuring approximately 100 km in length which also hosts the Salobo Cu-Au deposit and forms the northern boundary of the Carajás Block. The Archean age metasedimentary siliciclastic rocks of the Águas Claras Formation and metavolcanic rocks of the Grão Pará Group are the primary lithologies. The mineralized shear zone that hosts copper and gold mineralization is characterized by intense hydrothermal alteration and deformation. It is primarily composed of metamorphosed and hydrothermally altered rocks containing silica, biotite, garnet, grunerite, and magnetite. The deposit is geologically similar to other IOCGs in the Carajás region.

Exploration of the Project began in the 1960s and 1970s with a stream sediment sampling program and soil sampling. In 1993, a high-resolution geophysical survey (gamma spectrometry and magnometry) was conducted in the Carajás region, resulting in a coincident anomaly. In 2001, the first drilling campaign was completed, and another soil sampling program was conducted in the project area to expand the study area. Exploration drilling was conducted in four phases from 2001 until 2012. A total of 90,154 meters was drilled in 284 holes. In 2003, a geological mapping campaign was conducted using geophysical surveying as a guide to identify structures and lithology domains.

Previous owners have conducted multiple generations of exploration on the Project. Work completed includes geochemical sampling, geophysical surveys, and diamond drilling. The sampling and assaying methodology and procedures were satisfactory for the majority of drilling campaigns. QA/QC protocols were adequate, and a detailed review of the data did not show any consistent bias or reasons to doubt the assay data. In early 2024, Ero developed a technical study related to drill core quality control. In this study, Ero reprocessed the drilling database (all four historical drilling phases) to verify historic data and did not identify any major bias that could impact the geological modelling and Mineral Resource estimate. Ero also conducted a resampling program, and the comparative results between the original assays and the resampling showed a correlation of 97% for Cu and 93% for Au. Therefore, the Cu and Au assay data from all drilling campaigns can be deemed sufficiently precise and accurate to be used in the estimation of mineral resources and reserves.

The metallurgical testwork results are helpful in guiding further work and processing investigations.

Under the assumptions presented in this Technical Report, and based on the data available as of June 30, 2024, SDPM consultants have estimated the Mineral Resources, with additional validation by the RPM QP. The Mineral Resource Estimate for the Project meets the 2014 CIM Definition Standards and the 2019 CIM Best Practice Guidelines and shows reasonable prospects of eventual economic extraction.

In the opinion of the QP, the Furnas Project has established an initial Mineral Resource estimate using historical data provided by Vale, and reviewed by Ero, SDPM, and RPM Team. The initial Mineral Resource estimate follows industry best practices.

The reader is advised that the conclusion from the RPEEE analysis that Mineral Resources show reasonable prospects for eventual economic extraction is solely for the purpose of reporting Mineral Resources and does not represent an economic assessment nor an attempt to estimate Mineral Reserves. The initial Mineral Resource estimate warrants further technical studies to assess Project economics.



## 26. RECOMMENDATIONS

The recommendations are derived from the Mineral Resources estimate and reflect the current stage of the Project.

The variability of the copper and gold grades may be higher than has been estimated by the model, and the model is not suitable for mid to short-range mine planning until further infill drilling and definition of Measured Mineral Resources. In this perspective, RPM recommends that additional geological work and infill drilling be undertaken to improve database quality and project confidence in the following areas.

## 26.1 Drilling

- Exploration drilling: conduct a geological drilling campaign to investigate the near area and mineralization potential at depth (considered open), to confirm the historical drill hole database.
- Infill drilling: develop an infill-drilling program to increase confidence in the orebody geometry and upgrade the confidence in the mineral resource estimation process. 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 enhancing the confidence in the Mineral Resources estimates to facilitate future technical and economic studies of the Project.
- For future drilling and sampling campaigns, is recommended a heterogeneity tests be conducted to assess the variability and representativeness of the collected samples.

Establish a consistent QA/QC program and the insertion of control standards in the sample stream for future drilling programs.

## 26.2 Geology Study, Mapping, and Prospecting

- Develop a geological mapping program to evaluate the geology and main aspects of mineralization due to the recent updates in geological knowledge for the Furnas Project region.
- Conduct geophysical work to assess mineralization continuity at depth.
- Continue geological studies on the Furnas Project to further understand the mineralization styles and genesis and support future exploration targeting.

## 26.3 Processing and Metallurgy Tests

- Review the existing testwork results.
- Continue the metallurgical testwork to support a Preliminary Economic Assessment.

#### 26.4 Technical and Economic Studies

 RPM recommends a Preliminary Economic Assessment (PEA) study of the Furnas 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").

#### 26.5 Estimated Cost for Recommendations

The estimated costs to complete the main activities recommended above is US\$ 27.4 million as outlined in **Table 26-1**.



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

Area	Estimated Costs	
Geology and Mineral Resources		
Phase 1 Drilling 30,000 m	USD	6,900,000
Phase 2 Drilling 20,000 m	USD	4,600,000
Phase 3 Drilling 45,000 m <sup>(1)</sup>	USD	10,350,000
Geology Studies	USD	500,000
Geological Mapping and Prospecting	USD	400,000
On-site Geology Core shed	USD	650,000
Sub-total – Geology and Mineral Resources	USD	23,400,000
Mineral Processing and Geometallurgical Testwork		
Sub-total – Mineral Processing	USD	2,000,000
Future Technical and Economic Studies		
Sub-total – Technical and Economic Studies	USD	2,000,000
Total Estimated Cost	USD	27,400,000

<sup>(1)</sup> Pursuant to the terms of the Agreement, the Phase 3 Drill Program remains subject to the discretion of the Technical Committee

Source: compiled by RPMGLOBAL, 2024



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### 28. DATE AND SIGNATURE PAGE

This report titled Furnas Copper Project – Pará State, Brazil – NI43-101 Mineral Resource Estimate Technical Report with an effective date of 30 June 2024, was prepared and signed by the following authors:

(Signed and Sealed)

Anderson G Candido, Fellow Member of AusIMM

voval; any other use

Dated at Belo Horizonte, Brazil

November 18, 2024



### 29. CERTIFICATE OF QUALIFIED PERSON

**Anderson Goncalves Candido** 

150 King Street West, Suite 308-03 Toronto, ON M5H 1J9 – Canada Phone: +55 31 99969 1205 agcandido@rpmglobal.com

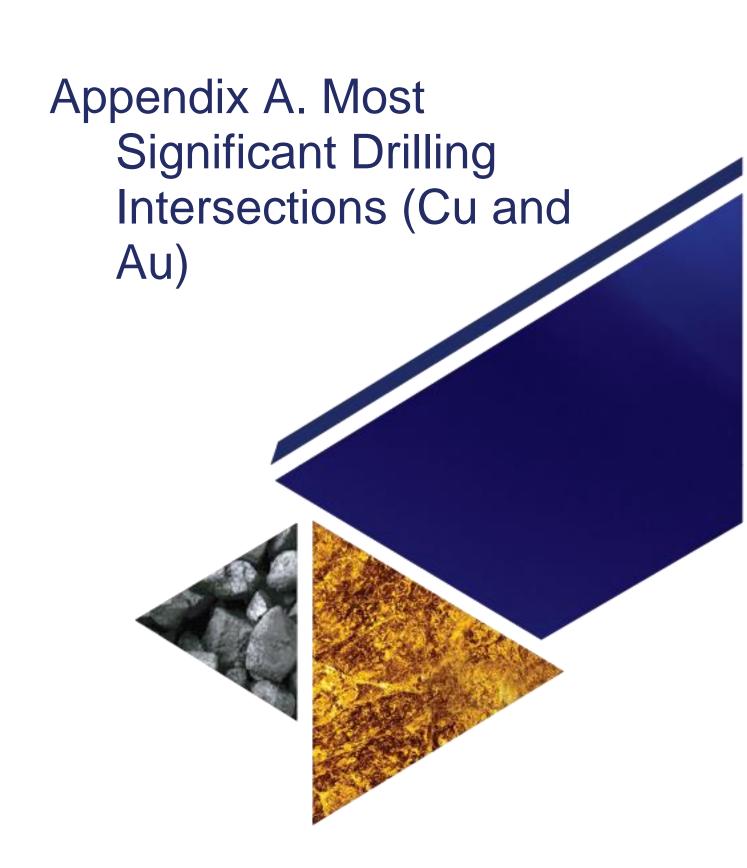
I, Anderson Goncalves Candido, am working as a Principal Resource Geologist for RPMGlobal Canada, at 150 King Street West, Suite 308-03, Toronto, ON M5H 1J9 - Canada. This certificate applies to the technical report entitled Furnas Copper Project – Pará State, Brazil – NI43-101 Mineral Resource Estimate Technical Report, with an effective date of 30 June 2024 (the "Technical Report") do hereby certify that:

- I am a Fellow Member of the Australasian Institute of Mining and Metallurgy ("FAusIMM") number 990424.
- I am a professional geologist, having graduated with a Bachelor of Science (Geology Engineer) degree from the Ouro Preto Federal University in 2003.
- I have been continuously and actively engaged in the assessment, development, and operation of mineral Projects since my graduation from university in 2003.
- I am a Qualified Person for the purposes of the National Instrument 43-101 of the Canadian Securities Administrators ("NI 43-101").
- I approved the preparation and compilation of the Technical Report and I am responsible for each chapter within the Technical Report.
- I have had no prior involvement with the properties that are the subject of the Technical Report.
- I personally inspected the property that is the subject of this Technical Report from October 16th to October 19th, 2023.
- 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, June 30, 2024.
- I have no personal knowledge, as of the date of this certificate, of any material fact or material change that is not reflected in this Technical Report.
- I am independent of Ero Copper Corp in accordance with the application of Section 1.5 of NI 43-101.
- I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 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.

Signed and dated at Belo Horizonte, Brazil, 18 November 2024.

author's approval; any other use is

Anderson Goncalves Candido (QP), FAusIMM



	FROM	ТО		SAMPLE	Au	Cu
DRILL HOLE ID	(m)	(m)	LENGTH (m)	No.	(g/t)	(pct)
PKC-FURN-FD003	108.00	109.00	1.00	109	0.45	0.47
PKC-FURN-FD003	107.00	108.00	1.00	108	4.96	1.50
PKC-FURN-FD003	106.00	107.00	1.00	107	0.89	3.70
PKC-FURN-FD003	105.00	106.00	1.00	106	2.23	1.60
PKC-FURN-FD003	104.00	105.00	1.00	105	1.87	1.20
PKC-FURN-FD003	103.00	104.00	1.00	104	0.84	1.10
PKC-FURN-FD003	102.00	103.00	1.00	103	0.71	1.10
PKC-FURN-FD003	101.00	102.00	1.00	102	0.16	1.70
PKC-FURN-FD003	100.00	101.00	1.00	101	0.05	1.90
FUR-FURN-DH00101	128.90	131.00	2.10	74	0.69	1.30
FUR-FURN-DH00101	131.00	133.20	2.20	75	0.42	1.83
FUR-FURN-DH00101	133.20	135.40	2.20	77	4.39	1.41
FUR-FURN-DH00101	135.40	137.60	2.20	78	0.66	1.12
FUR-FURN-DH00101	137.60	139.80	2.20	79	0.61	0.85
FUR-FURN-DH00101	139.80	142.00	2.20	81	0.56	1.09
FUR-FURN-DH00101	142.00	143.00	1.00	82	3.08	1.83
FUR-FURN-DH00101	143.00	144.00	1.00	83	0.15	1.20
FUR-FURN-DH00101	144.00	145.00	1.00	84	0.27	0.86
FUR-FURN-DH00101	145.00	146.00	1.00	85	0.85	1.68
FUR-FURN-DH00101	146.00	147.00	1.00	86	0.25	1.71
FUR-FURN-DH00101	147.00	148.00	1.00	88	0.28	1.94
FUR-FURN-DH00101	148.00	149.00	1.00	89	0.96	1.37
FUR-FURN-DH00101	149.00	150.00	1.00	90	0.75	1.72
FUR-FURN-DH00108	420.00	421.00	1.00	483	0.31	1.05
FUR-FURN-DH00108	421.00	422.00	1.00	484	0.33	0.73
FUR-FURN-DH00108	422.00	424.00	2.00	486	0.78	0.78
FUR-FURN-DH00108	424.00	425.00	1.00	487	0.03	0.83
FUR-FURN-DH00108	425.00	426.00	1.00	488	0.03	2.90
FUR-FURN-DH00108	426.00	427.00	1.00	490	0.01	3.24
FUR-FURN-DH00108	427.00	428.00	1.00	491	0.03	0.55
FUR-FURN-DH00108	428.00	429.00	1.00	493	0.38	0.52
FUR-FURN-DH00108	429.00	430.00	1.00	495	0.54	0.77
FUR-FURN-DH00108	430.00	431.00	1.00	496	1.12	2.22
FUR-FURN-DH00177	381.10	382.00	0.90	308	0.56	1.41
FUR-FURN-DH00177	382.00	383.00	1.00	309	0.59	1.75
FUR-FURN-DH00177	383.00	384.00	1.00	310	0.19	0.70
FUR-FURN-DH00177	384.00	385.00	1.00	311	0.80	1.15
FUR-FURN-DH00177	385.00	386.00	1.00	314	0.90	1.06
FUR-FURN-DH00177	386.00	387.00	1.00	315	0.39	0.58
FUR-FURN-DH00177	387.00	388.00	1.00	316	1.01	1.33

FUR-FURN-DH00177	388.00	389.00	1.00	317	1.06	1.68	l
FUR-FURN-DH00177	389.00	390.00	1.00	318	0.98	2.85	
FUR-FURN-DH00177	390.00	391.00	1.00	320	0.57	1.35	



# Resources Assurance

### Exploration Information, Mineral Governance and

### Furnas Project Technical Assurance Statement

The Company publicly reports its Exploration Information and mineral Resources estimates in accordance with the requirements of the CIM (Canadian Institute of Mining, Metallurgy, and Petroleum) Definition Standards on Mineral Resources and Mineral Reserves and the National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101)).

The Company's reporting governance over the reliable generation and public reporting of its Exploration Information and Mineral Resources is supported by several assurance activities and controls, including:

- 1) Standards and guidelines should be provided to ensure the reporting process for exploration database validation and mineral resources is based on well-founded assumptions and are compliant with external standards (such as National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101)).
- 2) The Qualified Persons responsible for the estimate meet the requirements for a Qualified Person as per the NI 43-101, namely, Are current members in good standing with a recognized professional association and have sufficient experience relevant to the subject matter reported.
- 3) The Company receives written consent from the Qualified Persons stating that the reported form and context agree with supporting documentation regarding the results or estimates prepared by the Qualified Person.
- 4) The Qualified Person has prepared and provided the Company with supporting documentation for results and estimates to a level consistent with industry practices and disclosure guidelines for any results and/or estimates reported.
- 5) Three levels of quality assurance over these processes, quality controls, data, and information used in the generation and public reporting of results and estimates to ensure precision and correctness:
  - a) Level 1: Quality control processes, data, and documentation to validate input data and generated results completed by internal staff and external consultants.
  - b) Level 2: Internal peer review by Company senior technical staff, independent of the process being reviewed.
  - c) Level 3: External Qualified Person (QP) independent peer review and oversight of processes, consistency, and compliance for both Company generated results and estimates.

# Assurance Processes Supporting the Furnas Project Maiden Mineral Resource Estimate and Reporting for the Public Release

### Responsible Persons

The responsible persons for the assurance control levels supporting the Mineral Resource disclosure are as follows:

- a) Level 1: Database Quality Control processes, data, and documentation to validate input data and generated results completed by internal staff and external consultants.
  - i. Internal to Furnas:
    - 1. Database and QA/QC: Gabriel Francisco José Valois Freire de Mello Júnior, Geology Coordinator of Furnas Project.
  - ii. External Independent Mineral Resource Estimate by SDPM consultancy:
    - EDA, Wireframing and Mineral Resource estimates: João Estevão Júnior, Geology Director, Member of the Australian Institute of Geoscientists (AIG).
- b) Level 2: Internal peer review by ERO Company senior technical staff, independent of the process being reviewed.
  - Cid Monteiro, MRMR Manager, Member of the Australian Institute of Geoscientists (AIG), internal Ero Copper Qualified Person.
  - ii. Melissa Abrão Zeni, Ero Copper Senior Geologist.
- a) Level 3: External Qualified Person (QP) independent peer review and oversight of processes, consistency, and compliance for both Company generated results and estimates.
  - Peer review of the Mineral Resource estimate and the technical assurance processes: Anderson Goncalves Candido, FAusIMM, Principal Geologist from RPMGlobal Inc (RPM);

### Level 1 Internal QAQC Validation

The internal team validated the historical assays, considering the best QAQC practices requested for the market. The protocol used was based on Dr. Armando Simon's methodology, who validated the results as an external QP consultant.

### 1) Data validation

- a. The quality-control protocols varied along the drilling phases, as well as the preparation and analytical laboratories and methods. For all the phases, three parameters were evaluated: precision, accuracy, and contamination.
- b. The precision was evaluated using the hyperbolic method (Simón, 2004), which considers the distortion caused by the low precision commonly presented at levels close to the detection limit. This method consists of calculating the relative error (RE) as the absolute value of the difference between the values of the original and the duplicate, divided by the average between the two values. For the evaluation of the analytical accuracy using certified reference materials (CRMs), ERO prepares control

charts to identify eventual out-of-control samples (OCSs) and subsequently determines the bias value, which is calculated for each CRM and analyte. Bias is conventionally classified according to the following ranges: good, between -5% and +5%; questionable, between -5% and -10%, or between +5 and +10%; unacceptable, below -10% or above 10%. The contamination is evaluated through blank samples, which consist of coarse blanks for the first three drilling phases and coarse and fine blanks for the last drilling phase. Blank versus Previous Sample charts were used to determine the contamination levels and samples.

### **External Independent Quality Assurance and Quality Control of Historical Assays**

The external consultant, DR. Armando Simon, was provided with all database charts, graphs, and analysis to verify, reproduce, and validate the obtained results, whereas the main conclusions were:

- a. The reprocessing of the historical QAQC data from the Furnas Project, aligned with ERO's internal guidelines, resulted in satisfactory outcomes within acceptable standards. Error rates for pulp and coarse duplicates remained within the conventionally accepted limits (<10%), which indicates that the preparation and analytical procedures were adequate for these types of mineralization.
- b. The global biases of all drilling phases and laboratories were within the conventionally accepted limits, which indicates that the analytical accuracy at the primary laboratories was adequate. Furthermore, no significant contamination was detected in any of the laboratories.

## Level 1 External Independent Mineral Resource Estimate

The maiden (first-time reporting) Mineral Resource estimate for the Furnas Project has been performed by an external and independent consultancy, SDPM Mining Consulting, from Belo Horizonte, Brazil, under the guidance of and with reporting signed off by QP Anderson G Candido, Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM), Principal Geologist at RPMGlobal. SDPM Mining Consulting has quality control activities in place to provide assurance over the Mineral Resource estimate and reporting, as outlined below:

### 1 Data validation

- a) The technical data and geological database, including QA/QC data, lithological model wireframe, and grade model wireframe supplied by the Company, have been archived in a specific folder on SDPM servers without modifying the original content.
- Each copy of the files was opened to ensure that there was no corruption of its information during the digital transfer process from its source of origin, SDPM's servers.
- c) The received data were confirmed to be geographically contained within the boundaries of the mineral exploration rights.
- d) The drilling activity database was audited, and the following scenarios were validated:
  - i. The accuracy of the hole collar coordinates.

- ii. The accuracy of the hole collar regarding the topography.
- iii. The consistency of values defining the survey vectors, including azimuth, dip, and depth.
- iv. The improper occurrence of overlaps in geochemical sample information and various technical descriptions derived from drilling core samples (assays, lithologies, weathering, etc.).
- v. The correlation between collar information and descriptive fields, such as assays and lithologies, and
- vi. The assay data was audited, with checked for:
  - 1. Completeness of variables for estimation.
  - 2. Occurrence of invalid, negative, and alphanumeric values.
  - 3. Correct identification of the metric unit of analysis.
  - 4. Laboratory analysis type and references.
  - 5. The number of decimal places used, etc.; and
  - 6. Up to 2% of assay data in mineralized zones were selected, and confirmed that the grade values matched those in their respective analytical certificates.
- e) The comparison between drill hole collar coordinates and their relative position to the project's adopted topographic surface elevation was assessed. In cases of misalignment, the project's exploration team was notified to verify collar data or conduct a more precise topographic survey.
- f) The procedures employed in the project's QA/QC processes were verified. Control charts for blank, duplicate, standard, and inter-laboratory check samples were generated for critical elements, and any anomalies were identified. The results of the QA/QC samples were assessed, and the data was categorized into groups based on the following attributes: analysis type, sample preparation method, laboratory used, and geochemical variable analyzed. The method and consistency for determining specific gravity (sample density) and its application for bulk density were validated for the sampling method and testing approach considering the rock-type competence and compactness.

### 2 Definition of Estimation Domains

The definition of the estimation domain was prepared by SDPM Geologist Eduardo Pinheiro Felix, MAIG, with all phases of estimation supervised by SDPM's QP (João Estevão Júnior), as described below.

Internal review meetings were held at key phases to discuss strategies, results, and options to proceed with the planned tasks. These included the following tasks:

- a) Geological and grade interpretation.
- b) Statistical Data Analysis.
- c) Modelling cut-off definition.
- d) Creation of shells of high grade and low grade for Cu and Au.
- e) Domain validation.

Summary of the process of wireframing of estimation domain conducted as follows:

- a) The geological model was constructed based on the available geological and structural data using the implicit modeling method in the software Leapfrog Geo®.
- b) Statistical analyses were conducted to define the modeling cut-off grade for the estimation domains.
- c) The estimation domains were interpreted and modeled inside the geological domains. Low-Grade and High-Grade domains were modeled inside the mineralized geological domains for the variables Copper and Gold.
- d) Cross-sectional plots of the mineralization model were created, and it was confirmed that the modeled mineralization's continuity was aligned with industry best practices.

### 3 Mineral Resource estimation

The Mineral Resource estimation was prepared by SDPM Geologist Eduardo Pinheiro Felix, MAIG, with all phases of estimation supervised by SDPM's QP (João Estevão Júnior), as described below.

Internal review meetings were held at key phases to discuss strategies, results, and options to proceed with the planned tasks. These included the following tasks:

- i. Definition of composite support.
- ii. Definition of estimating method.
- iii. Definition of top cut (thresholds).
- iv. Variography.
- v. Definition of block model parameters.
- vi. Kriging results validation.
- vii. Mineral Resource pit optimization parameters and underground stope optimization.
- viii. Mineral Resource classification criteria.

### In summary, the process of Mineral Resource estimation was conducted as follows:

- a) The samples were composited, considering appropriate support for the continuity of statistical and geostatistical analyses.
- b) Exploratory Data Analysis (EDA) was conducted, considering the various domains.
- c) Top cut (threshold) values were determined for each variable based on their grade distribution.
- d) A variography study was conducted for each domain of copper and gold.
- e) The Ordinary Kriging (OK) method was selected for the estimation of individual grades based on the mineralization model, including the waste.
- f) An outlier restriction method was applied for a high-grade range of 150 meters.
- g) A block model was established, with the parent block size determined based on the average drilling spacing dimensions. The estimation was conducted on the parent blocks.

- h) The definition of sub-blocks in the block model was carried out to achieve a volume match greater than 99% between the wireframes of each estimation domain and their respective volumes in the block model.
- The Ordinary kriging strategy was defined in steps based on the spatial continuity of each variable.
- j) The grade estimates were validated using criteria for local bias, global bias, and visual validation of the estimation, including:
  - i. Swath plots comparing the smoothing effect and local biases along the X, Y, and Z coordinate axes.
  - ii. Nearest Neighbor (NN) check comparing statistical summaries, histograms, and correlation plots to assess the smoothing effect of estimation and global biases.
  - iii. Inverse Distance (ID) check comparing statistical summaries, histograms, and correlation plots to assess the smoothing effect of estimation and global biases.
  - iv. Visual inspection of results the projection of grades in a 3D environment and geological cross-sections was used to assess the coherence of the results with the proposed project model.
- k) The Classification of Mineral Resource estimates into Measured, Indicated, and Inferred Resources was determined through an approach considering a set of factors, namely:
  - i. The sampling grid spacing.
  - ii. The slope of regression.
  - iii. A number of drill holes.
- Equivalent copper was calculated using individual estimated copper and gold grades.
   The CuEq was calculated following the CIM guidelines for metal equivalent calculations, considering reference price and metal recovery.

# Level 2 Internal peer review by ERO Company senior technical staff

### 1 Public Disclosure of Assay Results

- a) The technical content of any press releases or other public disclosures will be verified by the VP of Exploration and the Mineral Resource Manager for accuracy.
- b) Prior to the release of the Maiden Mineral Resource Statement, the VP of Exploration and the Mineral Resource Manager read the disclosure document for accuracy and report standards.

### **2 Public Disclosure of Resource Estimates**

Public disclosure of an independent NI 43-101 compliant Mineral Resource estimate is not a verification trigger, provided that:

- a) An independent qualified person who qualifies as an expert in Mineral Resource estimation under NI 43-101 (the Independent Expert) and has been approved by the Ero company is signing off as the responsible party for the Mineral Resource estimate and
- b) The Independent Expert has conducted his/her own QA/QC database verification process and reports on the process and

- c) The Independent Expert approves the news release containing the Mineral Resource estimate and
- d) The Independent Expert acknowledges that he/she will be signing off on the NI 43-101 Technical Report that details the Mineral Resource estimate.

# Level 3 External Qualified Person (QP) independent peer review

**Detailed Peer Review of the Mineral Resources estimate.** 

Peer review of the Mineral Resource estimation by RPMGlobal Inc (RPM) included the activities described below to confirm the robustness of the estimate and its reporting.

The review was conducted by Mr. Anderson Cândido, who has over 20 years of industry experience in geology, Mineral Resource estimation process and reporting, mine geology, and data management. He is a fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM) and a QP for Mineral Resource estimation according to CIM and NI 43-101 guidelines. Mr. Cândido is an experienced professional with a technical background in mine geology, projects, and operations with 20 years of experience in open pit and underground operations and consulting.

RPM is of the opinion that the Mineral Resource estimation process and procedures adopted by SDPM Consultants are adequate for mineralization style and deposit characteristics. RPM did not identify any material risk that could impact the Mineral Resources statement published in this technical report.

### 1 Site visits and discussions

a) RPM undertook site visits as part of the peer review.

RPM visited the site on 16-19 October 2023 to review the drilling database, materiality, and transparency of the database.

- b) RPM participated in several technical meetings and discussion forums with SDPM and the Company team related to:
  - i. Database quality;
  - ii. Geological Modelling;
  - iii. Estimation methodology;
  - iv. RPEEE assumptions; and
  - v. Mineral Resource classification and reporting.
- c) When appropriate, RPM provided comments and/or suggestions to SDPM and the Company to review specific items in their approaches to the mineralization domaining and Mineral Resource estimation, and RPM notes that the SDPM and the Company teams were open to consider the RPM comments and suggestions during each review phase.

### 2 Database

RPM considers the provided database composed of drill holes to be subject to appropriate handling following industry standards and expectations and a reasonable QA/QC program that

resulted in robust data for geological modeling and grade estimation. RPM applied the following activities to form this opinion and provide assurance over the data quality:

- a) Drill hole Z coordinate collar verification against the current topography.
- b) Several technical discussions were held at the time of database validation between the Company, SDPM, and RPM to verify the quality and transparency of data. Also, Ero established a database repository to secure data quality and avoid unnecessary manipulation by users.
- c) RPM validated the data and the procedures that generate the final database to support the Geological Model and Mineral Resource estimate: RPM is of the opinion that the Company approach and SDPM procedures on Database validation are well established and did not produce any material issue for the Mineral Resource estimation.

### 3 Mineralization model

The Mineralization model was developed based on assumptions over the minimum interval length, Cu cut-off/threshold grade, and lateral continuity, as well as the sectorization of the deposit into the Hydrothermalite zone and RSL Host domains. The Mineralization model was built by the SDPM Geologist and verified by the Ero team. RPM also verified the 3D mineralized model and performed visual comparisons and sector validation.

RPM is of the opinion that the 3D mineralized model is well-founded and suitable for Mineral Resource estimation. During the RPM 3D mineralized verification, the following activities were conducted:

- a) Visual inspection to ensure any mineralized interval is inside the mineralized zones.
- b) Mineralization and geology continuity and lateral comparisons of the modeled mineralized zones considering the footwall and hanging wall zones.
- c) Copper and Gold grade distribution in each domain is needed to ensure proper domaining division and avoid misinterpretation.
- d) RPM reviewed the updated 3D model and agreed with the final modeling approach.

### **4 Mineral Resource estimation**

The Mineral Resource estimation phase utilized the 3D mineralized domain/zone model and the valid database. RPM completed the following review activities to confirm the robustness of the estimate:

- a) Mineralized domain verification:
  - i. All domains were compared based on the Cu and Au grade and 3D geometry, and the domaining division was considered appropriate.
  - ii. RPM, Ero, and SDPM held several discussions on these aspects to better understand the grade distribution and deposit geometry over the domains.
- b) Upon review, considering the current drill grid spacing, the block model parameters adopted for grade estimation and reporting were deemed reasonable and appropriate to support the modeled deposit volumes.
- c) Upon review, the sample composite parameters, interpolation method (Ordinary Kriging OK), variography models, and sample search distances were considered appropriate for the deposit geology and mineralization zones and geostatistical (spatial) characteristics.

d) The grade validation was completed by SDPM using visual validation (samples and block model dispersion), swath plots in X, Y, and Z directions, histogram grade distributions, and mean average grade checks. The validation results provided by SDPM are considered reasonable, and RPM is of the opinion that the entire grade estimation process is well established. The results support the current Technical Report and Mineral Resource statement.

### **5 Mineral Resource Classification**

The Mineral Resources classification criteria adopted by SDPM for the Furnas model are based on the following main criteria: Kriging slope of regression, Minimum number of drill holes, Average sample distance, Maximum Sample Distance, and Post-processing to adjust "spotted dog" effect.

Several discussions on classification were held between the Company, SDPM, and RPM to evaluate the scenarios and confidence criteria for Mineral Resource classification.

RPM reviewed the final classification approach and considered this to be well-developed and to cover the main sample distribution and deposit geometry aspects. RPM is of the opinion that the adopted classification criteria cover the main mineralization aspects and estimation risks associated with the Furnas deposit style and meet the principles of materiality and transparency for the data, estimation, and classification process.

### **6 Reasonable Prospects for Eventual Economic Extraction (RPEEE)**

RPEEE considerations were established to constrain the Mineral Resource model and support an appropriate Mineral Resource statement.

- a) The parameters used in the Mineable Stope Optimizer MSO approach (metal prices, metallurgical recovery, operational costs, etc.) were extensively discussed by the Company and SDPM consultants.
- b) RPM and SDPM held technical discussions to verify the consensus on copper recovery, and RPM provided an independent view of the copper recovery analysis.
- c) The whole RPEEE definition process was considered transparent, and the parameters were appropriately presented. RPM is of the opinion that the RPEEE process follows industry standards and expectations and takes the Furnas Project characteristics into account for the RPEEE definition.

### **7 Mineral Resource Statement**

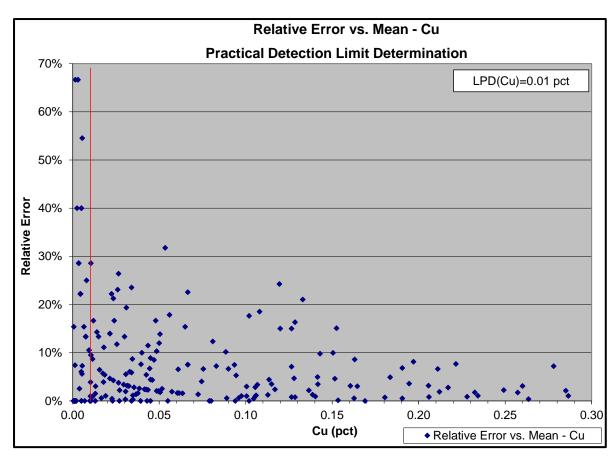
The Mineral Resource statement values were calculated within the Mineable Stope Optimizer MSO.

- a) RPM confirmed that the SDPM and Ero team had several validation steps in place before running a final MSO to constrain the Mineral Resource estimate.
- b) In RPM's opinion, the SDPM procedures for RPEEE and Mineable Stope Optimizer follow industry standard practices and are reasonable for the purpose of the Mineral Resource estimation process and reporting.

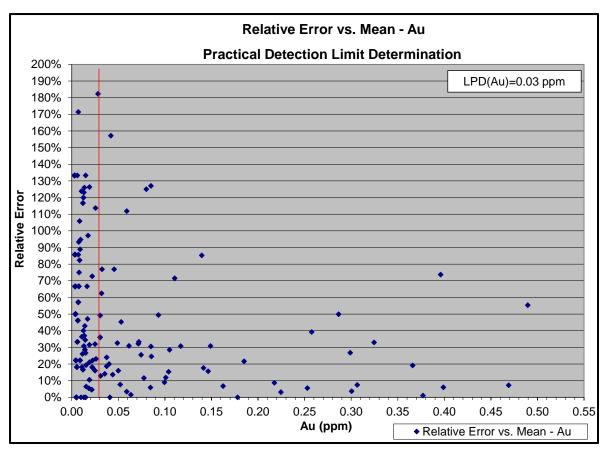
### **8 Final Opinion**

RPM Qualified Person completed its peer review independently from the Company and SDPM and has no relation or interest to the Furnas Project. After the peer review, RPM is of the opinion that the whole Mineral Resource estimation process is acceptable and consistent, follows industry best practices, and is in accordance with CIM and NI 43-101 guidelines.

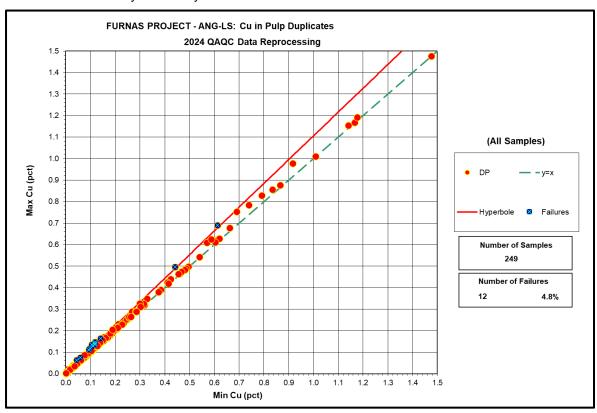
# Appendix C. QAQC Control Charts



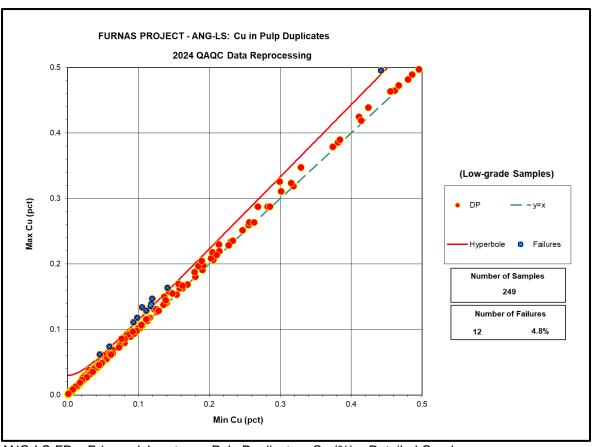
ANG-LS-FD – Primary laboratory – Cu Practical Detection Limit.



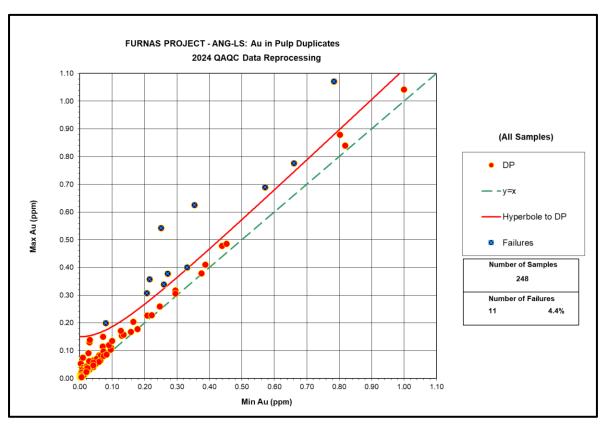
ANG-LS-FD - Primary laboratory -Au Practical Detection Limit.



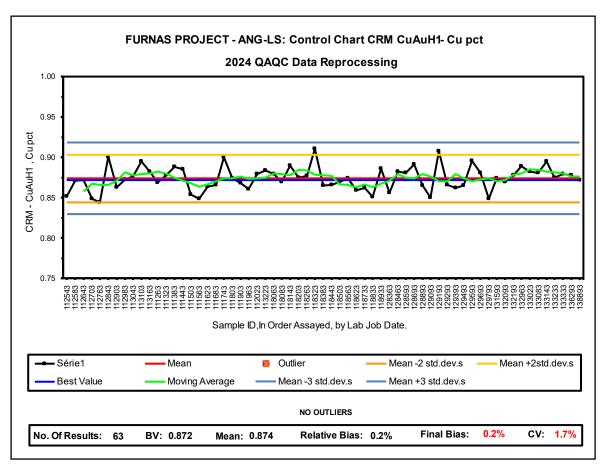
ANG-LS-FD - Primary laboratory - Pulp Duplicate - Cu (%).



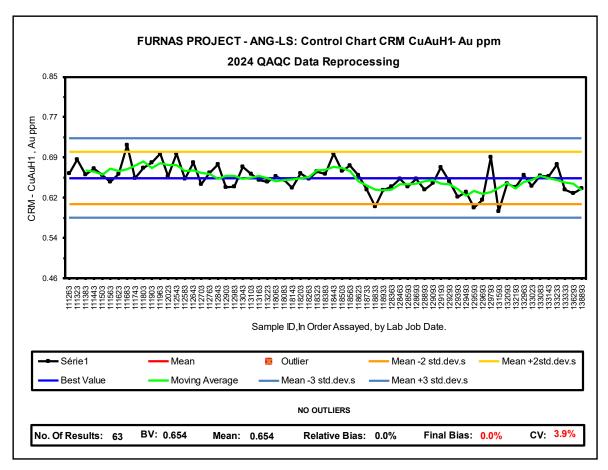
ANG-LS-FD – Primary laboratory – Pulp Duplicate – Cu (%) – Detailed Graph.



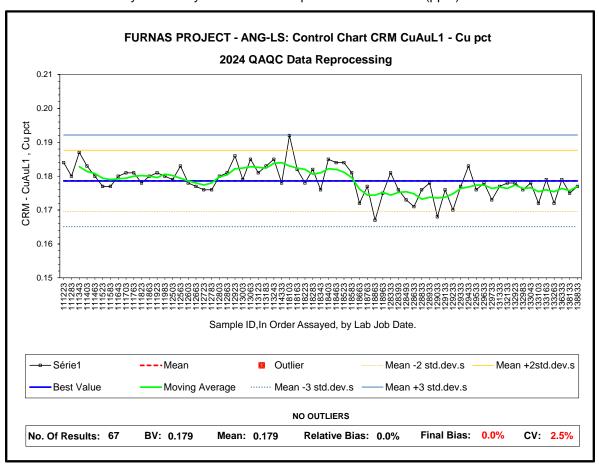
ANG-LS-FD - Primary laboratory - Pulp Duplicate - Au (ppm).



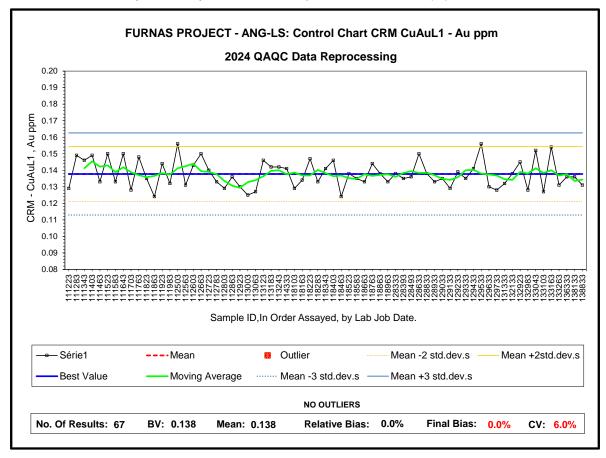
ANG-LS-FD – Primary laboratory – Standard Samples – CuAuH1 – Cu (%).



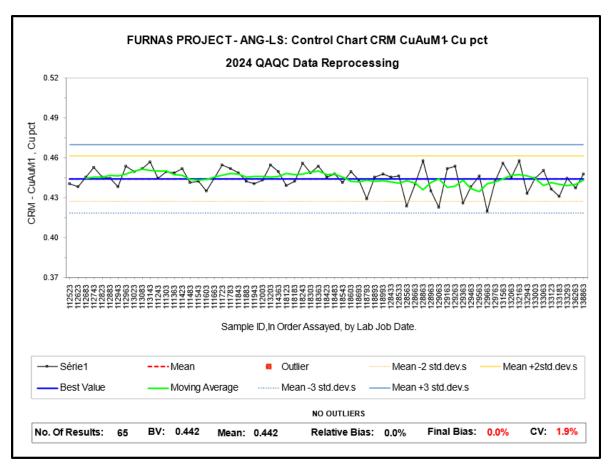
ANG-LS-FD - Primary laboratory - Standard Samples - CuAuH1 - Au (ppm).



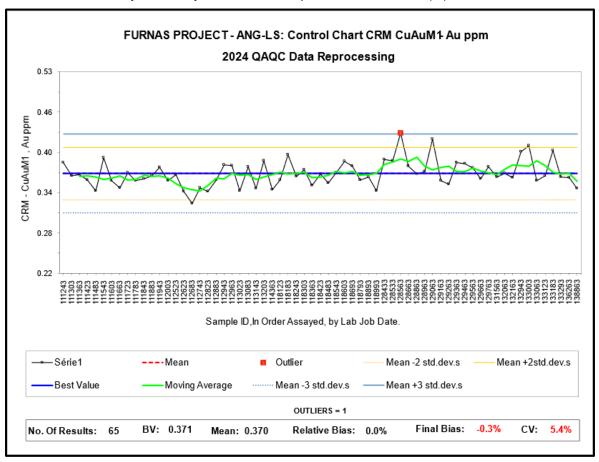
ANG-LS-FD – Primary laboratory – Standard Samples – CuAuL1 – Cu (%).



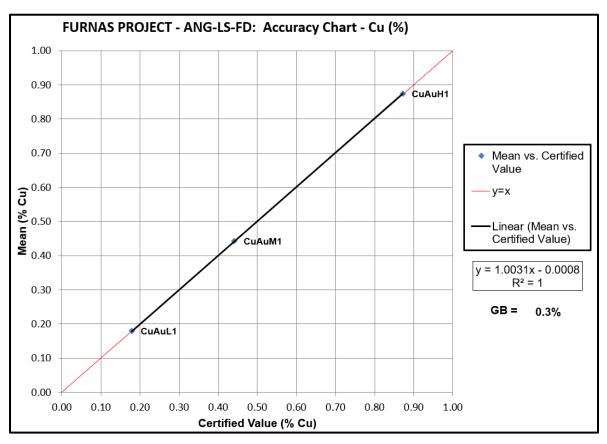
ANG-LS-FD - Primary laboratory - Standard Samples - CuAuL1 - Au (ppm).



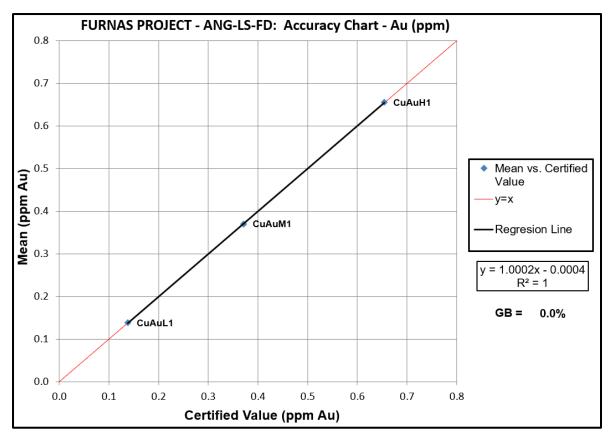
ANG-LS-FD - Primary laboratory - Standard Samples - CuAuM1 - Cu (%).



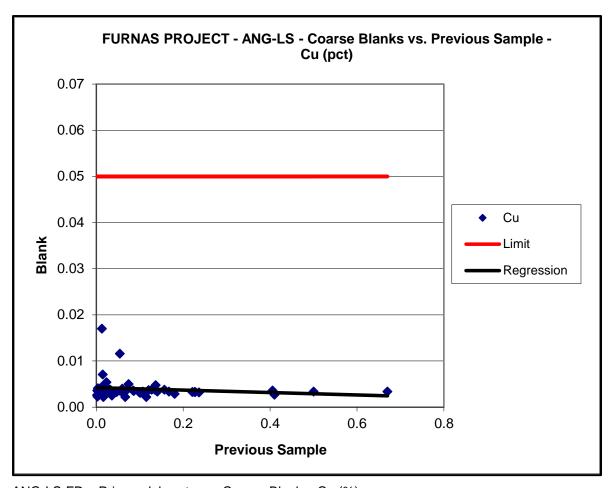
ANG-LS-FD – Primary laboratory – Standard Samples – CuAuM1 – Au (ppm).



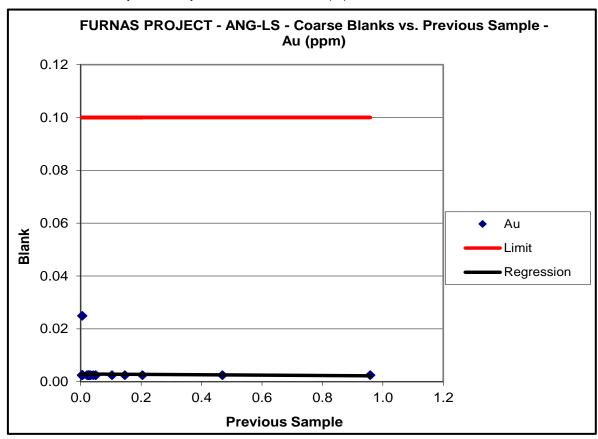
Primary laboratory - Accuracy Chart - Cu (%).



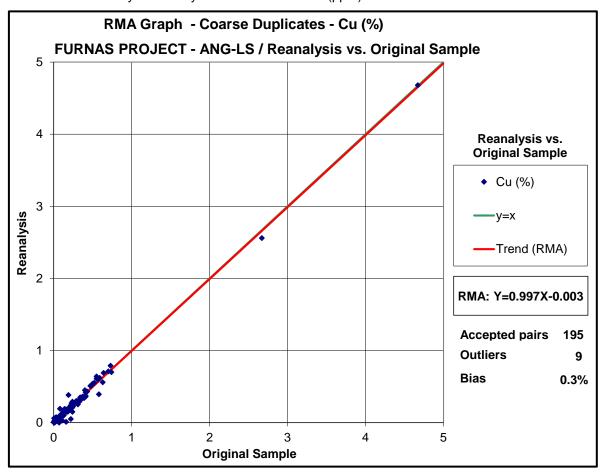
Primary laboratory – Accuracy Chart – Au (ppm).



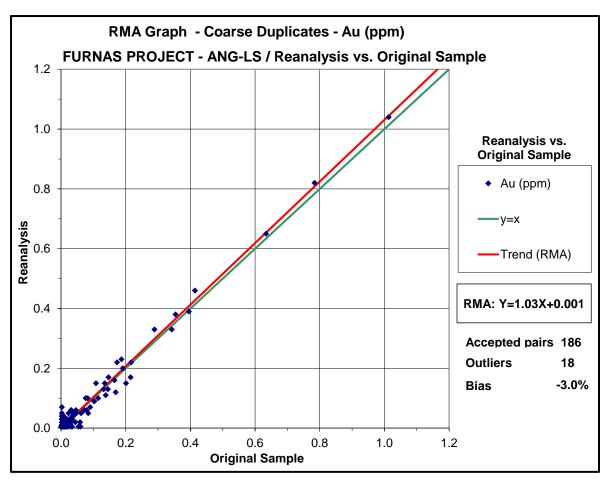
ANG-LS-FD - Primary laboratory - Coarse Blank - Cu (%).



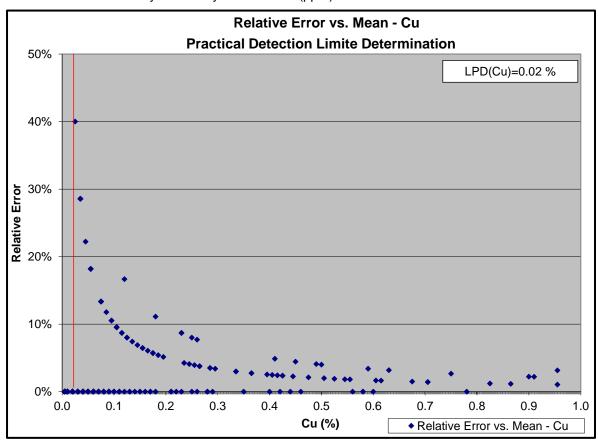
ANG-LS-FD - Primary laboratory - Coarse Blank - Au (ppm).



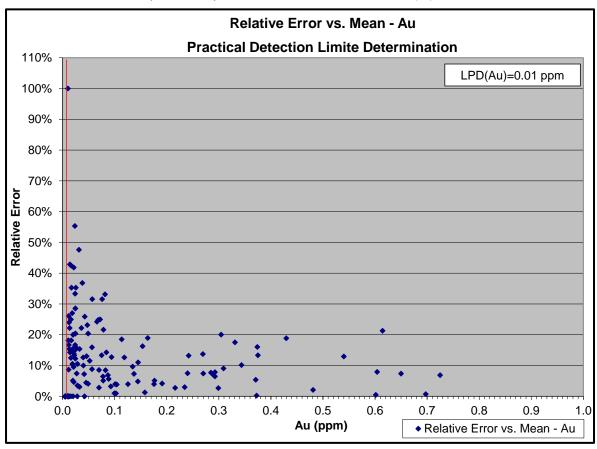
ANG-LS-FD - Secondary laboratory - RMA - Cu (%).



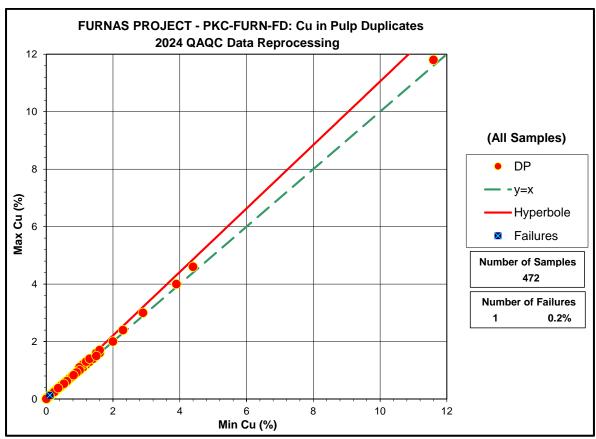
ANG-LS-FD - Secondary laboratory - RMA - Au (ppm).

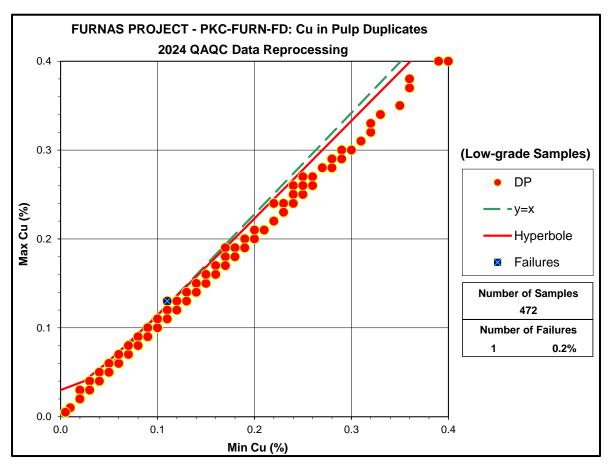


PKC-FURN-FD - Primary laboratory - Practical Detection Limit - Cu (%).

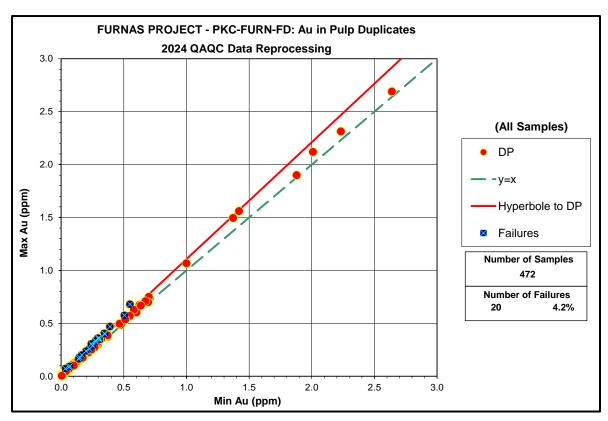


PKC-FURN-FD – Primary laboratory – Practical Detection Limit – Au (ppm).

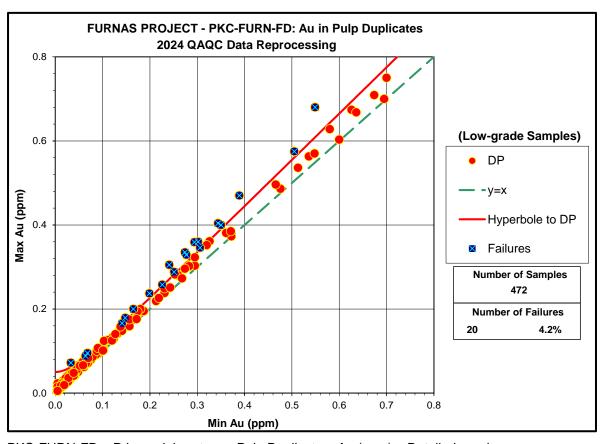




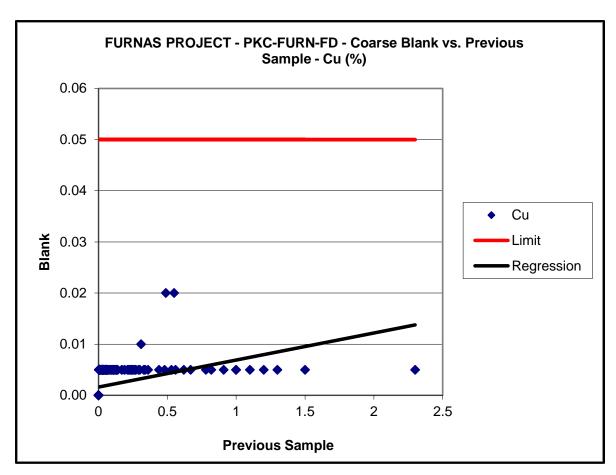
PKC-FURN-FD – Primary laboratory – Pulp Duplicate – Cu (%) – Detailed Graph.



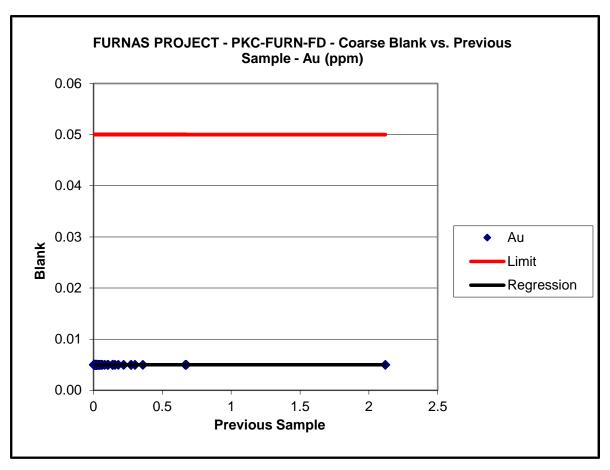
PKC-FURN-FD - Primary laboratory - Pulp Duplicate - Au (ppm)



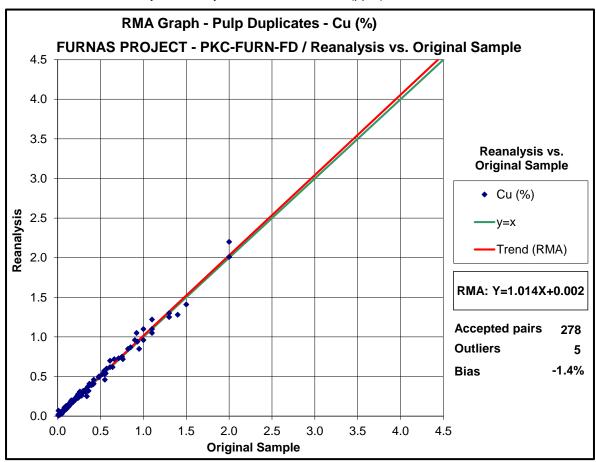
PKC-FURN-FD - Primary laboratory - Pulp Duplicate - Au (ppm) - Detailed graph

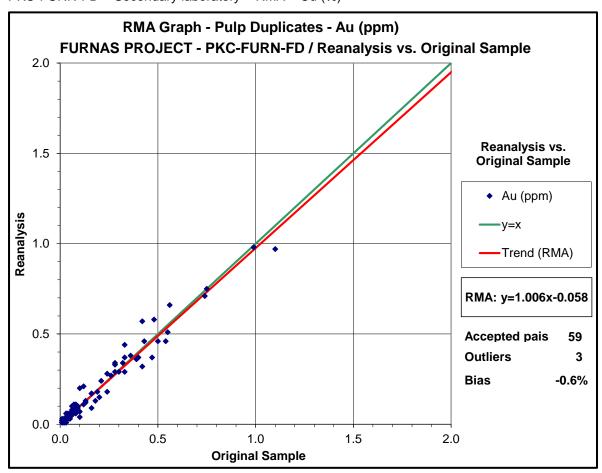


PKC-FURN-FD - Primary laboratory - Coarse Blank - Cu (%)

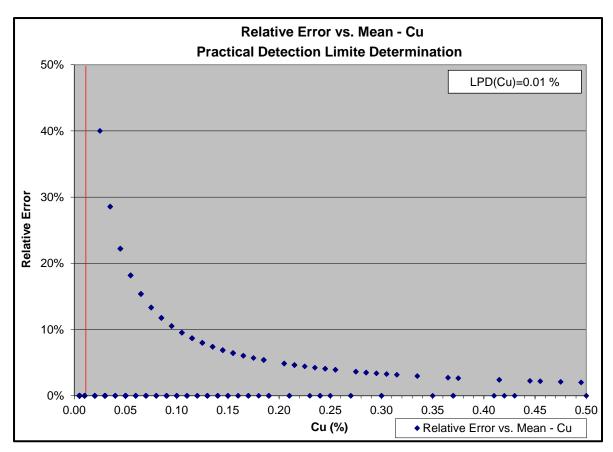


PKC-FURN-FD - Primary laboratory - Coarse Blank - Au (ppm)

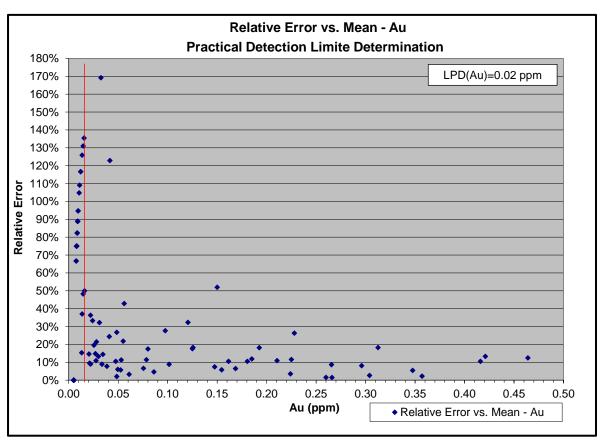




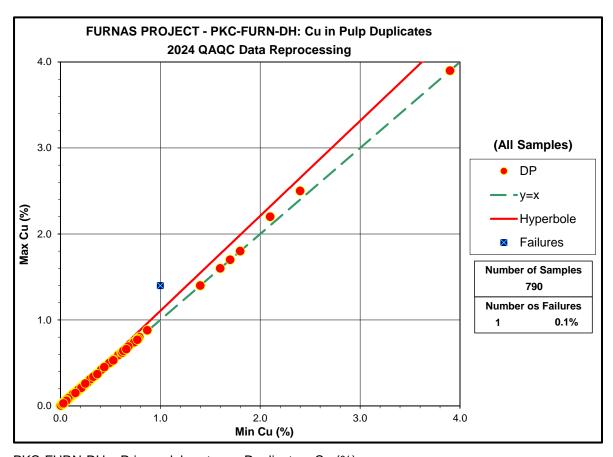
PKC-FURN-FD – Secondary laboratory – RMA – Au (ppm)



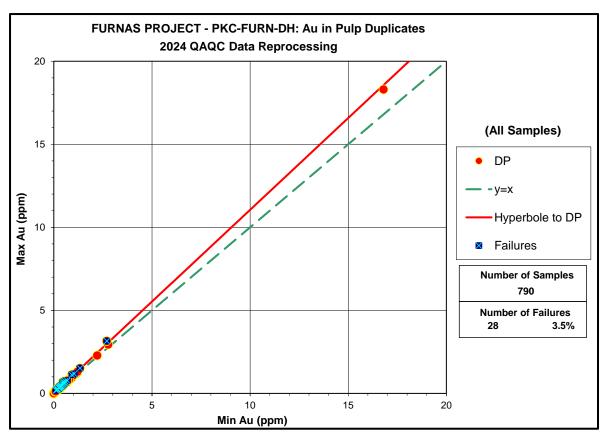
PKC-FURN-DH - Primary laboratory - Practical Detection Limit - Cu (%)



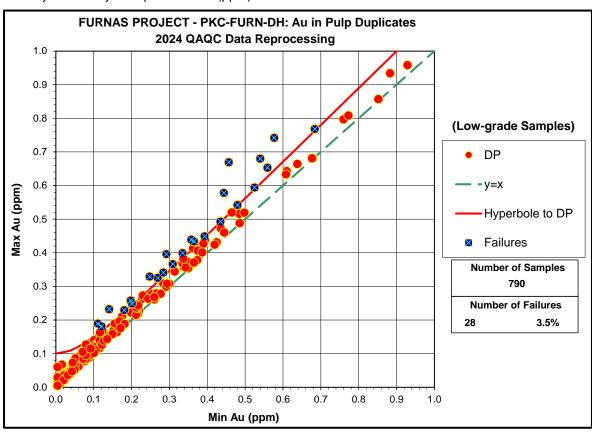
PKC-FURN-DH - Primary laboratory - Practical Detection Limit - Au (ppm)



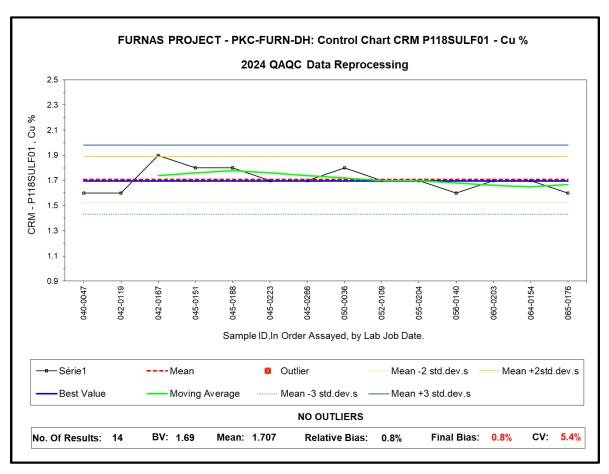
PKC-FURN-DH - Primary laboratory - Duplicate - Cu (%)



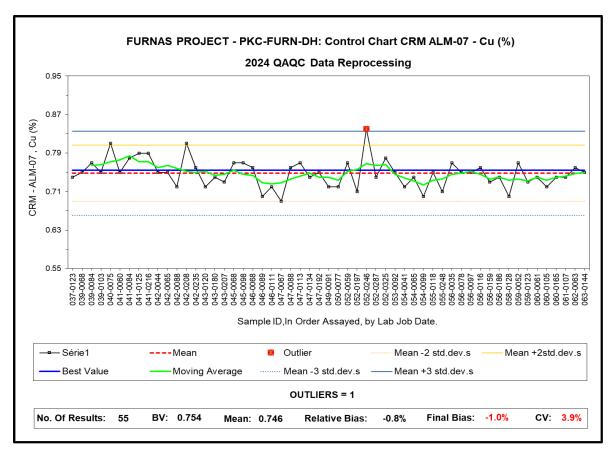
Primary laboratory – Duplicate – Au (ppm)



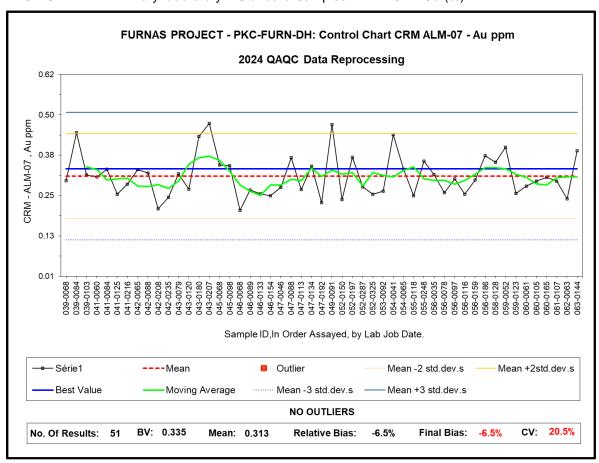
PKC-FURN-DH - Primary laboratory - Duplicate - Au (ppm) - Detailed Graph

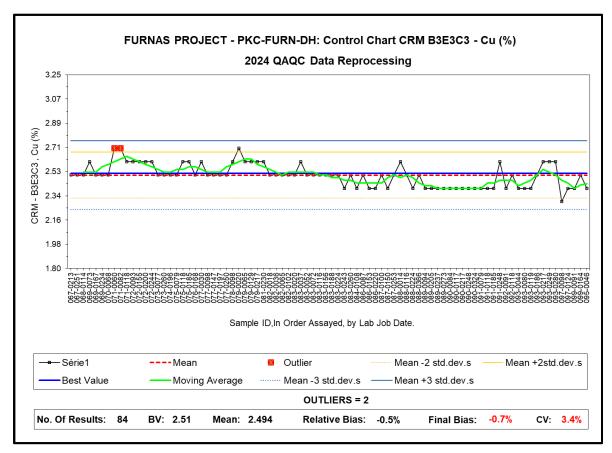


 $PKC-FURN-DH-Primary\ laboratory-Standard\ Samples-SOXBT-Cu\ (\%).$  The CRM SOXBT is only certified for Cu (%).

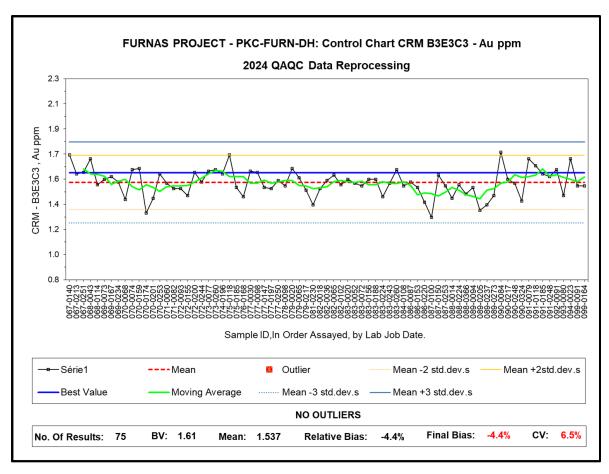


PKC-FURN-DH - Primary laboratory - Standard Samples - ALM-07 - Cu (%).

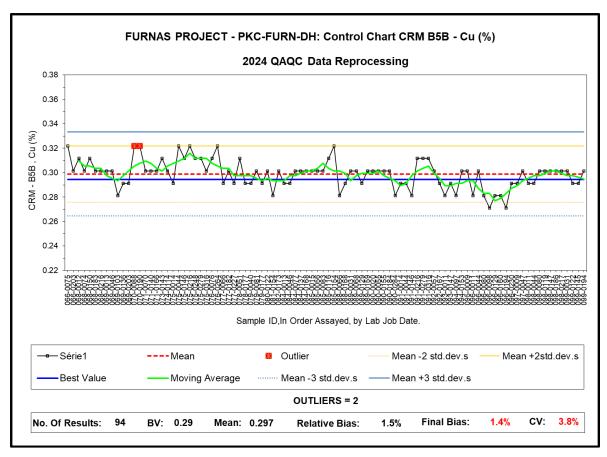




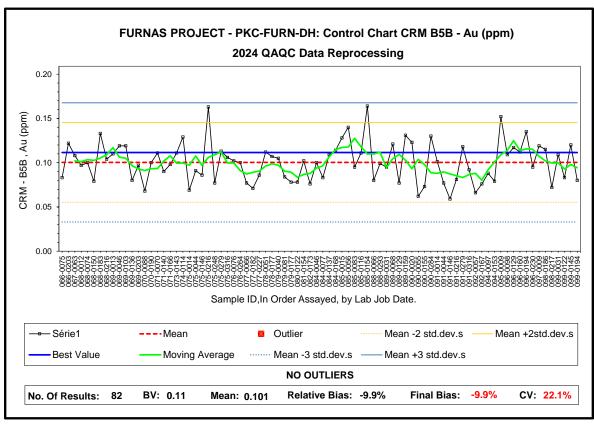
PKC-FURN-DH – Primary laboratory – Standard Samples – B3E3C3 – Cu (%)



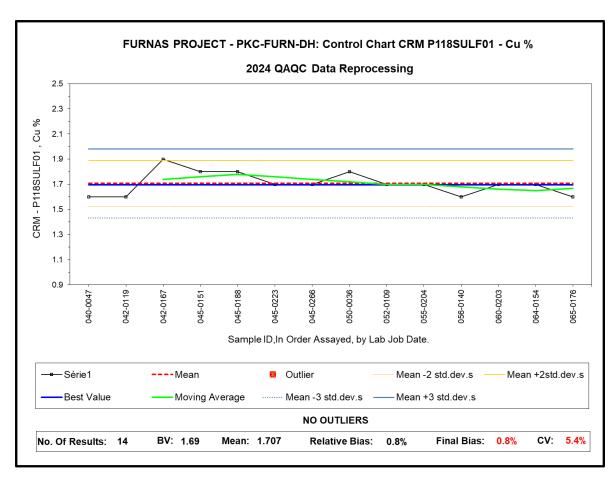
PKC-FURN-DH – Primary laboratory – Standard Samples – B3E3C3 – Au (ppm)



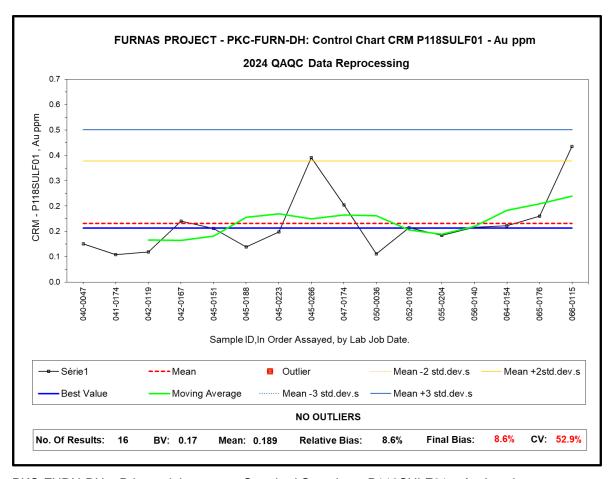
PKC-FURN-DH - Primary laboratory - Standard Samples - B5B - Cu (%)



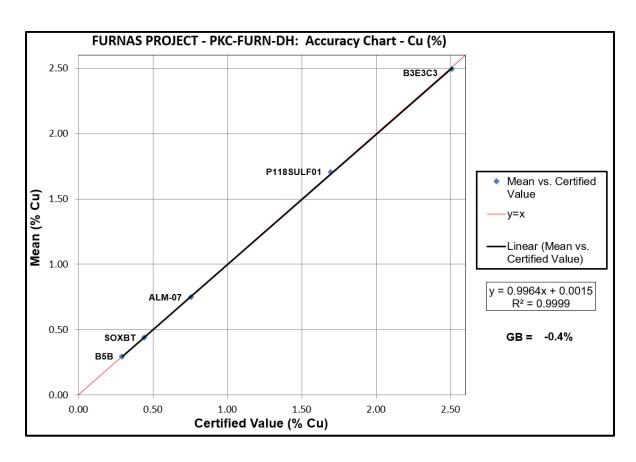
PKC-FURN-DH - Primary laboratory - Standard Samples - B5B - Au (ppm)



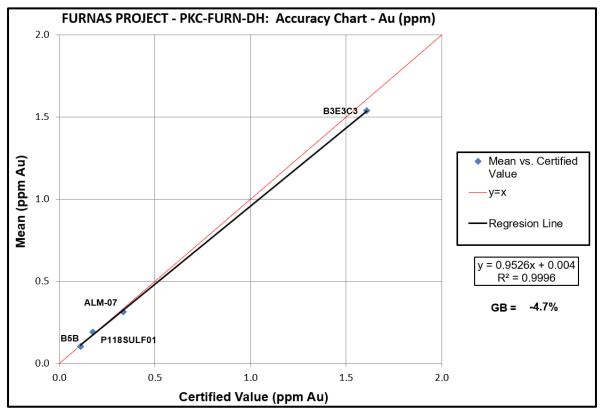
PKC-FURN-DH - Primary laboratory - Standard Samples - P118SULF01 - Cu (%)



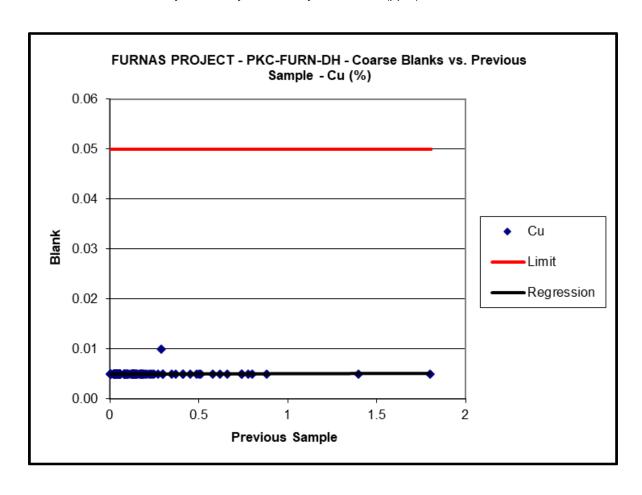
PKC-FURN-DH - Primary laboratory - Standard Samples - P118SULF01 - Au (ppm)

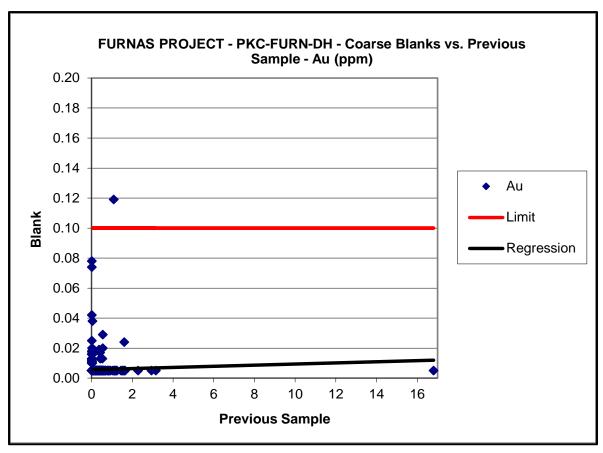


PKC-FURN-DH - Primary laboratory - Accuracy Chart - Cu (%)

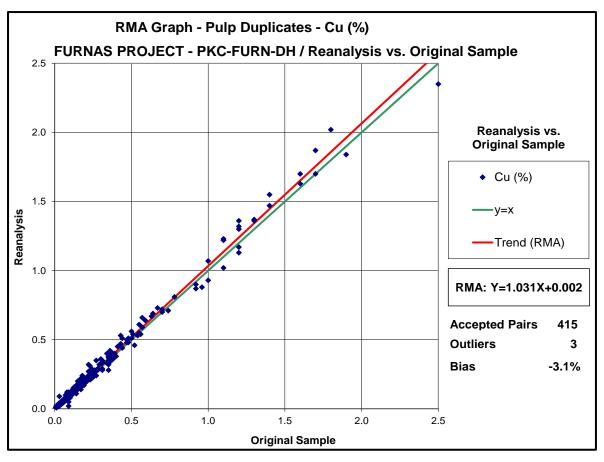


PKC-FURN-DH – Primary laboratory – Accuracy Chart – Au (ppm)

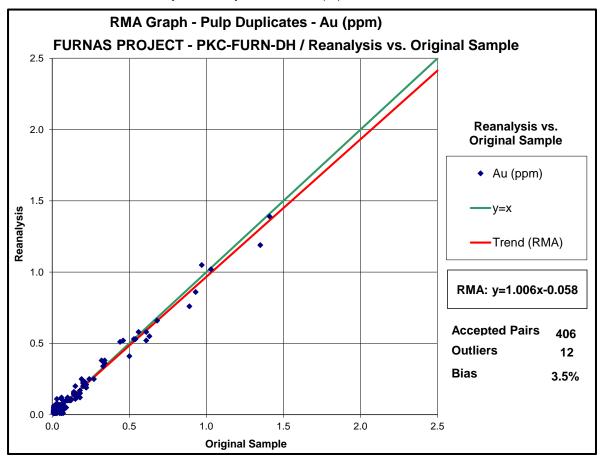


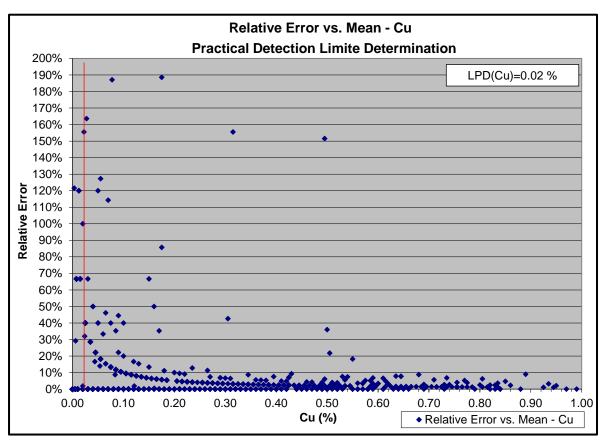


PKC-FURN-DH – Primary laboratory – Blank – Au (ppm)

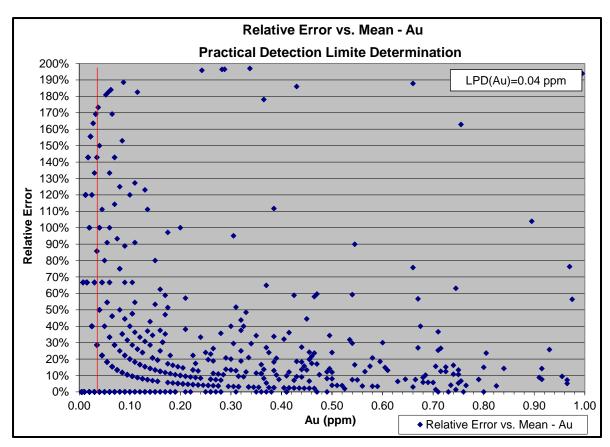


PKC-FURN-DH - Secondary laboratory - RMA - Cu (%)

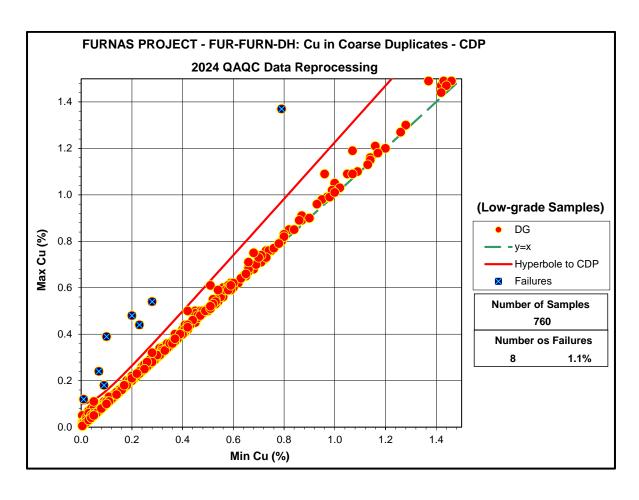


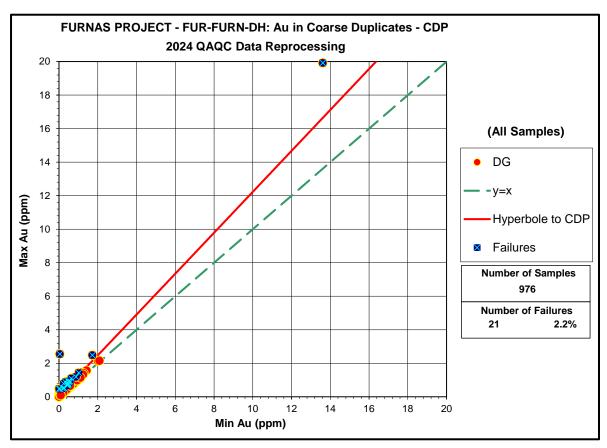


FUR-FURN-DH - Primary laboratory - Practical Detection Limit - Cu (%)

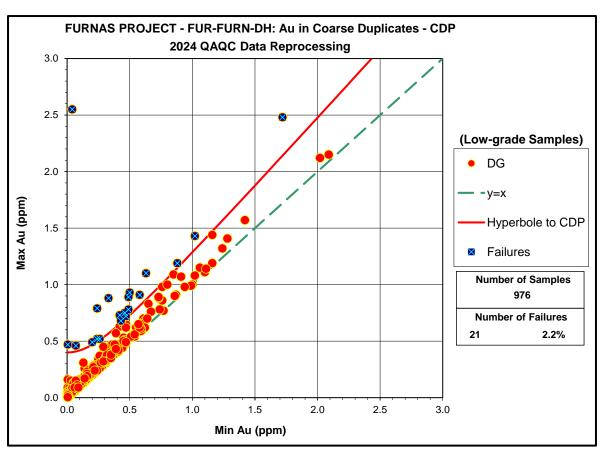


FUR-FURN-DH - Primary laboratory - Practical Detection Limit - Au (ppm)

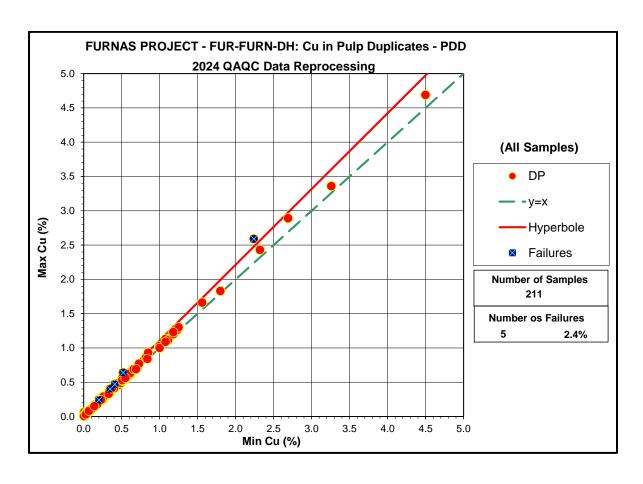


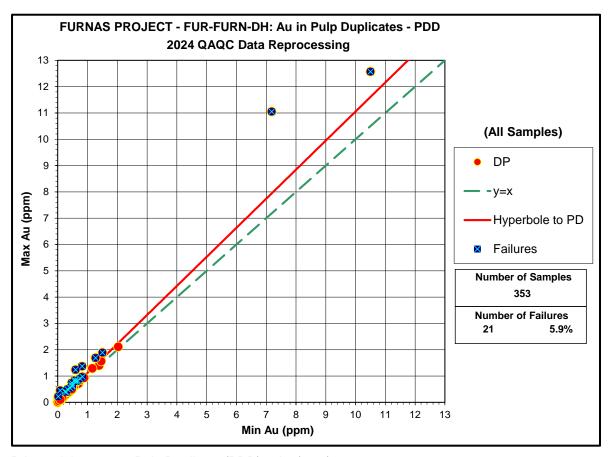


FUR-FURN-DH - Primary laboratory - Coarse Duplicate (CDP) - Au (ppm)

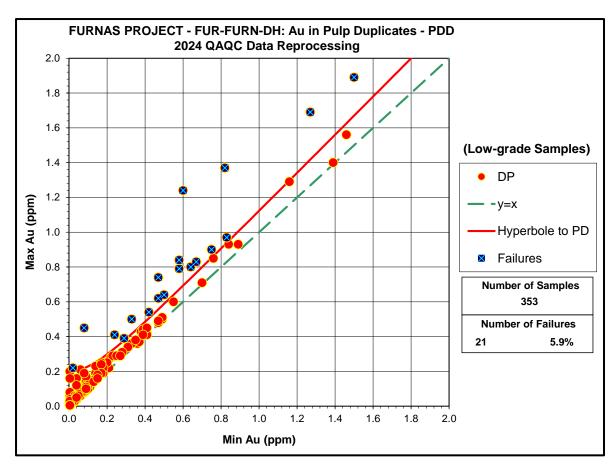


FUR-FURN-DH - Primary laboratory - Coarse Duplicate (CDP) - Au (ppm) - Detailed Graph

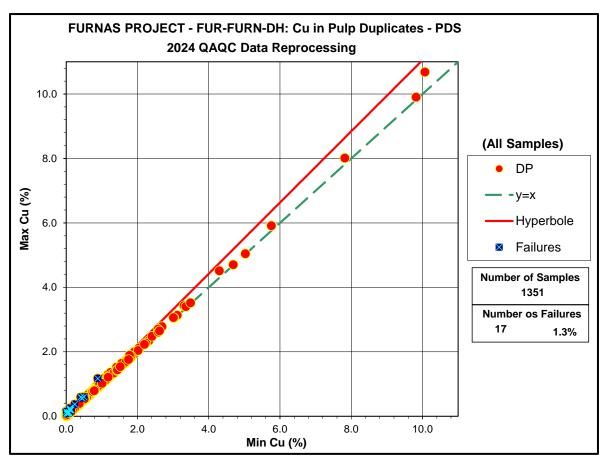




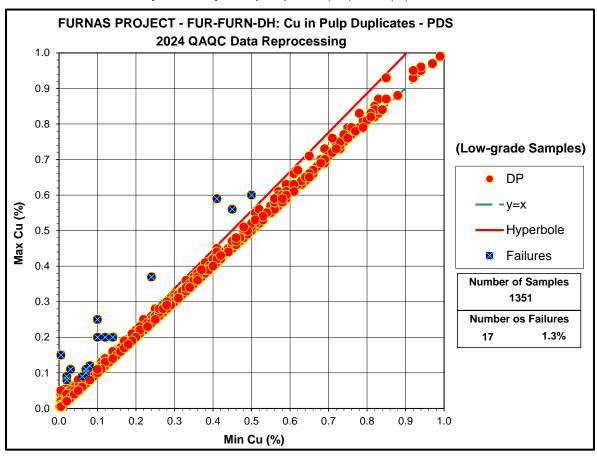
Primary laboratory – Pulp Duplicate (PDD) – Au (ppm)

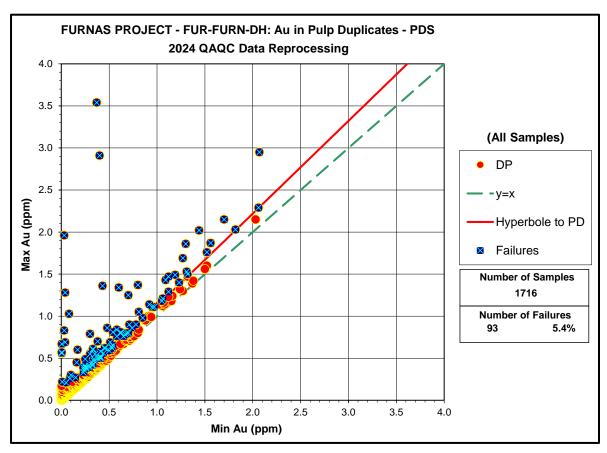


Primary laboratory - Pulp Duplicate (PDD) - Au (ppm) - Detailed Graph

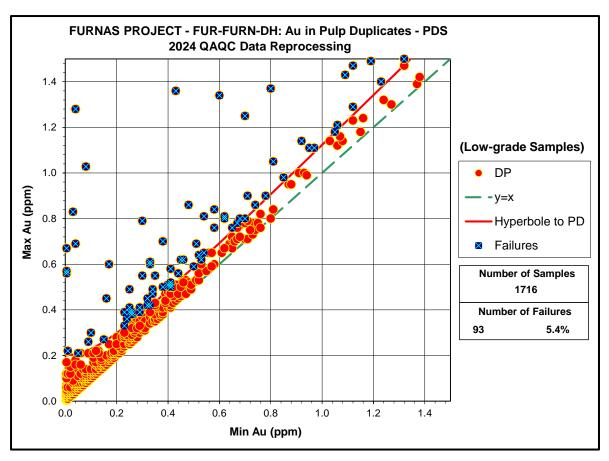


FUR-FURN-DH - Primary laboratory - Pulp Duplicate (PD) - Cu (%)

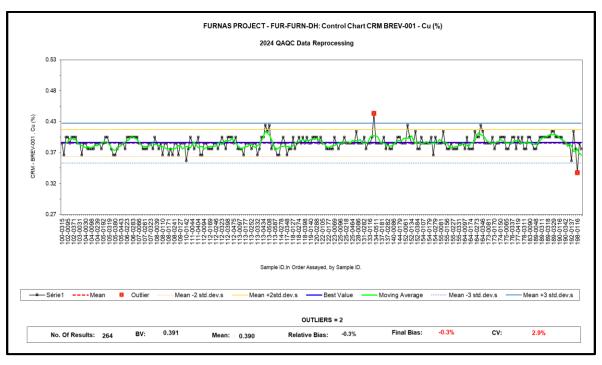




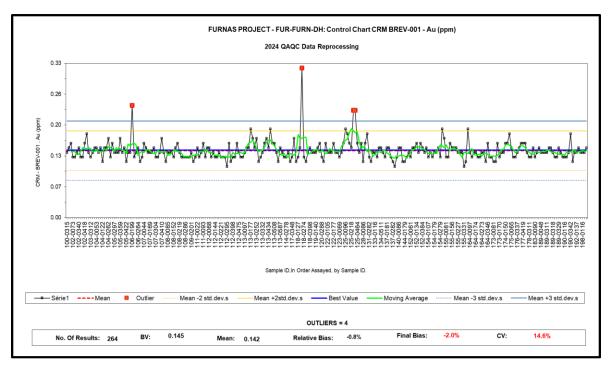
FUR-FURN-DH – Primary laboratory – Pulp Duplicate (PD) – Au (ppm)



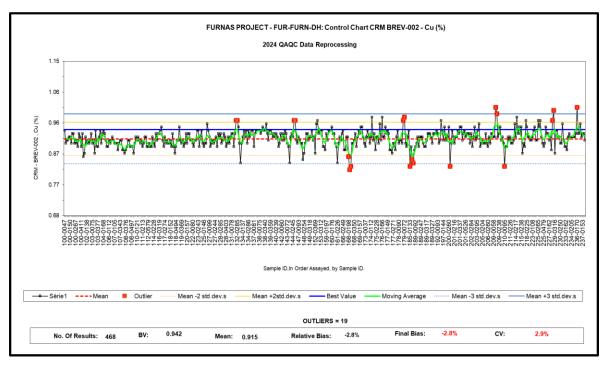
FUR-FURN-DH - Primary laboratory - Pulp Duplicate (PD) - Au (ppm) - Detailed Graph



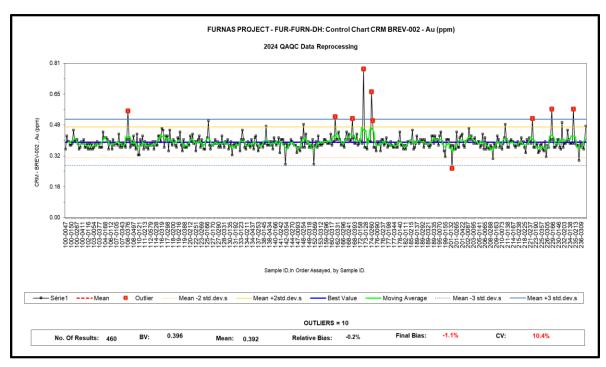
FUR-FURN-DH - Primary laboratory - Standard Samples - BREV-001 - Cu (%)



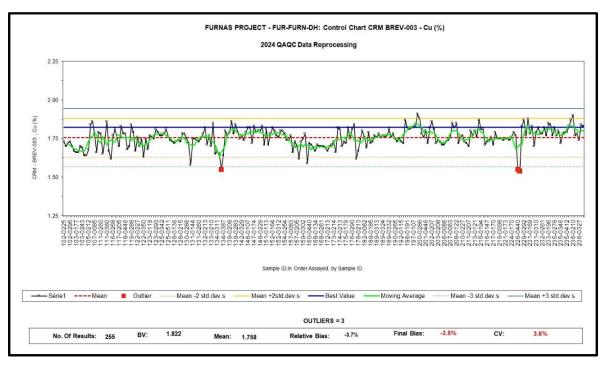
FUR-FURN-DH – Primary laboratory – Standard Samples – BREV-001 – Au (ppm)



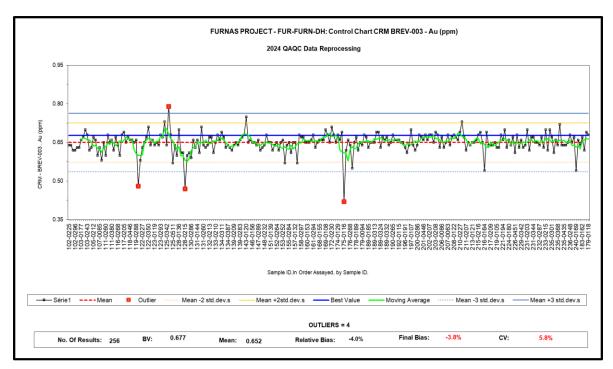
FUR-FURN-DH – Primary laboratory – Standard Samples – BREV-002 – Cu (%)



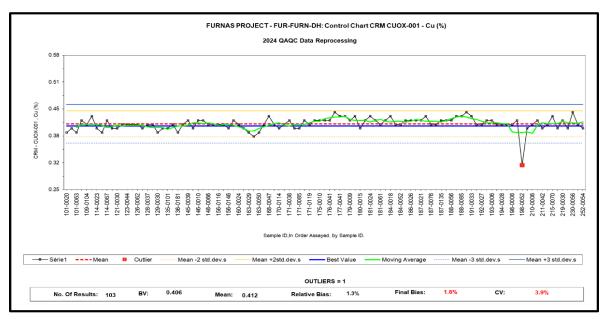
FUR-FURN-DH – Primary laboratory – Standard Samples – BREV-002 – Au (ppm)



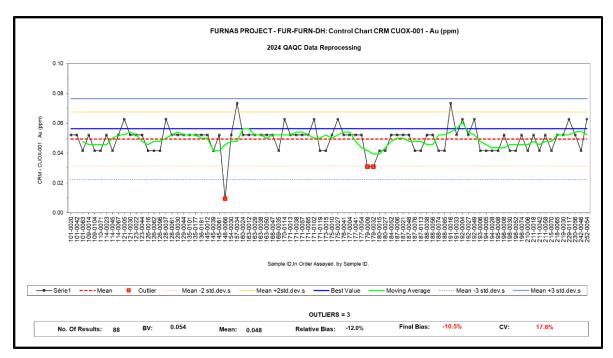
FUR-FURN-DH – Primary laboratory – Standard Samples – BREV-003 – Cu (%)



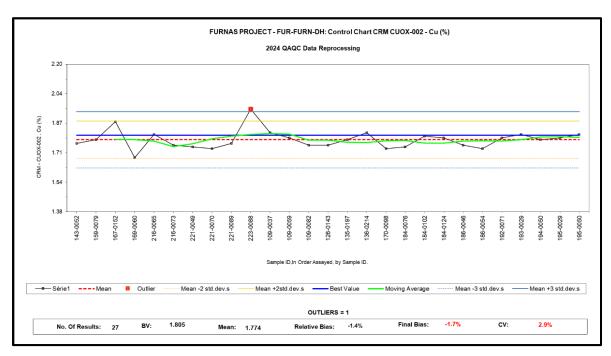
FUR-FURN-DH – Primary laboratory – Standard Samples – BREV-003 – Au (ppm)



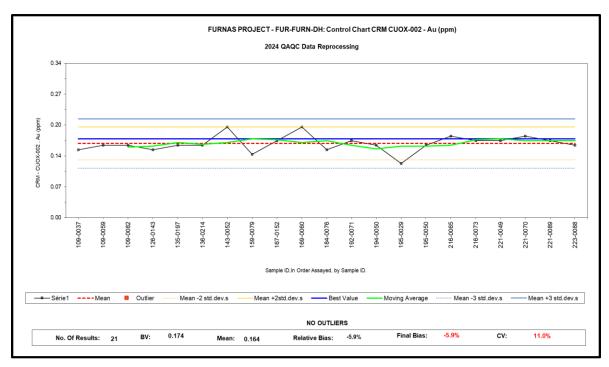
FUR-FURN-DH – Primary laboratory – Standard Samples – CUOX-001 – Cu (%)



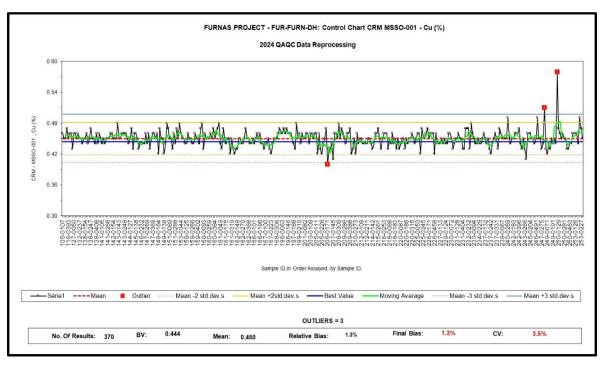
FUR-FURN-DH – Primary laboratory – Standard Samples – CUOX-001 – Au (ppm)



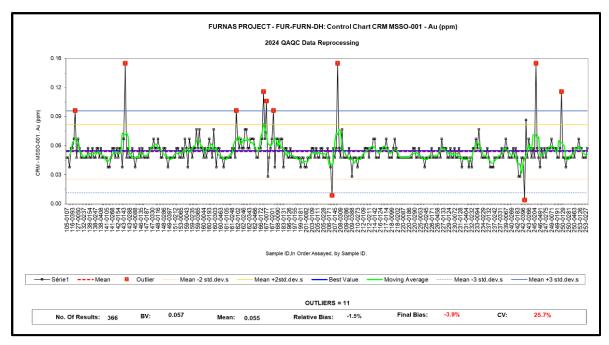
FUR-FURN-DH – Primary laboratory – Standard Samples – CUOX-002 – Cu (%)



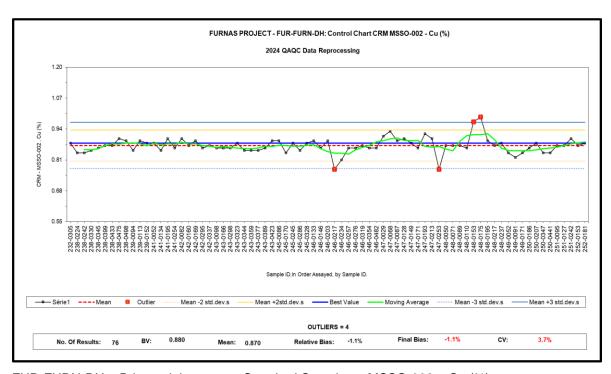
FUR-FURN-DH – Primary laboratory – Standard Samples – CUOX-002 – Au (ppm)



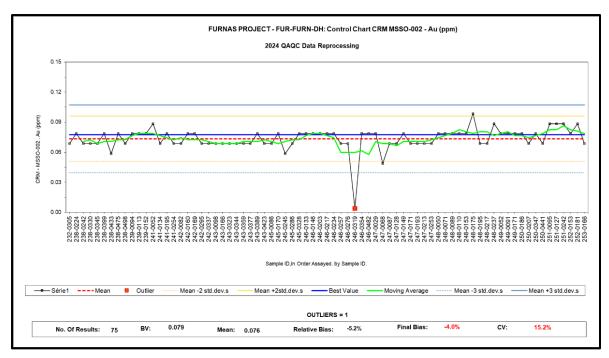
FUR-FURN-DH - Primary laboratory - Standard Samples - MSSO-001 - Cu (%)



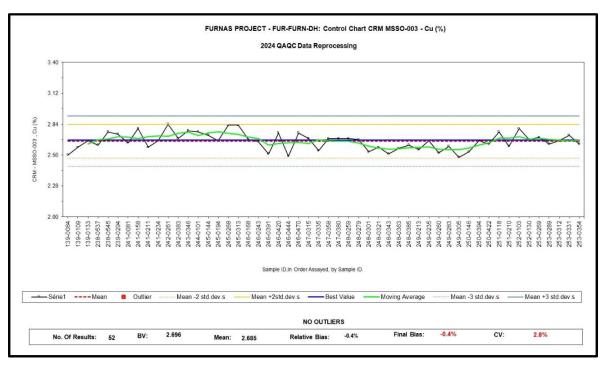
FUR-FURN-DH – Primary laboratory – Standard Samples – MSSO-001 – Au (ppm)



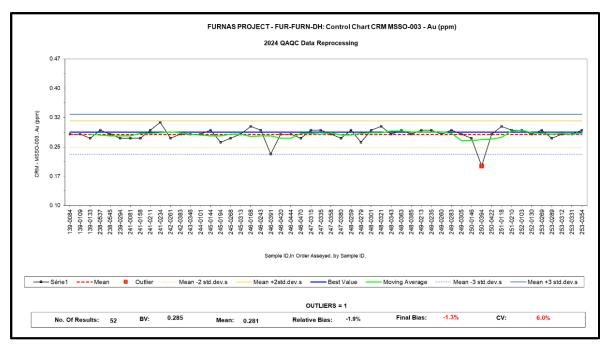
FUR-FURN-DH - Primary laboratory - Standard Samples - MSSO-002 - Cu (%)



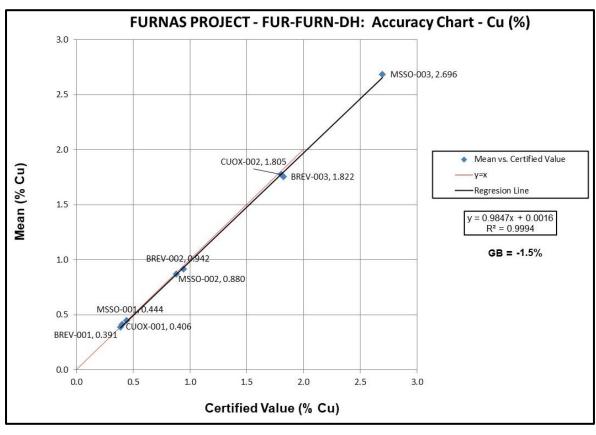
FUR-FURN-DH - Primary laboratory - Standard Samples - MSSO-002 - Au (ppm)



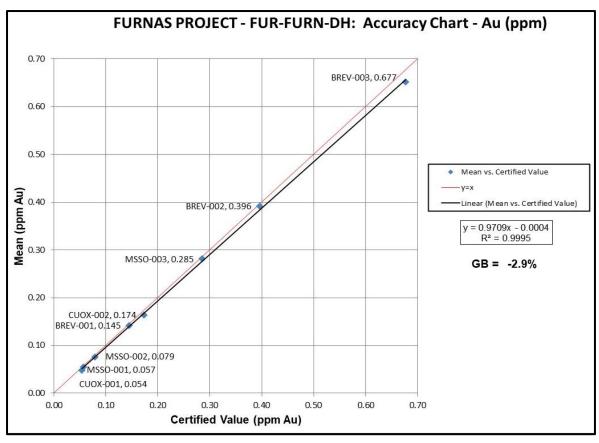
FUR-FURN-DH - Primary laboratory - Standard Samples - MSSO-003 - Cu (%)



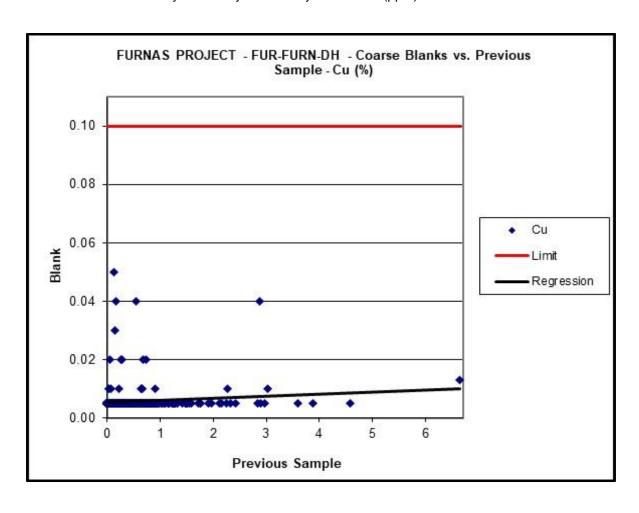
FUR-FURN-DH - Primary laboratory - Standard Samples - MSSO-003 - Au (ppm)



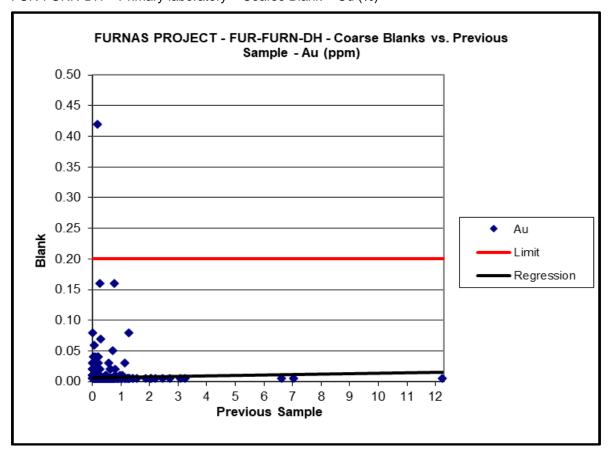
FUR-FURN-DH - Primary laboratory - Accuracy Chart - Cu (%)



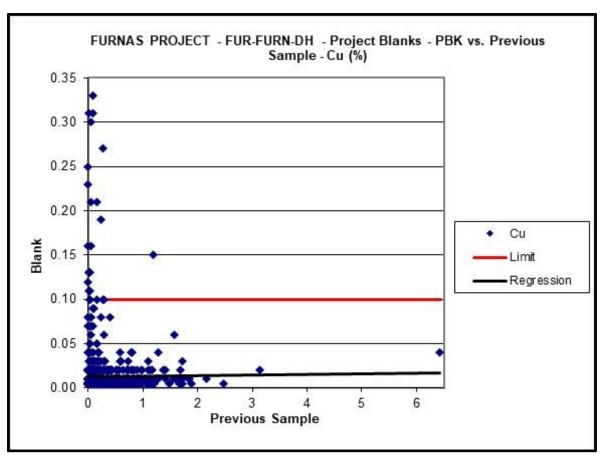
FUR-FURN-DH – Primary laboratory – Accuracy Chart – Au (ppm)



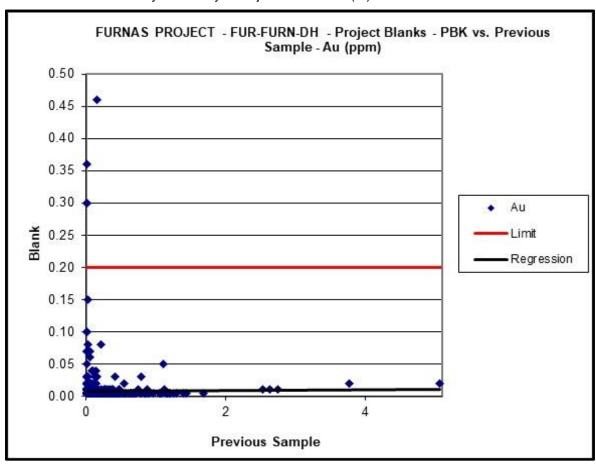
FUR-FURN-DH - Primary laboratory - Coarse Blank - Cu (%)

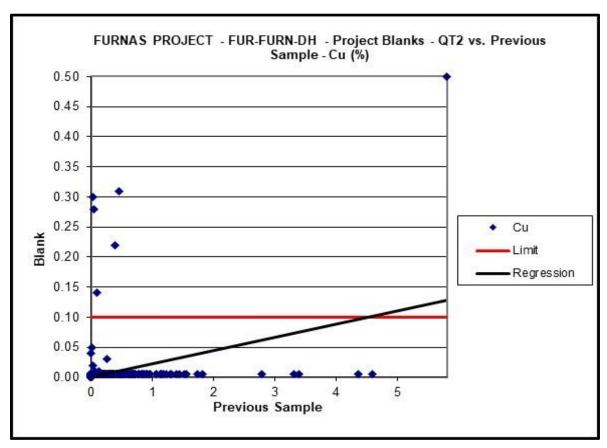


FUR-FURN-DH – Primary laboratory – Coarse Blank – Au (ppm)

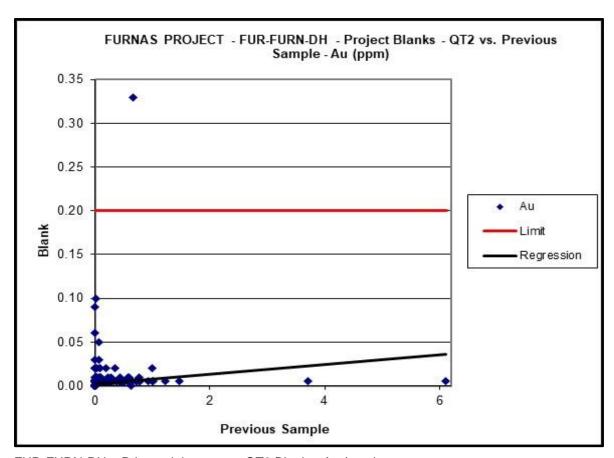


FUR-FURN-DH - Primary laboratory - Project Blank - Cu (%)

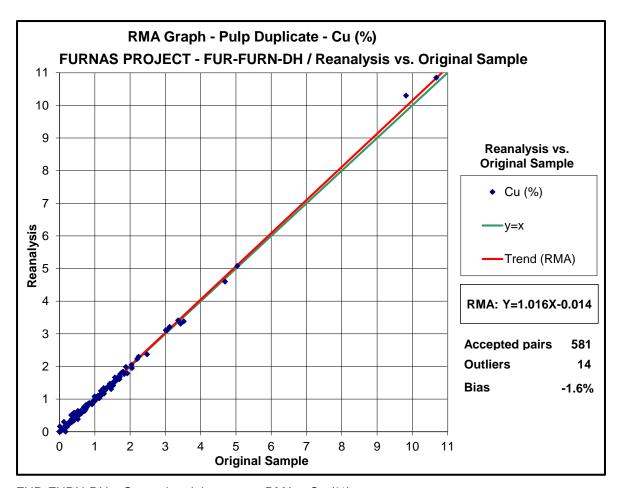




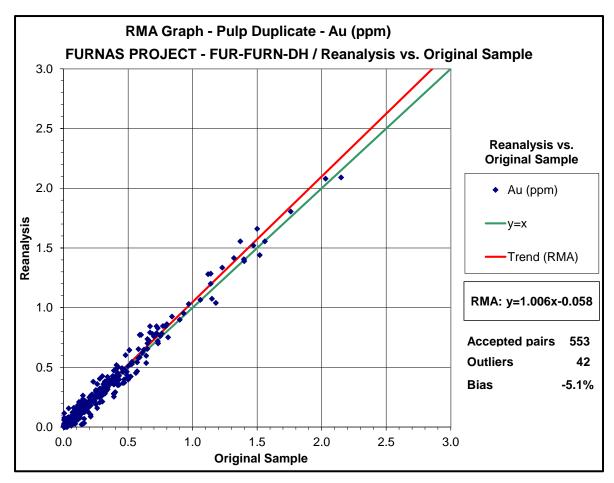
FUR-FURN-DH - Primary laboratory - QT2 Blank - Cu (%)



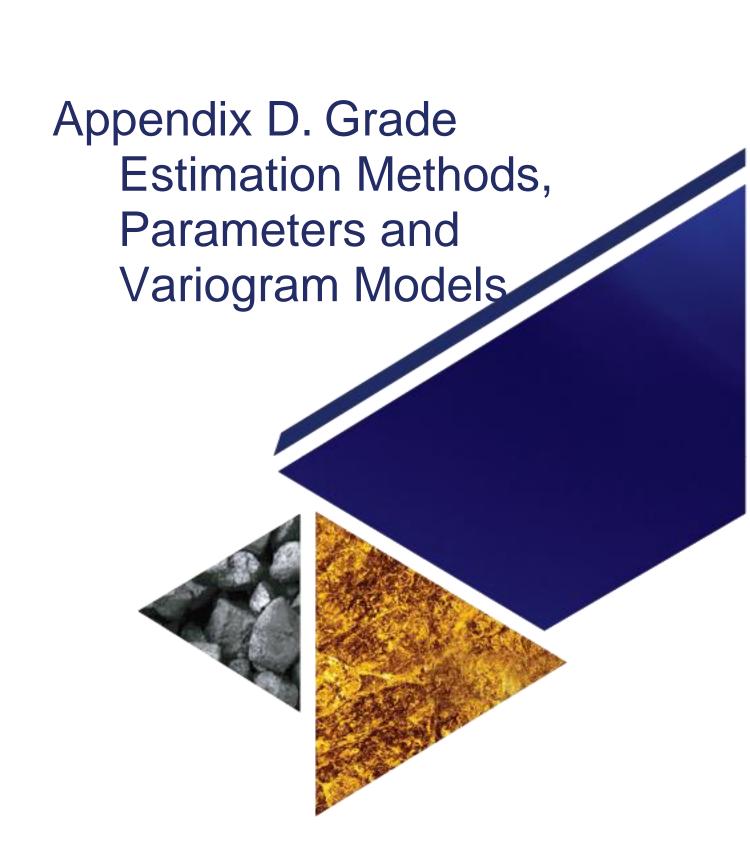
FUR-FURN-DH – Primary laboratory – QT2 Blank – Au (ppm)



FUR-FURN-DH - Secondary laboratory - RMA - Cu (%)



FUR-FURN-DH - Secondary laboratory - RMA - Au (ppm)





General				Ellipsoid Ranges				Number o	f Samples	Ou	Max		
Domain	Grade Variable	Estimation Method	Estimation Pass	Maximum	Intermediate	Minimum	Variable Orientation	Minimum	Maximum	Method	Distance %	Threshold	Samples per Hole
HG_Cu_HD	Cu_pct	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
HG_Cu_HD	Cu_pct	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
HG_Cu_HD	Cu_pct	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
HG_Cu_HD	Cu_pct	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
HG_Cu_HD	Cu_pct	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
LG_Cu_HD	Cu_pct	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Cu_HD	Cu_pct	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Cu_HD	Cu_pct	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Cu_HD	Cu_pct	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Cu_HD	Cu_pct	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
LG_Cu_HD2	Cu_pct	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Cu_HD2	Cu_pct	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Cu_HD2	Cu_pct	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Cu_HD2	Cu_pct	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Cu_HD2	Cu_pct	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
HG_Cu_RSL_HOST	Cu_pct	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
HG_Cu_RSL_HOST	Cu_pct	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
HG_Cu_RSL_HOST	Cu_pct	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
HG_Cu_RSL_HOST	Cu_pct	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
HG_Cu_RSL_HOST	Cu_pct	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
LG_Cu_RSL_HOST	Cu_pct	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Cu_RSL_HOST	Cu_pct	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Cu_RSL_HOST	Cu_pct	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Cu_RSL_HOST	Cu_pct	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Cu_RSL_HOST	Cu_pct	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2

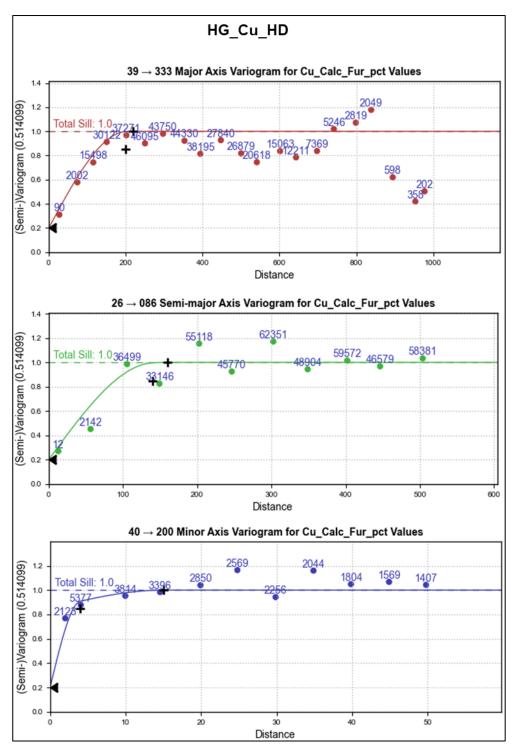
## **RPMGLOBAL**

	E	Ilipsoid Range	s		Number o	of Samples	Οι	Max Samples					
Domain	Grade Variable	Estimation Method	Estimation Pass	Maximum	Intermediate	Minimum	Variable Orientation	Minimum	Maximum	Method	Distance %	Threshold	per Hole
DOMAIN_OUT	Cu_pct	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	0.25	2
DOMAIN_OUT	Cu_pct	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	0.25	2
DOMAIN_OUT	Cu_pct	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	0.25	2
DOMAIN_OUT	Cu_pct	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	0.25	4
HG_Au_HD	Au_ppm	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
HG_Au_HD	Au_ppm	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
HG_Au_HD	Au_ppm	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
HG_Au_HD	Au_ppm	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
HG_Au_HD	Au_ppm	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
LG_Au_HD	Au_ppm	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Au_HD	Au_ppm	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Au_HD	Au_ppm	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Au_HD	Au_ppm	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Au_HD	Au_ppm	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
HG_Au_HD2	Au_ppm	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
HG_Au_HD2	Au_ppm	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
HG_Au_HD2	Au_ppm	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
HG_Au_HD2	Au_ppm	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
HG_Au_HD2	Au_ppm	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
LG_Au_HD2	Au_ppm	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Au_HD2	Au_ppm	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Au_HD2	Au_ppm	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Au_HD2	Au_ppm	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Au_HD2	Au_ppm	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2

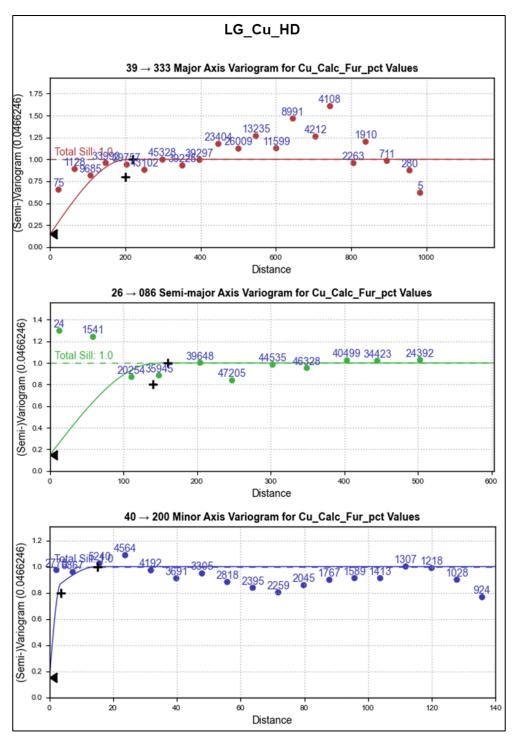


General				Ellipsoid Ranges				Number o	f Samples	Ou	Max		
Domain	Grade Variable	Estimation Method	Estimation Pass	Maximum	Intermediate	Minimum	Variable Orientation	Minimum	Maximum	Method	Distance %	Threshold	Samples per Hole
HG_Au_RSL_HOST	Au_ppm	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
HG_Au_RSL_HOST	Au_ppm	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
HG_Au_RSL_HOST	Au_ppm	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
HG_Au_RSL_HOST	Au_ppm	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
HG_Au_RSL_HOST	Au_ppm	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
LG_Au_RSL_HOST	Au_ppm	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	1.5	2
LG_Au_RSL_HOST	Au_ppm	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	1.5	2
LG_Au_RSL_HOST	Au_ppm	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	1.5	2
LG_Au_RSL_HOST	Au_ppm	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	1.5	4
LG_Au_RSL_HOST	Au_ppm	Inverse Distance		600	600	32	Yes	2	2	Clamp	6	1.5	2
DOMAIN_OUT	Au_ppm	Ordinary Kriging	Pass 1	75	75	16	Yes	4	12	Clamp	50	0.1	2
DOMAIN_OUT	Au_ppm	Ordinary Kriging	Pass 2	150	150	16	Yes	4	12	Clamp	25	0.1	2
DOMAIN_OUT	Au_ppm	Ordinary Kriging	Pass 3	200	200	16	Yes	4	12	Clamp	15	0.1	2
DOMAIN_OUT	Au_ppm	Ordinary Kriging	Pass 4	600	600	32	Yes	4	12	Clamp	6	0.1	4
HD	DENS	Ordinary Kriging	Pass1	300	300	24	Yes	4	12	None			2
HD_2	DENS	Ordinary Kriging	Pass2	300	300	24	Yes	4	12	None			2
RSL_HOST	DENS	Ordinary Kriging	Pass3	300	300	24	Yes	4	12	None			2

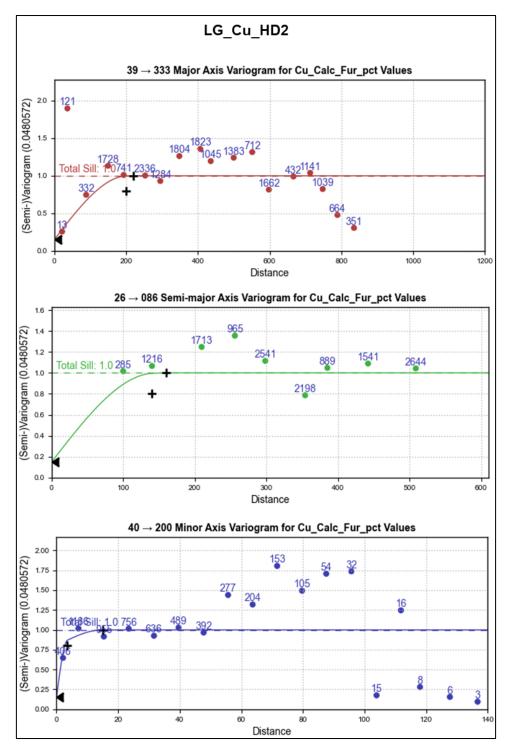




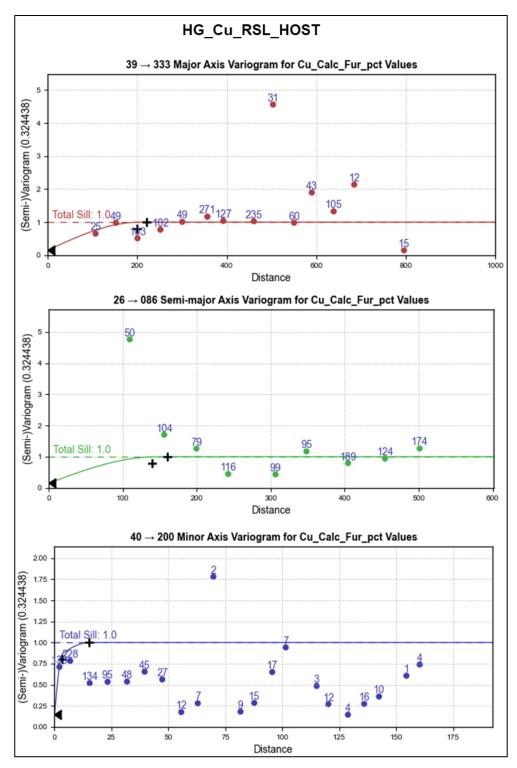




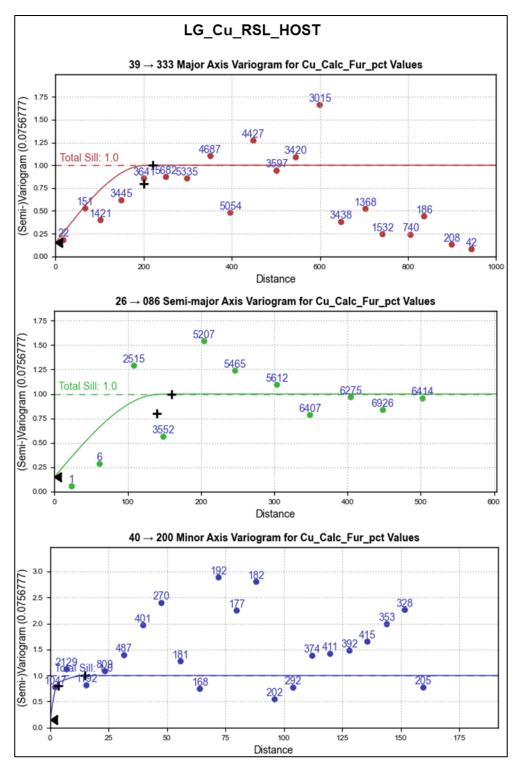




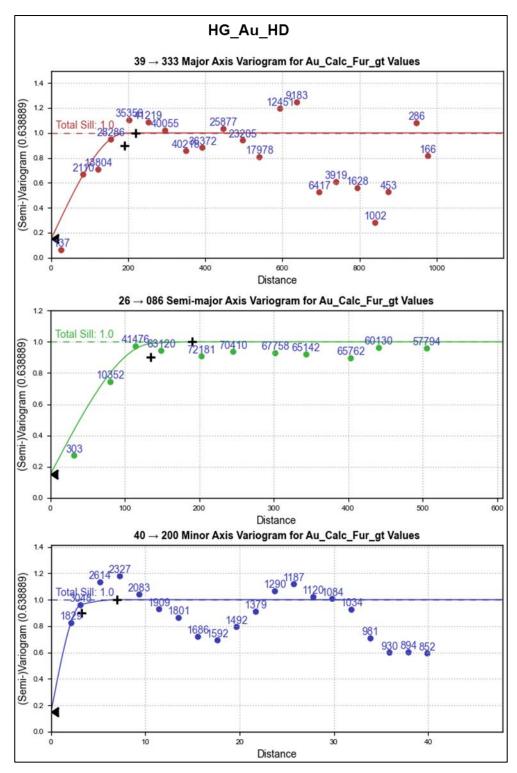




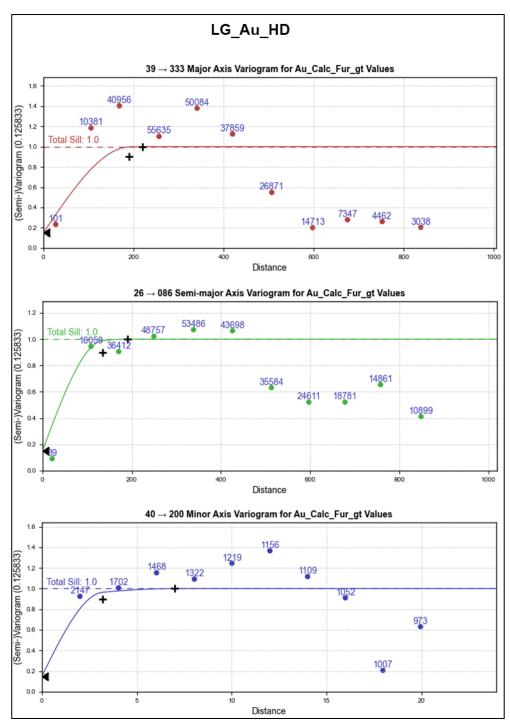




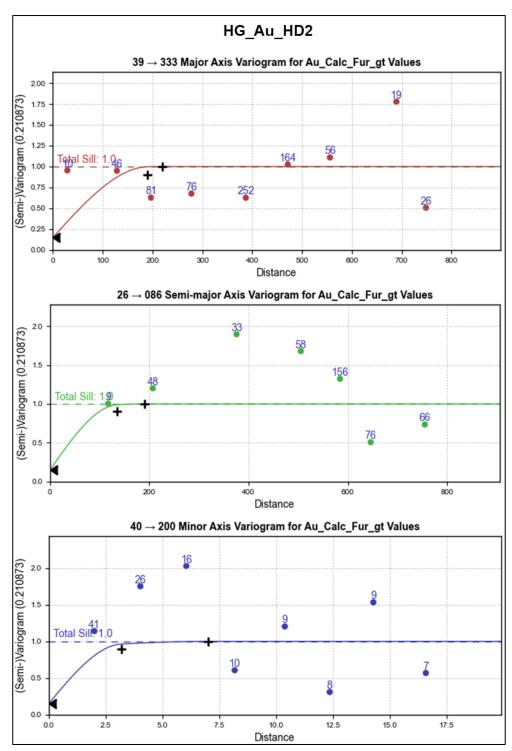




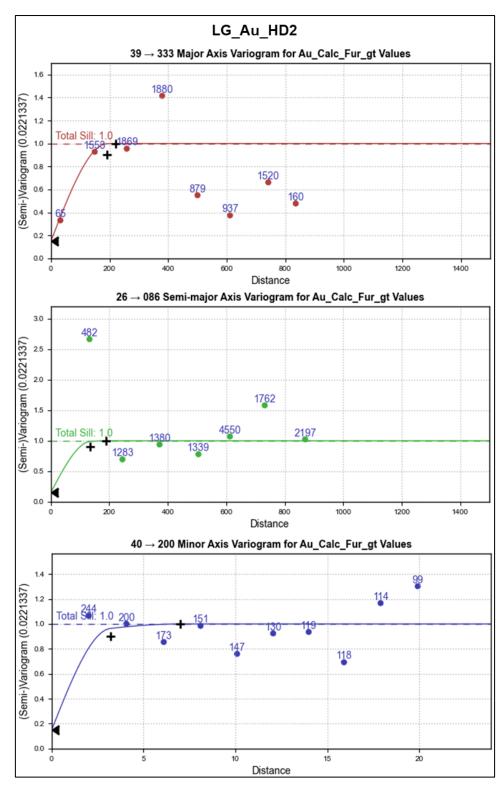




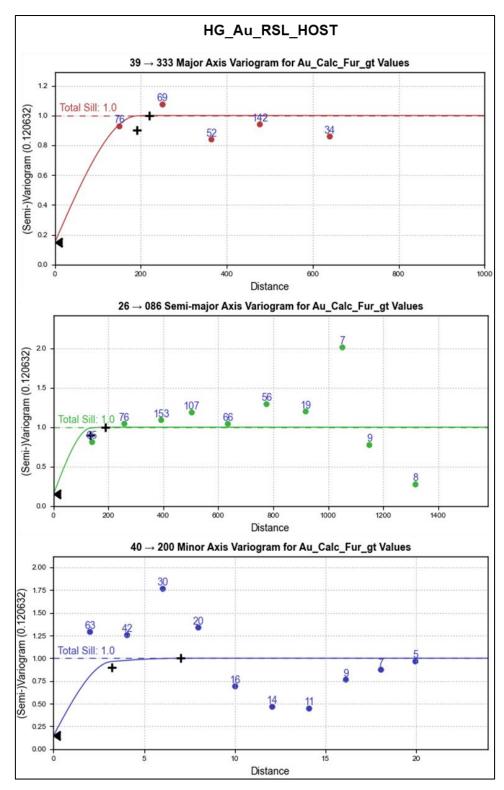




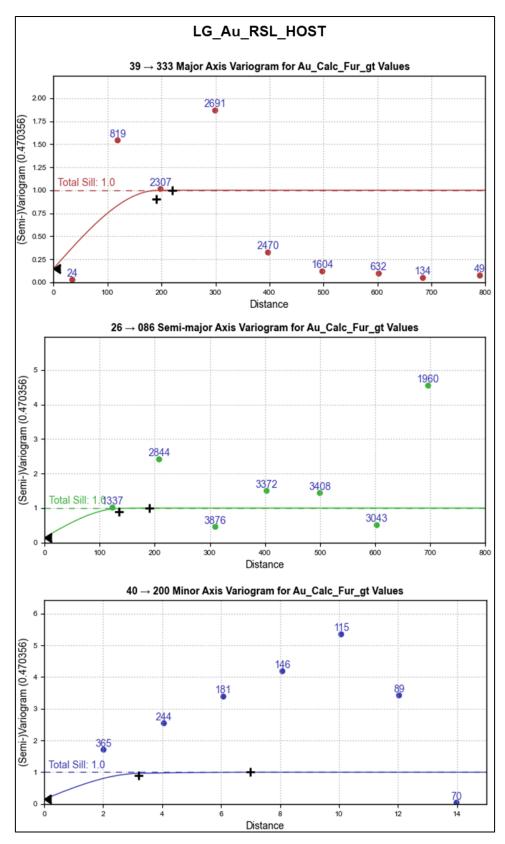
















## - END OF REPORT -



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