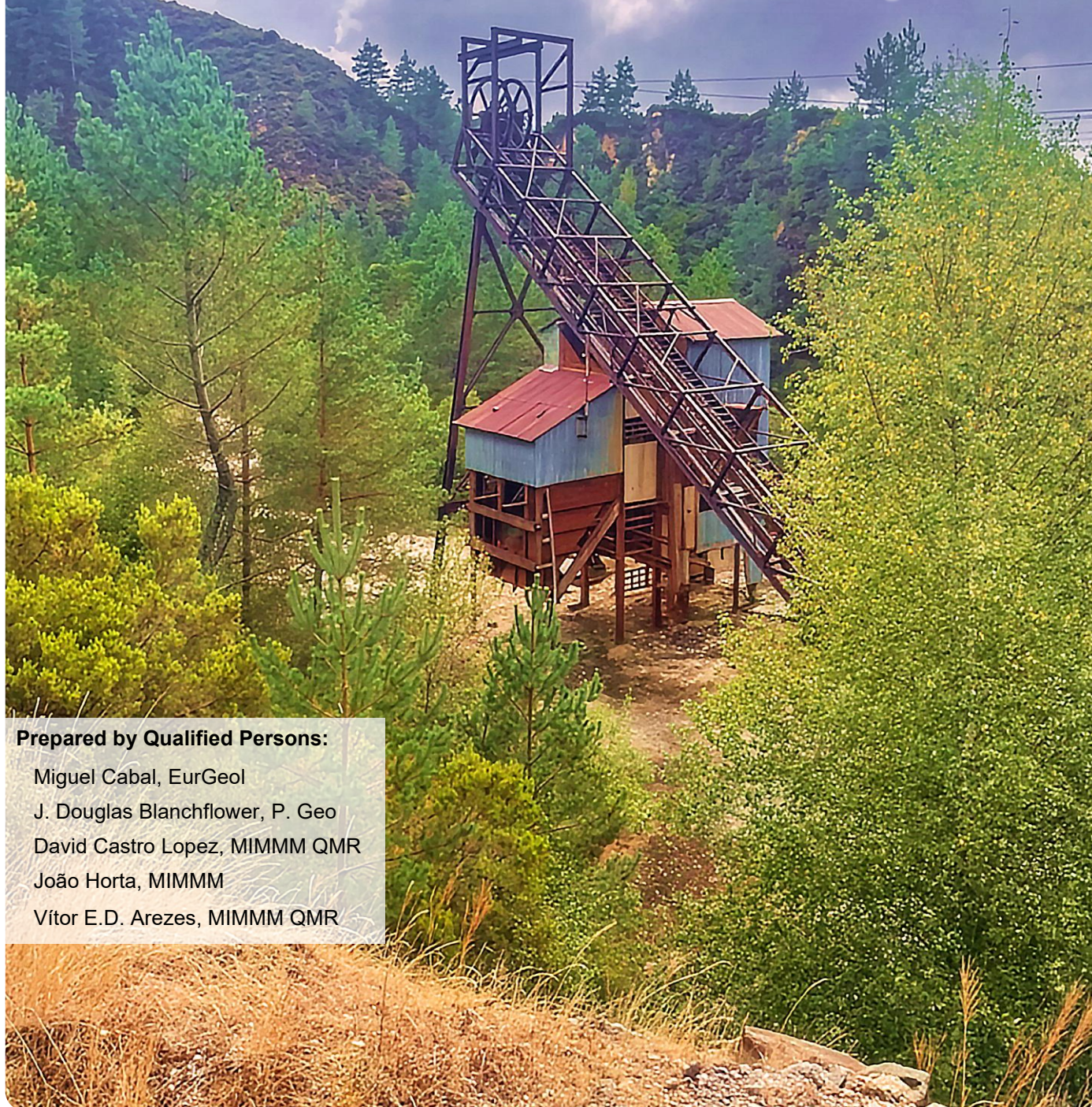


NI 43-101 Technical Report

Preliminary Economic Assessment

Borralha Tungsten Project

Parish of Salto, District of Vila Real, Portugal



Prepared by Qualified Persons:

Miguel Cabal, EurGeol
J. Douglas Blanchflower, P. Geo
David Castro Lopez, MIMMM QMR
João Horta, MIMMM
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CERTIFICATES OF QUALIFIED PERSONS

Miguel Cabal

In connection with the technical report entitled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026 (the “Technical Report”), which was prepared for Allied Critical Metals Inc. (the “Company”), I, Miguel Cabal do hereby certify that:

1. I am a Consulting Geologist with a business office at C/ Cervantes 5, 1º, 21600, Valverde del Camino, Huelva Spain, and CEO of GEOMATEC PROYECTOS SL (email: geomatec@geomatec.es)
2. The Technical Report to which this certificate applies is titled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026.
3. I am a graduate of Geology science from the Complutense University in Madrid, Spain, in 1996, with a Bachelor of Science, I have practiced my profession as a Professional Geologist since graduation, 5 years as a mining geologist and short term planning in underground operation, and as a consultant since 2002. I am familiar with Tungsten-Tin deposit models and mining operations, underground and open pit. I have experience writing technical reports. I am a Registered Professional Geoscientist in good standing with the European Federation of Geologist. I am familiar with National Instrument 43-101—Standards of Disclosure for Mineral Projects (“NI 43-101”) and, by reason of education, experience in exploration, mineral resource development and the evaluation of mining projects, and professional registration, I fulfil the requirements of a Qualified Person as defined in NI 43-101.
4. I visited the property (the “Property”) which comprises the Borralha Tungsten Project (the “Project”) and is the subject of this Technical Report on April 7, 2025.
5. I am responsible for sections 1, 15, 16, 19, 21, 22, 24, 25 and 26 of this Technical Report.
6. I am independent of the Company, and its subsidiaries (ACM Tungsten Unipessoal Lda. and Pan Metals Unipessoal Lda.) and the Project, and I am a “Qualified Person” as defined in Section 1.1 of NI 43-101.
7. I have not had any prior involvement with the Property that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1, and the parts of this Technical Report that I am responsible for have been prepared by me in compliance with the foregoing Instrument and Form.
9. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of this Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Respectfully submitted by,

(Original signed by Miguel Cabal)
Miguel Cabal, EurGeol (#1439)

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J. Douglas Blanchflower

In connection with the technical report entitled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026 (the “Technical Report”), which was prepared for Allied Critical Metals Inc. (the “Company”), I, J. Douglas Blanchflower do hereby certify that:

1. I am a Consulting Geologist with a business office at 25856 – 28th Avenue, Aldergrove, British Columbia, V4W 2Z8; and President of Minorex Consulting (email: minorexconsulting@gmail.com).
2. The Technical Report to which this certificate applies is titled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026.
3. I am a graduate of Economic Geology with a Bachelor of Science, Honours Geology degree from the University of British Columbia in 1971. I have practiced my profession as a Professional Geologist since graduation. I am familiar with Tungsten-Tin deposit models and have experience writing technical reports. I am a Registered Professional Geoscientist in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (No. 19086). I am familiar with National Instrument 43-101—Standards of Disclosure for Mineral Projects (“NI 43-101”) and, by reason of education, experience in exploration, mineral resource development and the evaluation of mining projects, and professional registration, I fulfil the requirements of a Qualified Person as defined in NI 43-101.
4. I visited the property (the “Property”) which comprises the Borralha Tungsten Project (the “Project”) and is the subject of this Technical Report for 5 days from July 16 to 21, 2025 for several hours each day.
5. I am responsible for all sections of this Technical Report except Sections 15 - 22.
6. I am independent of Allied Critical Metals Inc., and its subsidiaries (ACM Tungsten Unipessoal Lda. and Pan Metals Unipessoal Lda.) and the Project, and I am a “Qualified Person” as defined in Section 1.1 of NI 43-101.
7. I have not had any prior involvement with the Property that is the subject of this Technical Report other than that I co-authored a technical report for the Project entitled, “Technical Report on the Borralha Property, Parish of Salto, District of Vila Real, Portugal”, dated effective December 30th, 2025 and a previous technical report titled, “Technical Report on the Borralha Property, Parish of Salto, District of Vila Real, Portugal” dated effective July 31, 2024.
8. I have read National Instrument 43-101 and Form 43-101F1, and the parts of this Technical Report that I am responsible for have been prepared by me in compliance with the foregoing Instrument and Form.
9. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of this Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

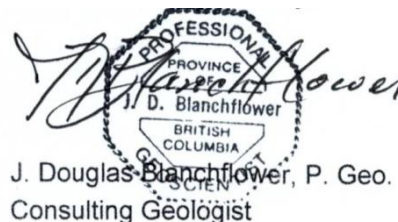
Respectfully submitted by,

(Original signed by J. Douglas Blanchflower)

J. Douglas Blanchflower, P. Geo.

Consulting Geologist

Dated the 14th day of April, 2026.



J. Douglas Blanchflower, P. Geo.
Consulting Geologist

David Castro López

In connection with the technical report entitled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026 (the “Technical Report”), which was prepared for Allied Critical Metals Inc. (the “Company”), I, David Castro López, do hereby certify that:

1. I am a Mining Engineer and Managing Partner at MINEPRO SOLUTIONS SL., with the office at Calle Secundino Roces Riera, 1, 2º offices 9 and 10 – Polígono de Asipo, 33428 Llanera, Asturias, Spain. My email is david@minepro.es.
2. The Technical Report to which this certificate relates is titled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026.
3. I am a graduate of Mining and Geological Engineering from the University of Oviedo (Spain) in 2011. I also hold a Master’s Degree in Mining and Natural Resources Engineering from the University of Catalonia (Spain) in 2013. I am an experienced Metallurgist and Process Engineer who has demonstrated experience across a broad range of commodities. I have applied experience in both the study and delivery phases of major metals and fertiliser projects, including the construction and commissioning of major plant and equipment. I have specific interest in the design and delivery of robust metallurgical laboratory programs and the front-end design of process engineering development to support feasibility studies. I have worked for both private and publicly listed companies in Spain and overseas, including a number of Australian (ASX), London (LSE, AIM), Canadian (TSX) companies who report under THE JORC Code or NI 43-101. I am a Professional Member (MIMMM # 685484) and Qualified for Minerals Reporting (QMR) of the Institute of Materials, Minerals and Mining (IOM3). I am familiar with National Instrument 43-101—Standards of Disclosure for Mineral Projects (“NI 43-101”) and, by reason of my education, experience, and professional registration, I fulfil the requirements of a Qualified Person as defined in NI 43-101.
4. I visited the property (the “Property”) which comprises the Borralha Tungsten Project (the “Project”), which is the subject of this Technical Report, over two days on November 14th and 15th, 2025.
5. I am responsible for Section 13 (Mineral Processing and Metallurgical Testing) and Section 17 (Recovery Methods) of this Technical Report.
6. I am independent of the Company and its subsidiaries (ACM Tungsten Unipessoal Lda. and Pan Metals Unipessoal Lda.) and the Project, and I am a “Qualified Person” as defined in Section 1.1 of NI 43-101.
7. I have not had any prior involvement with the Property that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1, and the part of this Technical Report that I am responsible for has been prepared by me in compliance with the foregoing Instrument and Form.
9. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of this Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Respectfully submitted by,

(Original signed by David Castro López)
David Castro López, MIMMM QMR (# 685484)

Dated the 14th day of April, 2026.

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João Horta

In connection with the technical report entitled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026 (the “Technical Report”), which was prepared for Allied Critical Metals Inc. (the “Company”), I, João Horta, do hereby certify that:

1. I am a mining engineer employed as a Client Manager with Quadrante, located at Estrada do Seminário 4, Edifício C, Piso 1 Sul, 2614-523 Alfragide, Portugal (jhorta@quadranteglobal.com).
2. The Technical Report to which this certificate relates is titled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026.
3. I am registered as a Senior Member of the Portuguese Engineers Association (# 50464) and am a Professional Member (MIMMM) of the Institute of Materials, Minerals and Mining (# 679050). I graduated with a M.S. degree from the Lisbon University – Higher Technical Institute in 2001 and have practiced my profession for over 20 years. I have worked in the mining industry in various positions continuously, including mining operations and mining studies, since my graduation from university, and have worked with various commodities within the Iberian Pyrite Belt. As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (“NI 43–101”).
4. I visited the property (the “Property”) which comprises the Borralha Tungsten Project (the “Project”), which is the subject of this Technical Report, during two days on November 14th and 15th, 2025.
5. I am responsible for the preparation of Sections 18 and 20 of this Technical Report.
6. I am independent of the Company and its subsidiaries (ACM Tungsten Unipessoal Lda. and Pan Metals Unipessoal Lda.) and the Project, and I am a “Qualified Person” as defined in Section 1.1 of NI 43-101.
7. I have not had any prior involvement with the Property that is the subject of this Technical Report.
8. I have read National Instrument 43-101 and Form 43-101F1, and the parts of this Technical Report that I am responsible for have been prepared by me in compliance with the foregoing Instrument and Form.
9. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of this Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Respectfully submitted by
Assinado por: JOÃO MIGUEL CARDEAL MARTINS

(Original signed by João Horta)
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Dated the 14th day of April, 2026.

Vítor E. D. Arezes

In connection with the technical report entitled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026 (the “Technical Report”), which was prepared for Allied Critical Metals Inc. (the “Company”), I, Vítor Emanuel Dias Arezes, do hereby certify that:

1. I am a geologist with a business address at Rua José Eigenmann 90, 4715-199 Braga, Portugal (vitora@alliedcritical.com).
2. The Technical Report to which this certificate applies is titled “Preliminary Economic Assessment – Borralha Tungsten Project, Parish of Salto, District of Vila Real, Portugal”, dated effective April 14, 2026.
3. I graduated with a B.Sc. (Biology and Geology) from University of Minho in Portugal and have practiced my profession continuously for more than 14 years in mineral exploration, mineral resource estimation, and mining project evaluation. I am a Member of the Institute of Materials, Minerals and Mining (MIMMM #703197) and a Qualified Mineral Resources and Ore Reserves Professional (QMR), and by reason of education, professional experience, and accreditation, I meet the definition of a Qualified Person as defined in National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”).
4. I have visited the property (the “Property”) which comprises the Project and is the subject of this Technical Report many times over the past few years, including regular visits throughout 2025 and 2026, and most recently during 4 days on April 1, 7, 9 and 11, 2026 for several hours each day.
5. I am responsible for Sections 1 through 12, Section 14, Sections 23 and 24, and Section 27 of the Technical Report.
6. I am not independent of the Company or the Project within the meaning of Section 1.5 of NI 43-101, by virtue of my position as Vice President Exploration of the Company.
7. My prior involvement in the Property is that: I co-authored a technical report for the Project entitled, “Technical Report on the Borralha Property, Parish of Salto, District of Vila Real, Portugal”, dated effective December 30th, 2025; I am Vice-President Exploration of the Company that is the beneficial owner of the Property; and prior to becoming Vice President Exploration of the Company, I have worked as a consultant for several years being involved in the exploration of the Project.
8. I have read NI 43-101 and Form 43-101F1, and the portions of the Technical Report for which I am responsible have been prepared in compliance with that instrument and form.
9. As of the effective date of the Technical Report, and to the best of my knowledge, information, and belief, the parts of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Respectfully submitted by,

(Original signed by Vítor E. D. Arezes)
Vítor E. D. Arezes, MIMMM QMR (#703197).
VP Exploration, Allied Critical Metals Inc.

Dated the 14th day of April, 2026.

Assinado por: **Vítor Emanuel Dias Arezes**
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1. Summary

1.1. Introduction

The authors, Miguel Cabal, EurGeol, J. Douglas Blanchflower, P.Geo., Vitor Arezes, MIMMM QMR, David Lopez, MIMMM QMR and João Horta MIMMM, have conducted an examination of the Borralha Property. The authors have prepared this NI 43-101 Technical Report for Allied Critical Metals Inc. in support of a Preliminary Economic Assessment of the Borralha Tungsten Project. Independent Qualified Persons were responsible for the independent sections required under NI 43-101, while Vitor Arezes acted as the non-independent Qualified Person for the sections for which he is responsible, as a comprehensive review of the exploration activities on the property for Allied Critical Metals Inc. (“ACM” or the “Issuer”). ACM is a corporation incorporated under the laws of British Columbia, Canada, and its common shares are listed on the Canadian Securities Exchange, the OTCQB and the Frankfurt Stock Exchange.

This Technical Report is an update from a previous technical report dated December 30, 2025 and is prepared in support of the Initial Preliminary Economic Assessment of the Borralha Property and this Technical Report supersedes all previous reports for the Project.

Mr. Miguel Cabal visited the Borralha Property on April 7, 2026. Mr. Blanchflower visited the Borralha Property from March 26 to 28, 2023, and again from July 16 to 21, 2025. Mr. Arezes visited the site numerous times and most recently on April 1, 7, 9 and 11, 2026, and Mr. Lopez and Mr. Horta visited the site on 14 to 15 November, 2025. The 2025 site visits were undertaken to review the results of the 2025 Phase 1 RC drilling program, verify geological interpretations, assess drilling, sampling and analytical procedures, and review updates to the geological and mineral resource models.

The property examinations included investigations of several mineral showings within the Property, collection of drill rejects verification samples, and review of all aspects of historical and recent exploration works, including local topographical, lithological and structural features; drill core and RC logging procedures; sampling, analytical results and shipping procedures; quality assurance and quality control protocols; and exploration documentation procedures.

1.2. Property Description, Ownership, Location and Access

The Borralha property (the “Project” or “Property”) encompasses the past-producing Borralha tungsten–tin mine and is located approximately 3 km south of the Venda Nova Dam, about 40 km east of the city of Braga, and approximately 100 km northeast of Francisco Sá Carneiro International Airport in the city of Porto, Portugal. The approximate center of the Property is located at UTM coordinates 29T 584,751 E / 4,612,060 N.

The Property is registered in the name of a Portuguese company, Minerália – Minas, Geotecnia e Construções Limitada (“Minerália”), which holds the Property beneficially in trust for PanMetals Unipessoal Limitada (“PanMetals”) pursuant to an Amended and Restated Promissory Transfer Agreement dated April 29, 2024 as amended February 20, 2025 among Mineralia, PanMetals and Pan Iberia Limited (the “Promissory Transfer Agreement”) wherein Mineralia holds the Property beneficially in trust for PanMetals until the transfer to PanMetals of registered title to the Property is completed, as expected in 2026. The mineral property rights for the Property are covered by Portuguese Mining License C-167, comprising an area of 382.48 hectares, and include the historic Borralha tungsten mine and the surrounding mineralized areas.

PanMetals is a wholly owned subsidiary of Allied Critical Metals Inc. (“ACM”), which directly owns 100% of ACM Tungsten Unipessoal Lda. (“ACM Tungsten”) which in turn directly owns 100% of PanMetals. ACM Tungsten and PanMetals are both Portuguese companies.

1.3. Accessibility and Local Environment

The Borralha Project is readily accessible year-round via paved highways extending northeast from the city of Porto, Portugal, or alternatively via National Road N103 from the city of Braga. The Property is located approximately 110 km by road from Francisco Sá Carneiro International Airport (OPO) in Porto, or approximately 60 km via the paved National Road N103 from Braga. Within the Property, several paved and well-maintained gravel roads provide year-round access for light vehicles and trucks.

The climate of north-central Portugal is temperate, with seasonal temperatures ranging from near freezing in winter to highs in the mid 30°C range during summer months. The average annual temperature in the Project area is approximately 13°C (55°F). These climatic conditions are generally favorable for year-round exploration and mining activities.

Land cover within the Property reflects a combination of historical mining disturbance and agricultural use. Large areas have been cleared as a result of past mining operations or anthropogenic activities. Forested areas are typically dominated by pine and oak species, while cleared zones are covered by grass and low shrubs, except where land has been sown with hay or other seed crops.

The Project is located close to essential infrastructure, including regional road networks, electrical power lines, ports, and airports. Hydroelectric power is available from the Venda Nova Dam and associated hydroelectric facilities located approximately 3 km north of the Property. Adequate water resources are available from local rivers that traverse the area. A portion of the local population consists of retired or unemployed mining personnel, providing a potential local labour pool, while others are engaged in agriculture or service-related activities. Accommodation and basic services for exploration personnel are available in the nearby town of Salto.

The Property is physiographically situated within upland, hilly terrain characterized by relatively low relief, with elevations ranging from approximately 700 m to 950 m above mean sea level (“AMSL”). A river bisects the Property, separating the southern prospective Santa Helena intrusive body from the northern area vein structures which were the primary focus of historic mining operations at Borralha.

The Property mining license grants the holder the right to access the surface for mineral exploration of the Property which is carried out in consultation with any surface landowners. The surface landowners and lessees have been consulted with and agreed to exploration activities on the Property. Exploration activities also require prior approval from the *Direção-Geral de Energia e Geologia* (“DGEG”), and the DGEG has agreed to exploration activities on the Property.

1.4. Mining History

The Borralha mine was discovered by Domingos Borralha, who identified wolframite-bearing rocks on his land. In 1902, the mining concession was granted to Compagnie de Mines d’Étain et Wolfram. The operating entity subsequently became Mines de Borralha S.A., Brussels in 1909, and later Mines de Borralha S.A., Paris in 1914. By 1910, Borralha had become the largest source of tungsten production in Portugal. Mining operations continued almost uninterrupted from 1903 until the mine’s closure in 1985.

Total production of wolframite and scheelite concentrates from 1904 to closure is estimated at approximately 18,500 tonnes, although this figure is considered approximate and likely understated due to incomplete historical records. Peak annual production occurred in 1955, when approximately 524.3 tonnes of concentrate were produced. Of this total, 44.39 tonnes were derived from vein mining north of the Borralha River, while 58.37 tonnes were produced from open-pit operations developed on the Santa Helena Breccia to the south.

The majority of production from Borralha comprised wolframite concentrate, with scheelite accounting for approximately 18% of total tungsten concentrate output. During the period from 1975 to 1980, the mine also produced 1,711.65 tonnes of chalcopyrite concentrate, corresponding to an approximate ratio of 1.06 tonnes of tungstate concentrate for each tonne of chalcopyrite concentrate. The chalcopyrite concentrates contained notable silver values, averaging approximately 0.3% Ag. In addition, limited quantities of tin concentrate were produced from associated cassiterite mineralization.

1.5. Geological Setting and Mineralization

The Borralha tungsten mine is located along a regional lithological contact between a Precambrian-age schist–graywacke complex and a coarse-grained, porphyritic, two-mica granite known as the Borralha syn-tectonic granite, which is associated with the Hercynian orogeny. The schist–graywacke complex comprises schist, graywacke, quartzite, and amphibolite. These country rocks host the tungsten mineralization and are locally intruded by aplite- to pegmatite-type dykes, as well as by at least two known large intrusive breccia bodies.

A defining characteristic of the Borralha deposit is the presence of large, siliceous intrusive breccia bodies, which are interpreted to be genetically related to the development of fault- and fracture-controlled sub-vertical and sub-horizontal quartz vein systems. Several later fault systems have displaced both the breccias and the mineralized veins. The country rocks are broadly concordant with major regional faults and fold structures associated with the final (D3) phase of Hercynian deformation, with dominant structural trends at azimuths of approximately 130° to 140°.

Historically, most of the mining at Borralha was conducted underground on sub-vertical quartz veins located north of the Borralha River. These veins hosted wolframite-dominant mineralization with lesser scheelite and associated sulphide minerals, including chalcopyrite, pyrite, pyrrhotite, sphalerite, and molybdenite, occurring within quartz veins and their wall rocks. Three principal mineralization styles are recognized at Borralha, (I) quartz veins hosting wolframite, scheelite, and sulphide mineralization; (II) aplite–pegmatite veins containing cassiterite mineralization; and (III) intrusive breccias occurring as pipe-like bodies and/or collapse breccias.

The Santa Helena Breccia (“SHB”) is located south of the Borralha River along the contact between syn-D3 Borralha granitic rocks, Silurian-age metasedimentary rocks, and a transitional zone containing granitic and metasedimentary xenoliths. The eastern and western margins of the SHB are defined by intensely fractured, largely barren, north–south–striking quartz veins. Detailed surface mapping and recent drilling indicate that the SHB strikes approximately north–south, extends for at least 600 m along strike, has up to 150 m widths, and remains open to a depth of at least 350 m. The Santa Helena Breccia hosts a polymetallic mineral assemblage including tungsten, tin, copper, zinc, and molybdenum, with associated traces of niobium, thorium, uranium, rare earth elements, bismuth, silver, and lead. Wolframite typically occurs as fine-grained disseminations within breccia fragments, in association with other minerals, and within zones exhibiting strong hydrothermal alteration.

The Venise Breccia (“VB”) is located north of the Borralha River and was intersected by historical underground workings but was never exploited. Similar to the Santa Helena Breccia, the Venise Breccia appears to strike north–south and remains open at depth. At the –60 m mine level, corresponding to the flooded level of the historic workings, the breccia reportedly has a strike length of approximately 80 m and a width of approximately 30 m. According to historical accounts from former miners, the VB is well mineralized with wolframite and molybdenite, although this mineralization has not been verified by modern exploration.

1.6. Deposit Summary

Mineral deposits at Borralha occur as greisens, intrusive breccias, and quartz veins and are interpreted to be related to hydrothermal activity associated with the intrusion of syn-tectonic, Hercynian-age, two-mica granites and intrusive breccias into Paleozoic metasedimentary rocks. Mineralization is considered to have developed during and following granite emplacement, under structurally controlled hydrothermal conditions.

Two principal vein types are recognized at Borralha, with vein widths ranging from approximately 10 cm to more than 100 cm. The first type comprises subvertical veins, typically dipping between 45° and 60°, with strikes generally ranging from 80° to 130°. The second type consists of subhorizontal veins, characterized by dips of less than 30°. Historically, the subvertical veins were the most productive at the Borralha mine and were the primary focus of underground mining operations.

The Santa Helena Breccia is interpreted to represent a collapsed intrusive breccia body that subsequently underwent brecciation, silicification, and hydrothermal mineralization. The breccia hosts fine- to coarse-grained wolframite, with minor cassiterite and associated base- and precious-metal sulphides. Mineralization occurs both within breccia fragments and in the breccia matrix, commonly associated with zones of intense hydrothermal alteration.

The Santa Helena Breccia, together with the Venise Breccia, which remains unexploited, represents a primary focus of current exploration activities. Both breccia bodies are considered to be of immediate exploration and prospective interest due to their scale, continuity, and polymetallic mineralization, although the Venise Breccia has not yet been confirmed by modern drilling or sampling.

1.7. Exploration Work

No exploration work was carried out on the Borralha Property between 1983 and 2011, when Blackheath Resources Inc. optioned the Property from *Minerália – Minas, Geotecnia e Construções Limitada* (“Minerália”). Following the option agreement, Minerália continued to work on the Project as the exploration contractor.

During the initial phase of work, Minerália compiled available historical geological maps and mining plans and digitized these datasets. This compilation identified two priority exploration targets: (i) the under-explored sub-horizontal vein systems located north of the Borralha River, and (ii) the Santa Helena Breccia located south of the river. Early field activities included topographic surveying, geological mapping, establishment of a survey grid, and soil geochemical sampling.

In 2012, Blackheath Resources completed a trenching program across Santa Helena Breccia, excavating nine trenches and collecting continuous channel samples at 5 m intervals. This work was followed by a diamond drilling program comprising thirteen drill holes totaling 1,917.55 m, predominantly using HQ-size core. In 2013, two drill holes were completed to test the sub-horizontal vein systems north of the Borralha River. Subsequent drilling campaigns in 2014 and 2017 comprised eleven drill holes designed to test tungsten mineralization within the SHB.

In 2023, ACM engaged Minerália to undertake several advanced technical programs, including the re-analysis of historical drill hole pulp samples, supervision of metallurgical test work, and management of a new drilling campaign. This drilling program comprised two P-size diamond drill holes and nine reverse circulation drill holes, for a combined total of 2,583.4 m of drilling.

During January to October 2025 and mostly focused on testing the central and northern portions of the Santa Helena Breccia seventeen reverse circulation drill holes were settled. At this effective date, the Company has completed a total of 9,236 m of combined drilling within the Santa Helena Breccia, comprising infill of historical drill holes and step-out drilling toward the distinct extents of this breccia deposit.

In 2026, Allied Critical Metals initiated a new phase of exploration drilling comprising approximately 20,000 metres of core drilling. The program is focused on supporting resource conversion within the Santa Helena Breccia, testing extensions of known mineralization, and advancing additional targets, including the Venise Breccia. Drilling is ongoing as of the effective date of this report, and no analytical results from this program have been incorporated into the Mineral Resource Estimate or the economic analysis.

1.8. Sampling and Analysis Information

Sampling and assay procedures employed during historical mining operations at Borralha are not documented and cannot be evaluated. Channel and drill core samples collected by Minerália – Minas, Geotecnia e Construções Limitada between 2011 and 2017 were collected, prepared, and securely delivered to the ISO-accredited preparatory facilities of ALS Global (“ALS”) in Seville, Spain. At the preparation laboratory, samples were crushed, pulverized, and split, after which representative sample pulps were shipped to ALS’s certified assay laboratory at Dublin Road, Loughrea, County Galway, Ireland for analysis. The remaining sample pulps and coarse rejects were returned to Minerália for secure storage. During this period, Minerália analyzed all drill core and channel samples solely for tungsten using X-ray fluorescence (“XRF”) methods. Tungsten analyses were performed using the W-XRF05 method, which reports tungsten concentrations in the range of 10 to 5,000 ppm. Samples returning tungsten values above 5,000 ppm were re-analysed using the W-XRF10 method, which reports tungsten grades in the range of 0.01% to 50% W. XRF is a non-destructive analytical technique that determines elemental composition by measuring the fluorescent X-rays emitted by a sample when excited by a primary X-ray source.

It is the opinion of the author that the 2011–2017 samples were properly collected, handled, and prepared in accordance with generally accepted CIM guidelines for mineral exploration.

During the author’s site examination, it was observed that bedrock exposure within the Santa Helena Breccia is limited and that no equipment was available at the time to quarter the stored drill core. As a result, the author selected ten drill core reject samples originally collected by Minerália from three drill holes at various depths, along with one certified reference material previously used during the 2017 analytical program, for verification purposes. The verification samples were described, securely packaged, and delivered directly to the ISO-accredited ALS Global preparation laboratory in Seville, Spain, the same facility used for the 2014 and 2017 drill core samples. At ALS, the reject samples were re-homogenized, pulverized, and split to produce representative sample pulps. These pulps were analyzed using two analytical procedures, (I) a four-acid digestion followed by ICP analysis for twelve base metals; and (II) a lithium borate fusion followed by ICP-MS analysis for 31 additional elements, including tungsten.

A significant outcome of the author’s verification work was the identification of appreciable concentrations of tungsten together with tin, copper, molybdenum, and silver. Prior to this verification, drill core samples from the SHB had only been analysed for tungsten, and the presence of accessory metals was inferred solely from visual observations of chalcopyrite and cassiterite in drill core. Verification results showed tungsten values ranging from 969 to 4,830 ppm, with associated copper values ranging from 0.083% to 0.576% Cu and silver values ranging from 6.7 to 18.5 g/t Ag.

During the 2023–2024 drilling campaign, a total of 2,583.4 m of drilling was completed, comprising two P-size diamond drill holes and nine reverse circulation (“RC”) drill holes. Minerália was contracted to supervise and manage the drilling program, which ultimately comprised three P-size diamond drill holes (Bo_Met_01, Bo_Met_02, and Bo_Met_02a) totaling 490.4 m, and eleven RC drill holes (Bo_RC_01 to Bo_RC_11) totaling 2,619.0 m. Diamond drill hole Bo_Met_02 intersected historical underground workings and was abandoned; it was subsequently re-drilled nearby as Bo_Met_02a.

As of the effective date of this report, the SHB has been tested by a cumulative 3,109.4 m of drilling, which includes both historical and recent programs, infilling previous drill coverage and extending exploration toward the southern portion of the breccia body.

The drill cores from diamond drill holes Bo_Met_01 and Bo_Met_02a were logged, cut longitudinally, and halved. One half of the core was shipped to Wardell Armstrong International Ltd. for metallurgical testing. The remaining half-core was sampled and delivered to the ALS preparation laboratory in Seville, Spain, and subsequently analysed at the ALS certified assay laboratory in Loughrea, Ireland using multi-element ICP analytical methods. Reverse circulation drill cuttings were collected at 1 m intervals, composited into 2 m samples, and shipped directly to ALS for preparation and analysis following the same procedures.

The 2025 RC drilling campaign followed procedures similar to those used in 2023–2024, with key modifications aimed at increasing the quantity of stored samples per drill hole. These changes improved QA/QC control of recovered sample weights. Unlike the previous campaign, where some rejects were disposed of in certified dumps, all rejects in 2025 were weighed and securely stored in a dedicated logging facility on the Property.

It is the opinion of the author that Minerália personnel exercised appropriate care and attention in the collection, handling, preparation, and secure shipment of all rock, drill core, and RC cuttings samples. Furthermore, the author considers that the sample preparation, handling, security, and analytical procedures applied to both the author’s verification samples and Minerália’s channel and drill samples were conducted in accordance with industry best practice standards and are suitable for use in this Technical Report.

1.9. Data Verification

Since acquiring the Borralha exploration licence in 2011, Minerália has confirmed the locations of numerous historical underground workings, compiled a validated exploration database, and examined diamond drill core from six drill holes completed within the Santa Helena Breccia (“SHB”) and one drill hole from the sub-horizontal vein drilling located north of the Borralha River. All major geological features described in the historical mine and exploration records were confirmed through this work.

During the site visit, the author verified and photographed the locations of several historical workings through direct field inspection, both within the Borralha zone and in the southern area of the SHB. The author also reviewed available historical records, maps, and exploration data related to the Borralha Project, with particular emphasis on the Santa Helena Breccia.

To verify the reliability of historical analytical results, the author submitted ten reject drill core samples for independent analysis. These samples were selected from three widely spaced drill holes: BO9, located at the northern extent of the SHB; BO8A, testing the central portion of the breccia; and BO5, located in the southern portion of the SHB.

The results of the verification sampling reflect the nuggety nature of the tungsten mineralization and demonstrate the importance of complete multi-element analytical procedures. Comparisons between higher-grade tungsten intervals in drill holes BO5 and BO8A show variability between the original XRF analyses and the verification analyses conducted using alternative analytical methods. In drill hole BO9, the original XRF analyses reported low tungsten values, whereas the author's verification samples returned significantly higher tungsten grades. No definitive explanation for this discrepancy was identified, other than the likelihood that the original XRF analyses of the sample pulps did not fully detect the tungsten content later identified by mass spectrometry methods.

A notable discrepancy was also observed between two tungsten analyses of the Certified Tungsten Reference Standard GW-03. One possible explanation is that the GW-03 standard, which had been stored for approximately six years in a small envelope, may not have been fully re-homogenized prior to analysis, resulting in a lower reported tungsten value in one instance. The author received the analytical results directly from the laboratory, and the laboratory's internal QA/QC procedures indicate that the verification sample results are reliable and credible.

Minerália has implemented a comprehensive and well-documented quality assurance and quality control ("QA/QC") program. Certified reference materials are inserted at a frequency of one in every 20 samples, and two blank samples are included in each analytical batch. All standards and blanks were sourced from independent third-party suppliers, and a total of five different certified reference materials, covering various element suites, were utilized.

It is the author's opinion that Minerália personnel exercised appropriate care in the handling, preparation, and secure shipment of all rock, core, and drill cuttings samples. Furthermore, it is the author's opinion that the sample preparation, handling, and security procedures applied to both the author's verification samples and Minerália's channel and drill samples were conducted in accordance with generally accepted industry best practice standards.

1.10. Metallurgical Testing

The metallurgical profile of the Borralha Project is the result of a series of investigative programs conducted between 2019 and 2025, which evolved from initial characterization to an optimized, simplified processing route.

Previous Testwork (2019 - 2024): Early programs established the fundamental characteristics of the Santa Helena Breccia (SHB) mineralization. The 2019 GSL program investigated liberation and the potential for marketable concentrates using weathered surface samples. The 2023-24 WAI/MINEPRO SOLUTIONS S.L (MINEPRO) program expanded this scope using representative drill core to evaluate gravity and magnetic separation while generating data for environmental permitting. In 2024, MINEPRO focused on simplifying the flowsheet through spiral concentration and sulphide flotation to improve economic performance.

The 2025 SLR Consulting program represents an advanced phase of metallurgical testing designed to define the optimal process plant design by building upon previous studies and refining the flowsheet. This phase focuses on a detailed mineralogical evaluation of both tungsten and copper minerals to assess by-product potential and evaluate pre-concentration options like Dense Media Separation (DMS). Following the pre-concentration stage, which rejects approximately 40% of the barren mass, the remaining material is ground to 1 mm to prepare for a multi-stage gravimetric circuit testwork.

The gravimetric concentration circuit is the primary stage for tungsten recovery, specifically designed to process a wide range of particle sizes from the ground ore.

The step can be summarized as follows:

- Size classification via hydrocyclones, producing ultrafines (< 20 µm) and other coarser fractions suitable to be fed into spirals.
- Coarse and fine concentration in spirals, followed by regrinding and upgrading into shaking tables. This results in a high-grade tungsten pre-concentrate ready for subsequent sulphide removal and purification.
- Ultrafines concentration with specialized equipment, including Falcon centrifugal concentrators and Multi-Gravity Separator (MGS) units, to ensure high tungsten recovery from the ultrafine stream.

After the gravimetric concentration step, the resulting tungsten concentrate reports significant sulphide content, primarily pyrite and chalcopyrite, due to their high density. Therefore, a sulphide/copper flotation stage is included:

- Sulphide removal: a rougher flotation stage is employed to clean the tungsten concentrate by removing these sulphides. The non-floated product becomes the cleaned tungsten concentrate, while the floated material forms a sulphide-rich stream.

- Copper by-product study: the sulphide-rich stream undergoes a second, selective flotation stage to separate chalcopyrite (copper-bearing) from pyrite.

The integration of these stages, detailed size-based gravimetric concentration, ultrafine recovery, and selective flotation, supports the project's ability to achieve an overall tungsten recovery of 75% - 80% at a grade of 65%WO₃.

Based on the testwork progress, the recoveries and grades are estimated for this study are shown in the Table 1-1.

Table 1-1: Estimated recoveries and grades from the Borralha project.

Element	Estimated Recovery	Target Grade
Tungsten (WO ₃)	75% – 80%	65%
Copper (Cu)	60%	21%
Tin (Sn)	30% – 40%	50%

1.11. Mineral Resource Estimate

An updated Mineral Resource Estimate (“MRE”) has been completed for the Borralha Tungsten Project, northern Portugal, with an effective date of 16 November 2025. The estimate applies exclusively to the Santa Helena Breccia (“SHB”) within the Property and has been prepared in accordance with the CIM Definition Standards (2014, updated 2023) and National Instrument 43-101 (“NI 43-101”). This MRE supersedes all previous Mineral Resource Estimates reported for the Property and the SHB.

Relative to the previous Mineral Resource Estimate reported in March 2024, the updated MRE reflects a material increase in both tonnage and geological confidence. The prior estimate was reported 4.98 Mt classified as Indicated and 7.01 Mt classified as Inferred at comparable WO₃ grades within the Santa Helena Breccia. The current estimate increases the Measured and Indicated Mineral Resources to 13.0 Mt and reports 7.7 Mt of Inferred Mineral Resources, reflecting the impact of additional drilling, improved geological interpretation, and refined estimation parameters. This updated MRE supersedes all previously reported Mineral Resource Estimates for the SHB.

The updated estimate incorporates additional drilling completed during the 2025 Phase 1 reverse circulation drilling campaign, together with refinements to geological interpretation, breccia domain modelling, and grade estimation parameters. To date, the SHB has been tested by nine surface trenches and a total of 41 drill holes (diamond and RC) over an approximate 400 m strike length and to depths exceeding 350 m below surface. Drill spacing ranges from approximately 20 m in the central portion of the breccia to greater than 50 m toward the margins and at depth, and this variability is reflected in the Mineral Resource classification.

Mineral Resources are reported as in situ and undiluted and do not include modifying factors such as mining dilution or recovery, metallurgical recovery, capital or operating costs, or economic analysis. The estimate is constrained to a single, continuous breccia domain interpreted using geological, structural, alteration, and grade continuity criteria. Recent drilling has confirmed mineralization continuity toward the west and down-dip, and the SHB remains open along strike and at depth.

WO₃ grades exhibit a positively skewed distribution characteristic of breccia-hosted wolframite mineralization, with a pronounced but geologically coherent nugget effect. Appropriate grade restriction techniques were applied to limit the influence of extreme values while preserving local high-grade variability. Grade interpolation was carried out using Ordinary Kriging within a three-dimensional block model, with search parameters informed by correlogram-based spatial continuity analysis. Model validation confirms that the block model adequately reproduces the spatial distribution, grade continuity, and global statistics of the input data without introducing material bias.

Mineral Resources have been classified as Measured, Indicated, and Inferred based on data density, geological confidence, spatial continuity, and estimation performance. Resources are reported above a 0.09% WO₃ cut-off grade, selected to support reasonable prospects for eventual economic extraction, based on conceptual underground mining assumptions, gravity-dominant processing, assumed tungsten pricing, and indicative operating costs. A grade-tonnage sensitivity analysis demonstrates a smooth and continuous relationship, indicating a well-behaved grade distribution and limited sensitivity to cut-off selection.

The updated Mineral Resource Estimate for the Borralha Tungsten Project, effective 16 November 2025, is presented in Table 1-2. The estimate is reported at a 0.09% WO₃ cut-off grade, is undiluted and in situ, and is classified in accordance with CIM Definition Standards.

Table 1-2: Mineral Resource Statement

TOX	Category	Density g/cm ³	Mass Mt	WO ₃ % %	Average Value			Material Content			
					Cu ppm ppm	Ag ppm ppm	Sn ppm ppm	WO ₃ % t	Cu ppm t	Ag ppm Mt. oz	Sn ppm t
oxSHB	Measured	2.76	0.1	0.14	412	2.2	77	97	28	0.00	5
	Indicated	2.78	1.5	0.17	450	2.3	82	2 574	675	0.11	124
	Measured + Indicated	2.78	1.6	0.17	448	2.3	82	2 671	703	0.12	129
	Inferred	2.79	0.3	0.20	570	3.1	97	601	169	0.03	29
noxSHB	Measured	2.81	0.9	0.22	826	5.5	106	1 991	740	0.16	95
	Indicated	2.80	10.5	0.21	654	4.2	86	22 399	6 890	1.41	903
	Measured + Indicated	2.80	11.4	0.21	667	4.3	87	24 391	7 630	1.57	998
	Inferred	2.78	7.5	0.18	355	3.2	65	13 277	2 646	0.78	482
Total	Measured	2.81	1.0	0.22	796	5.2	104	2 088	769	0.16	100
	Indicated	2.79	12.0	0.21	628	3.9	85	24 974	7 565	1.52	1 027
	Measured + Indicated	2.79	13.0	0.21	641	4.0	87	27 062	8 333	1.68	1 127
	Inferred	2.78	7.7	0.18	363	3.2	66	13 878	2 815	0.80	511

Differences may occur in totals due to rounding.

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. Current PEA mine design and economics are based on the Santa Helena Breccia only

No Mineral Reserves have been estimated for the Borralha Project. This Technical Report is a Preliminary Economic Assessment, not a pre-feasibility or feasibility study, and does not support declaring Mineral Reserves. The mine design and analysis are based on Mineral Resources and conceptual technical assumptions.

Proven or Probable Mineral Reserves are not declared, nor are Mineral Resources converted to Reserves in this report. Future reserve estimates would require further geological, engineering, environmental, and economic studies at the pre-feasibility or feasibility level.

1.12. Mining Methods

The PEA mining approach involves the underground extraction of the Santa Helena Breccia, utilizing Sublevel Open Stopping (SLOS) as the primary mining method and supplementing with Drift-and-Fill (DF) techniques in areas where SLOS geometry is insufficient. Initial geotechnical analyses confirm that the selected SLOS stope dimensions align with prevailing rock mass conditions; however, the stability of stope backs remains a key concern and necessitates comprehensive support measures, including rock bolts, cable bolts, shotcrete, and paste backfill.

Hydrogeology constitutes a significant technical consideration in underground development. Mining operations above the historical -60 m level are expected to benefit from gravity drainage, resulting in more favorable operating conditions. Below this level, operations will require continuous pumping, redundant power sources, enhanced pumping infrastructure, and further investigation into flooded historic workings. A cautious preliminary pumping design value of 180 m³/h has been established for low-water scenarios, with higher inflows anticipated during winter months.

For the PEA, the mining inventory was developed by applying modifying factors to designed stopes and screening them on the basis of NSR/t versus operating cost per tonne. Only those stopes where the projected NSR surpasses the associated operating costs have been included. The economic evaluation is based on an average annual production estimate of approximately 1.4 Mtpa mined and 1,708 t/y of WO₃ concentrate.

1.13. Processing and Recovery Methods

The process plant is designed for a throughput of 1,400,000 tonnes per year, utilizing a combination of separation techniques to produce saleable concentrates of tungsten, copper, and tin. The facility is engineered based on principles of safety, regulatory compliance, and sustainability, incorporating Best Available Techniques (BAT) such as energy-efficient systems and a closed-loop process water circuit.

The plant operates under two distinct schedules:

- Crushing area: operates 14 hours per day (two shifts) with 87.5% availability.
- Downstream processes: operates 24 hours per day (three shifts) with 94.4% availability.

The process includes the following areas:

- Area 100 - crushing: a three-stage closed-circuit system reduces ROM material from a maximum size of 500 mm to a final product size of 6 mm. This includes a primary jaw crusher (located inside the mine) followed by secondary and tertiary cone crushers on the surface.
- Area 200 - dense Media Separation (DMS): this pre-concentration stage treats the 6–2 mm fraction. By using a dense medium (magnetite or ferrosilicon) at a density of 2.75, the plant rejects approximately 40% of the barren mass as coarse tailings, significantly improving downstream efficiency.
- Area 300 - grinding: the DMS product and fine ore are ground to 1 mm in a ball mill operating in closed circuit with a 1 mm screen to ensure optimal liberation for the downstream gravimetric concentration step.
- Area 400 - gravimetric concentration: the circuit processes three size fractions (1,000–300 µm, 300–20 µm, and <20 µm). Coarser fractions are processed in spiral circuits and then upgraded on shaking tables. Ultrafine particles (<20 µm) are recovered using specialized Falcon centrifugal concentrators and Multi-Gravity Separators (MGS) to minimize tungsten losses.
- Area 500 - copper flotation: this area performs two functions. First, a rougher flotation stage removes sulphides (pyrite and chalcopyrite) to clean the tungsten concentrate. Second, a selective cleaning circuit separates chalcopyrite from pyrite to produce a saleable copper concentrate.
- Area 600 - concentrates dewatering and purification: final concentrates are dewatered and dried. The tungsten-tin stream undergoes dry magnetic separation and electrostatic separation to produce tungsten and tin concentrates separately.
- Area 700 - paste plant: to ensure long-term stability and avoid surface waste, fine and coarse tailings are thickened to 70% solids, mixed with cement, and pumped back into mine voids.
- Area 800 – reagents preparation: there is an area specifically dedicated to the storage, dosing and preparation of the reagents involved in the flotation process (collectors, frothers and pH modifiers) and in the dewatering (flocculant).
- Area 900 – plant services: it comprises a set of auxiliary equipment and facilities whose purpose is to ensure the continuous, safe and simultaneous availability of essential

services required for plant operation. This includes the process and fresh water system, the compressed air or the fire protection system.

1.14. Project Infrastructure

The Project infrastructure has been designed to support a compact and efficient mining operation while minimizing environmental and social impacts. The site layout integrates processing, mining, and support facilities within a defined footprint, optimizing operational logistics and reducing surface disturbance.

The processing plant is strategically located in proximity to the mineralized zones to facilitate efficient material handling and potential backfilling operations. Surface infrastructure includes administrative and operational buildings, workshops, warehouses, and support facilities, all designed in accordance with anticipated production requirements.

Access to the Project is provided through an upgraded network of existing local roads, supplemented by dedicated haul routes for heavy vehicle traffic, ensuring safe and efficient site logistics.

Water management is supported by a site-wide water balance, indicating that available groundwater and surface water resources are sufficient for planned operations. Water management infrastructure includes retention and sedimentation facilities designed to ensure operational continuity and environmental compliance.

Power supply to the Project is planned via connection to the national electricity grid through a 60 kV overhead transmission line linking the Borralha site to the SE Frades substation. The proposed electrical infrastructure has been designed in accordance with applicable regulatory and technical standards.

Overall, the infrastructure design is considered appropriate for the scale and level of study of a Preliminary Economic Assessment and supports the development of a robust and operationally efficient mining project.

1.15. Market Studies and Contracts

The Project is positioned within established industrial markets for tungsten, copper and tin concentrates. In the current European policy context, tungsten and copper are treated as strategically important raw materials, while tin falls within the scope of the EU Conflict Minerals Regulation. For PEA purposes, market assumptions are based on reasonably available public information, industry practice, indicative concentrate specifications, and preliminary assumptions for payability, treatment, transport and handling. No independent detailed market study commissioned specifically for the Project had been completed as of the effective date.

No binding material commercial agreements are currently in place. However, the Issuer has obtained a non-binding letter of intent from an arm's length U.S. tungsten powder producer, which provides preliminary commercial support for the saleability assumptions used at the PEA level, including mining, concentrating, smelting, refining, transportation, sales, offtake, hedging or forward sales contracts. Marketability will depend on final concentrate specification, impurity profile, logistics and commercially acceptable payability and treatment terms.

In addition, the Issuer has provided a letter of intent with an arm's length third party producer of tungsten powders in the United States for the purchase of tungsten concentrate production from mining at the Borralha Tungsten Project. Non-binding letters of intent do not constitute material contracts and are not relied upon to demonstrate commercial viability, but are described solely as indicative support for PEA-level assumptions. In the opinion of the Qualified Person, these assumptions are reasonable and appropriate for a PEA-level assessment.

1.16. Environmental Studies, Permitting and Social or Community Impact

The environmental and social assessment for the Project is based primarily on the Environmental Impact Assessment (EIA) prepared by Quadrante and information provided by Portuguese regulatory authorities, including the Agência Portuguesa do Ambiente (APA) and the Direção-Geral de Energia e Geologia (DGEG).

The Project has received a favorable Environmental Impact Assessment decision (DIA) and is currently advancing to the RECAPE phase (Environmental Compliance Report for the Detailed Design Phase). Final permitting remains subject to RECAPE approval and the completion of detailed engineering and supporting baseline studies.

Historical mining activities have resulted in legacy environmental features, including waste rock deposits, abandoned underground workings, and derelict infrastructure. These are considered manageable within the context of the proposed redevelopment, although further geochemical, hydrogeological, and environmental baseline investigations are required to support detailed design and permitting.

Conceptual designs for waste, tailings, and water management have been developed and are considered consistent with industry practice. The Project incorporates water management strategies based on collection, treatment, reuse, and controlled discharge, with the objective of minimizing environmental impacts and freshwater consumption. A preliminary site water balance supports the technical viability of the proposed approach.

The Project is subject to Portuguese and European Union environmental and mining legislation, including the integrated environmental permitting framework (LUA/TUA). In addition to RECAPE approval, further permits will be required prior to construction, including those related to water use, waste management, and mining operations.

Social baseline studies indicate that the Project is located in a low-density rural region with historical mining activity and socio-economic challenges. The proposed redevelopment is expected to generate employment and support regional economic activity, while requiring ongoing stakeholder engagement and monitoring to manage potential social impacts.

Mine closure and rehabilitation planning are at a conceptual stage. The Project includes provisions for the remediation of historical liabilities and will require the development of detailed closure plans and financial assurance mechanisms as part of the permitting process.

Environmental and social monitoring programs have been defined at a conceptual level in the EIA and will be further developed during the RECAPE phase. Residual environmental and social risks are considered typical of brownfield mining projects but cannot yet be fully quantified at the current stage of study.

The Qualified Person considers that the environmental and social framework is appropriate for a Preliminary Economic Assessment. Further studies, detailed engineering, and regulatory approvals will be required to advance the Project toward construction.

1.17. Capital and Operating Cost Estimates

Capital and operating cost estimates have been prepared at **PEA level accuracy**. Capital costs are presented on a nominal USD basis and include initial construction capital and sustaining capital over the life of mine. The capital estimate includes a **5% contingency** in the underlying build-up. Reported capital excludes sunk costs, land access, financing interest during construction, legal costs, exploration, metallurgical test work, and construction taxes, insurance and duties. The estimated CAPEX summary is as follows:

- Initial Capital: USD M 91.4
- Sustaining Capital: USD M 86.9
- Total Capital: USD M 178.3.

OPEX cost for the Borralha operations on this PEA study are summarized in Table 1-3.

Table 1-3 Operation cost assumptions for the Borralha project.

Item	Price (USD)
Mine Opex SLOS	33.70
Mine Opex DF	43.65
Plant Opex	9.46
G/A Opex	5.00

Total operating costs over the life of mine amount to approximately USD 799 million, distributed across the main cost categories as follows:

- Mining: USD 555 million

- Processing: USD 177 million
- G&A (General and Administrative): USD 67 million

Capital cost estimates include contingency allowances applied at both the component level (ranging from approximately 5% to 35%, depending on the level of definition and risk) and an additional 5% project-level contingency applied within the economic model.

1.18. Economic Analysis

The economic evaluation has been conducted at the PEA level utilizing a discounted cash flow model, which incorporates production scheduling, metallurgical performance, capital expenditures, and operating costs. The study includes Inferred Mineral Resources and is therefore considered preliminary; there is no guarantee that the outcomes projected by the PEA will be achieved.

The base case economic analysis applies long-term price assumptions of approximately USD 704/mtu WO₃, USD 9,943/t Cu, USD 32,000/t Sn, and USD 37.74/oz Ag. Additional key parameters include an 8% discount rate, a base EUR/USD of 1.15, WO₃ payability at 80%, Cu payability at 95%, Sn payability at 96%, and Ag payability at 86%.

Table 1-4: Economical parameters summary of the Borralha project

Metric	Unit	Value
WO ₃ Price Assumption (Base Case)	USD/mtu	~704 (Argus LT Fcst)
NPV @ 8% (post-tax)	USD M	~134
IRR (post-tax)	%	27.2%
Payback (from construction start)	Years	~5,8
Payback (beginning operation)	Years	~3,8
EBITDA (LOM)	USD M	~588
EBITDA Margin	%	~40%
Initial Capex	USD M	~91
Sustaining Capex (LOM)	USD M	~87
Total Capex (LOM)	USD M	~178

The project is expected to generate around USD 1.45 billion NSR over its lifetime, derived from USD 1.46 billion GMV, suggesting relatively limited commercial deductions in the base scenario. Sensitivity analysis identifies the WO_3 price as the primary value driver, followed by treatment/refining terms, head grade, and metallurgical recovery. Capital expenditure and G&A exhibit comparatively lower sensitivity within the examined ranges.

Given that the prevailing tungsten price substantially exceeds the price assumptions adopted in this PEA, a high-level economic sensitivity analysis was completed to evaluate the effect on NPV, IRR, and payback period assuming tungsten sales prices of USD 1,000/mtu and USD 1,500/mtu. These scenarios are illustrative only and should not be interpreted as long-term price forecasts.

Table 1-5: Base Case and Tungsten price sensitivity scenarios.

Metric	PEA Scenario	Upload	Better
WO_3 Price USD / mtu	704	1,000	1,500
NPV @ 8% (post-tax) USD M	134	346	706
IRR (post-tax) %	27%	49%	78%
Payback (from construction start)	5.8	4.2	3.2
Payback (beginning operation)	3.8	2.2	1.2

The mineral resource estimates underpinning this assessment include Inferred Mineral Resources, which are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Accordingly, this PEA is preliminary in nature as it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. As such, the results presented herein should be considered indicative of the Project's potential and subject to further refinement as additional technical data becomes available. Nevertheless, the analysis provides a coherent and internally consistent basis for understanding the potential economic viability of the Project at a PEA level and identifying the principal drivers of value and risk.

The economic assessment is based solely on the Santa Helena breccia, with additional mineralized zones and potential by-product revenue streams not included in the current development case.

1.19. Interpretation and Conclusions

The Project is considered technically viable on a PEA level of accuracy, based on mining and processing methods that are well established for this type of mineralization both internationally and within the Iberian Peninsula. The predominance of wolframite as the main tungsten-bearing mineral is a positive factor, as it is expected to support stronger recoveries than in nearby scheelite-dominant deposits.

The main risks identified for future stages relate to the need to refine mining, process plant construction, and mine development costs in order to improve the accuracy of the cut-off assumptions and overall economic evaluation. Additional work is also recommended to assess the potential economic benefit of recovering secondary elements and to investigate rock abrasiveness, which may have an important effect on mining and comminution costs.

Key opportunities include the potential to expand Project resources through additional exploration within the resource area of the Santa Helena Breccia and the broader license area, as well as further metallurgical improvements that could enhance recoveries, increase revenues, and strengthen project cash flow.

The mineral resource estimates underpinning this PEA include Inferred Mineral Resources, which are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Accordingly, this PEA is preliminary in nature as it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. As such, the results presented herein should be considered indicative of the Project's potential and subject to further refinement as additional technical data becomes available. Nevertheless, the analysis provides a technically coherent and internally consistent basis for understanding the potential economic viability of the Project at a PEA level and identifying the principal drivers of value and risk. In particular, this PEA demonstrates a technically coherent and economically positive development case based on the Santa Helena Breccia alone.

1.20. Recommendations

The results presented in this PEA report demonstrate positive economics for the Borralha Tungsten Project. As such, it is recommended that development of the Project continues through subsequent mineral resource update(s) and studies. Table 1-6 summarizes the proposed budget to enable various technical optimization activities and to advance the Project through the next stage of study, a PFS.

Table 1-6: Recommended work program budget

Description	Estimated Cost (USD)
Infill drilling (~15,000m)	\$ 5,000,000
Regional exploration (5,000m)	\$ 1,750,000
MRE	\$ 30,000
Mine cost modelling	\$ 30,000
Mine engineering	\$ 70,000
Metallurgical test work	\$ 200,000
Detailed Geotechnical studies	\$ 100,000
Process engineering	\$ 100,000
Site infrastructure engineering	\$ 100,000
Water and power supply engineering	\$ 50,000
Environmental and permitting (RECAPE)	\$ 900,000
Sustainability and ESG initiatives	\$ 200,000
TOTAL (USD):	\$ 8,530,000
TOTAL (CAD):	\$ 11,700,601

**Assuming an exchange rate of \$1.3717 CAD/USD.*

The Project has a reasonable technical basis to support advancement; however, further work is required to improve engineering definition, cost accuracy, and integration across the main project components. Recommended next-stage work includes a more comprehensive economic analysis incorporating mining, transport, processing, and metallurgical parameters into the Geological Block Model to establish a robust economic cut-off; development of a geotechnical database to better support mine design; initial assessment of mine ventilation requirements; and a more detailed evaluation of mineral transport.

Updated cost estimates should also be obtained with contractor input, and commodity price assumptions should be reviewed to reflect reasonable long-term market conditions. In addition, advancement toward the Pre-Feasibility Study (PFS) stage will require further refinement of the mine plan, stronger integration between mining and processing, definition of waste rock management, including evaluation of waste rock management options, dump design, and the potential sale of suitable aggregate material and dump design, development of stockpile and scheduling strategies, preparation of a comprehensive site water balance, and continued sampling and analytical work to strengthen geological and metallurgical confidence, with all results incorporated into an updated economic model as project definition advances.

Advancement to PFS will focus on improving capital expenditure and cost accuracy, refining mine design, and evaluating additional mineralized zones and by-product opportunities.

2. Introduction

2.1. Introduction and Terms of Reference

This Technical Report was prepared by its authors for the Issuer to provide a preliminary economic assessment ("**PEA**") of the Issuer's Borralha Tungsten Project (the "**Project**") in northern Portugal. In accordance with the requirements of NI 43-101—*Standards of Disclosure for Mineral Properties* and corresponding Form 43-101F1 and provides a comprehensive review of exploration activities conducted on the Project. The authors (the "**Authors**") of this Technical Report are Miguel Cabal, EurGeol. J. Douglas Blanchflower, P.Geo., Vítor E. D. Arezes, BSc, MIMMM, QMR, David Lopez, MIMMM QMR and João Horta MIMMM.

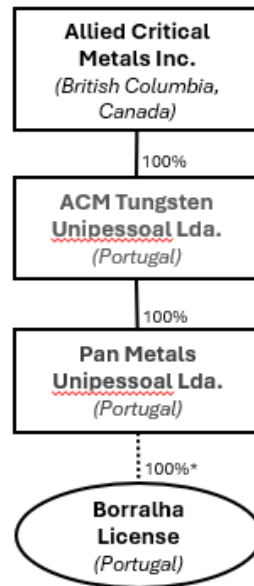
The Project hosts a wolframite tungsten mineralized breccia known as the Santa Helena Breccia, and the Issuer is currently undertaking an infill and step-out drilling program to update the 2025 mineralization model and improve confidence in the MRE.

The Issuer is a corporation incorporated under the laws of British Columbia, Canada, and its common shares are listed on the Canadian Securities Exchange.

This Technical Report is an update from a previous technical report dated December 30, 2025 and is prepared in support of the Initial Preliminary Economic Assessment of the Borralha Property and this Technical Report supersedes all previous reports for the Project.

2.2. Corporate Structure

The Issuer (listed on the Canadian Securities Exchange) owns 100% of ACM Tungsten Unipessoal Lda. ("**ACM Tungsten**"), which owns 100% of Pan Metals Unipessoal Lda. ("**Pan Metals**"), which owns a 100% interest in the Portuguese mineral license (the "**Borralha License**") comprising the Borralha Tungsten Project in northern Portugal. Mineralia – Minas, Geotecnia e Construções Lda. ("**Mineralia**") holds registered title to the Borralha License beneficially in trust for Pan Metals. ACM Tungsten, Pan Metals, and Mineralia are all incorporated and existing pursuant to the laws of Portugal. See organigram of corporate structure below.



**100% of Borralha License held beneficially in trust for Pan Metals Unipessoal Lda. by Mineralia – Minas, Geotecnia e Construcoes Lda.*

Figure 2-1: Organigram of the corporate structure.

2.3. Sources of Information and References

The reports and documents listed in Section 27 of this Technical Report were relied upon in its preparation. Additional information was provided, as required, by personnel from Allied Critical Metals Inc., PanMetals Unipessoal Limitada, and Mineralia – Minas, Geotecnia e Construções Lda., as described and referenced in Section 27.

The Authors have endeavoured, by making all reasonable enquiries, to confirm the authenticity and completeness of the technical data upon which the independent Technical Report is based. The mineral resource estimate ("MRE") was based on exploration data available on December 30, 2025.

2.4. Site Inspections

The site visits were performed as follows:

- J. Douglas Blanchflower, B.Sc., P.Geo., an independent Qualified Person as defined under NI 43-101, conducted site visits to the Borralha Property for 5 days from July 16 to 21, 2025, and previously for 3 days from March 26 to 28, 2023. During these visits, Mr. Blanchflower examined mineral showings across the Property, collected drill reject samples for verification purposes, and reviewed all aspects of historical and recent exploration activities relevant to the preparation of this Technical Report. The scope of the site visits included review of local topographic, lithological, and structural features; inspection of drill core and reverse-circulation drilling practices; review of geological logging and sampling procedures; assessment of analytical and assay results; evaluation of sample handling, security, and shipping procedures; inspection of recent drill hole locations; and review of exploration documentation and data management practices.
- Miguel Cabal, BSc, EurGeol, visited the site on 7 April, 2026 to review site conditions relevant to infrastructure layout, physiography, and geological setting.
- Vítor Arezes, BSc, MIMMM, QMR, Vice President Exploration of the Issuer, has conducted multiple site visits to the Borralha Property over several years, including during the 2025 and 2026 drilling campaigns, in his capacity as project geologist, Vice-President Exploration of the Issuer and Qualified Person. Most recently, Mr. Arezes visited the Property for 4 days on April 1, 7, 9 and 11, 2026 for several hours each day overseeing exploration and verifying data.
- David Lopez, M.Sc., MIMMM, QMR, visited the Property for two days on 14-15 November 2025.
- João Horta, M.Sc., MIMMM, visited the Property for two days on 14-15 November 2025.

2.5. Qualification, Experience and Independence

None of the independent Authors of this Technical Report has or has had previously, any material interest in the Issuer or the mineral properties in which the Issuer has an interest. Authors' relationship with the Issuer is solely one of professional association between the client and independent consultant. This Technical Report is prepared in return for professional fees based on agreed commercial rates and the payment of these fees is in no way contingent on the results of the Report.

Mr. Miguel Cabal (EurGeol) has practiced 30 years as a Professional Geologist since graduating with a B.Sc. Geology from the Complutense University in Madrid, Spain in 1996 with 5 years as a mining geologist and short term planning in underground operation, and as a consulting geologist since 2002. Mr. Cabal is familiar with Tungsten-Tin deposit models and mining operations, underground and open pit mining, and has experience writing technical reports. Mr. Cabal is a Registered Professional Geoscientist in good standing with the European Federation of Geologists (EurGeol #1439). Mr. Cabal is an independent Qualified Person under **NI 43-101** and is a consulting geologist and CEO of Geomatec Proyectos SL, who was engaged by **ACM** (the "Issuer") as the author responsible for the following sections of this Technical Report: Section 15 (Mineral Reserve Estimates), Section 16 (Mining Methods), Section 19 (Market Studies and Contracts), Section 21 (Capital and Operating Costs), and Section 22 (Economic Analysis). Mr. Cabal is independent of the Issuer, its subsidiaries and the Project under NI 43-101.

Mr. J. Douglas Blanchflower (P.Geo.) has practiced as a Professional Geologist since graduating with a B.Sc. (Hons) from University of British Columbia in 1971, and is familiar with Tungsten-Tin deposit models and have experience writing technical reports. Mr. Blanchflower is a Registered Professional Geoscientist in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (No. 19086). Mr. Blanchflower was engaged by the Issuer to act as an independent Qualified Person under NI 43-101 and has overall responsibility for the Technical Report, including the Section 14 (Mineral Resource Estimate), except for Sections 15 - 22. Mr. Blanchflower is independent of the Issuer, its subsidiaries and the Project under NI 43-101.

Mr. Vitor Arezes (MIMMM, QMR) graduated with a B.Sc. (Biology and Geology) from University of Minho in Portugal and has practiced in his profession continuously for more than 14 years in mineral exploration, mineral resource estimation, and mining project evaluation. Mr. Arezes is a Member of the Institute of Materials, Minerals and Mining (MIMMM #703197) and a Qualified Mineral Resources and Ore Reserves Professional (QMR). Mr. Arezes is a Qualified Person under NI 43-101 and is not independent of the Issuer due to his role as Vice President Exploration of the Issuer. Mr. Arezes is responsible for preparation of the following sections of this Technical Report: Sections 1 through 12, and Sections 23, 24 and 27.

Mr. David Castro López (MSc, MIMMM, QMR) graduated with a B.Sc. degree in Geological and Geophysical Engineering from the Oviedo University in 2011, and a M.Sc. degree in Mining and Natural Resources Engineering from the University of Catalonia (Spain) in 2013, and practiced in his profession for 14 years. Mr. Lopez has applied experience in both the study and delivery phases of major metals and fertilizer projects, including construction and commissioning of major plant and equipment, and has a specific interest in the design and delivery of robust metallurgical laboratory programs and front-end design of process engineering development to support feasibility studies. Mr. Lopez is a Professional Member (MIMMM # 685484) and Qualified for Minerals Reporting (QMR) of the Institute of Materials, Minerals and Mining (IOM3). Mr. Lopez is a Process Engineer and a director of MINEPRO Lda., is an independent Qualified Person under NI 43-101 and was engaged by the Issuer as the author responsible for Section 13 (Mineral Processing and Metallurgical Testing) and Section 17 (Recovery Methods) of this Technical Report. Mr. López is independent of the Issuer, its subsidiaries and the Project under NI 43-101.

Mr. João Horta (MSc, MIMMM) graduated with a M.Sc. from Lisbon University – *Instituto Superior Técnico* in 2001 and has practiced in his profession for over 20 years, working in the mining industry continuously, including mining operations and mining studies, and has worked with various commodities within the Iberian mining operations. Mr. Horta is registered as a Senior Member of the Portuguese Engineers Association (# 50464) and is a Professional Member (MIMMM) of the Institute of Materials, Minerals and Mining (# 679050). Mr. Horta is Client Manager with Quadrante, is an independent Qualified Person under NI 43-101 and was engaged by the Issuer as the author responsible for Section 18 (Project Infrastructure) and Section 20 (Environmental Studies, Permitting and Social or Community Impact) of this Technical Report. Mr. Horta is independent of the Issuer, its subsidiaries and the Project under NI 43-101.

The Qualified Persons conducted examinations of the Borralha Tungsten Project, which included the collection of verification samples, review of available historical and recent exploration data and results, and the preparation of this Technical Report (the “**Report**”).

2.6. Units. Currency and Abbreviations

Unless otherwise stated, all units used in this Technical Report are expressed in metric units. Monetary amounts are reported in United States dollars (USD), unless otherwise specified. Certain references may also be expressed in euros (EUR) or Canadian dollars (CAD), as noted. All references to ounces are to troy ounces. The Report uses Canadian English spelling and conventions and is intended to be read as a whole. Unless indicated otherwise, all of the coordinates stated in this report are in Universal Transverse Mercator (UTM) 1984 World Geodetic System (WGS84) datum.

A list of abbreviations used in this Report is provided below.

%	per cent	m ²	square meter
Ag	silver	m ³	cubic meter
AMSL	above mean sea level	Ma	million years ago
As	arsenic	Mg	magnetite
Au	gold	mm	millimeter
b.y.	billion years	mm ²	square millimeter
CAD\$	Canadian dollar	mm ³	cubic millimeter
Cl	chlorite	mo	molybdenite
Cm	centimeter	Moz	million troy ounces
cm ²	square centimeter	ms	sericite
cm ³	cubic centimeter	Mt	million tons
Cp	chalcopryrite	mu	muscovite
Cs	cassiterite	m.y.	million years
Cu	copper	NI 43-101	National Instrument 43-101
cy	clay	Pb	lead
° C	degree Celsius	pf	plagioclase
°° F	degree Fahrenheit	ppb	parts per billion
DDH	diamond drill hole	ppm	parts per million
Ep	epidote	Py	pyrite
Ft	feet	Qa	Quality Assurance
g	gram	Qc	Quality Control
gl	galena	qz	quartz
GPS	Global Positioning System	RC	reverse circulation drilling
gpt	grams per ton	RQD	rock quality description
Ha	hectare	sc	scheelite

Hm	hematite	SG	specific gravity
ICP	induced coupled plasma	st	short ton (2,000 pounds)
kf	potassic feldspar	Sn	Tin
Kg	kilogram	t	ton (1,000 kg or 2,204.6 lbs)
Km	kilometer	to	tourmaline
Km ²	square kilometer	W	Tungsten
l	liter	um	micron
li	limonite	US\$	United States dollar
m	meter	Wo	wolframite
oz	troy ounce (31.1035 grams)	Zn	zinc

2.7. Acknowledgements

The Authors gratefully acknowledge the assistance and courtesies extended during the site visits to Minerália personnel, specifically João Barros, Avelino Pinheiro and Luís Lima.

2.8. Non-GAAP Financial Measures

The Authors have included certain non-GAAP financial measures in this Technical Report. These financial measures are not defined under International Financial Reporting Standards (“IFRS”) and should not be considered in isolation. The Authors believe that these financial measures, together with financial measures determined in accordance with IFRS, provide the reader with an improved ability to evaluate the underlying performance of the Issuer. The inclusion of these financial measures is meant to provide additional information and should not be used as a substitute for performance measures prepared in accordance with IFRS. These financial measures are not necessarily standard and therefore may not be comparable to other issuers.

Net Present Value (NPV) – is the present value calculation of net profit from operations determined using a particular discount rate. All NPV values stated herein are on an after tax basis unless stated otherwise.

Internal Rate of Return (IRR) – is a financial metric used to assess an investment's profitability by calculating the annual rate of return that makes the NPV of all cash flows (both positive and negative) equal to zero.

Payback - is calculated in years as the length of time that it takes to pay off the capital costs from annual net profit expected from operations at the Borralha Project.

Initial capital – is the initial capital cost amount required to be expended to construct the mine and tungsten concentrator process equipment and buildings to begin processing mineralized material into saleable tungsten concentrate at commercial quantities according to the life of mine plan at the Borralha Project. This is an estimate accurate to +/-35%.

Sustaining capital - is a supplementary financial measure which reflects cash basis expenditures which are expected to maintain operations and sustain production levels at the Borralha Project.

Capital costs or Total life of mine capital costs – include the Initial capital and the sustaining capital.

Operating costs – are the costs required to process mineralized material into saleable tungsten concentrate at the Borralha Project. This includes: underground mining; processing and plant operations; general and administrative costs; and site services and infrastructure support. This can be calculated on the unit basis per mtu WO₃ produced.

Cash flow – includes average annual revenue, average annual EBITDA (earnings before interest, taxes, depreciation and amortization), average annual pre-tax cash flow, average annual free cash flow, life of mine revenue, life of mine free cash flow. Average annual revenue is the average annual gross revenue over the life of mine. Average annual EBITDA is the average annual EBITDA over the life of mine. Average annual pre-tax cash flow is the average over the life of mine of the annual free cash flow prior to deduction of taxes. Life of mine revenue is the total gross revenue over the life of mine. Life of mine free cash flow is the total free cash flow over the life of mine. Free cash flows are revenues net of operating costs, royalties, working capital adjustments, capital expenditures and cash taxes. The Authors believe that this measure is useful to readers in assessing the Issuer's ability to generate cash flows from the Project.

All-In Sustaining Costs (AISC) - are comprised of sustaining capital expenditures and site level costs to support ongoing operations and closure costs. All-in sustaining costs per mtu WO_3 is calculated as AISC divided by the amount of mtu WO_3 produced during the period that the costs are incurred. All-in sustaining costs capture the important components of the Issuer's production and related costs and are used by the Issuer and others to understand projected cost performance at the Borralha Project. Adoption of the all-in sustaining cost metric is voluntary and not necessarily standard, and therefore, this measure presented by the Issuer may not be comparable to similar measures presented by other issuers. The Authors believe that the all-in sustaining cost measure complements existing measures and ratios reported by the Issuer. All-in sustaining cost includes both operating and capital costs required to sustain WO_3 production on an ongoing basis. Sustaining operating costs represents expenditures expected to be incurred at the Project that are considered necessary to maintain production. Sustaining capital represents expected capital expenditures comprising mine development costs, including capitalized waste, and ongoing replacement of mine equipment and other capital facilities, and does not include expected capital expenditures for major growth projects or enhancement capital for significant infrastructure improvements.

3. Reliance on Other Experts

This Technical Report has been prepared for Allied Critical Metals Inc. (“ACM”) by Miguel Cabal, EurGeol of plus Natural Resources and Geomatec Proyectos SL, J. Douglas Blanchflower, P.Geo. of Minorex Consulting, David Lopez, MIMMM QMR of MINEPRO, João Horta, MIMMM of Quadrante and Vitor Arezes, MIMMM QMR of Allied Critical Metals Inc. (collectively, the “**Authors**”), each of whom is a Qualified Person (“QP”) as defined in National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”).

This Technical Report has been prepared for Allied Critical Metals Inc. for filing with Canadian securities regulatory authorities in accordance with applicable Canadian provincial securities legislation.

In preparing this Technical Report, the Authors have relied upon information, interpretations, and opinions provided by other experts in respect of legal, political, environmental, permitting, land tenure, and taxation matters relating to the Borralha Project. Such reliance is permitted under NI 43-101 and Form 43-101F1 and is considered reasonable and appropriate by the Qualified Persons based on their professional knowledge, experience, and qualifications.

3.1. Mineral Tenure, Surface Rights and Encumbrances

The following professional advisors were retained by ACM to prepare a legal title opinion relied upon in the preparation of this Technical Report: Vieira de Almeida & Associados – Sociedade de Advogados, SP, RL, Lisbon, Portugal, which provided a legal opinion regarding mineral title, ownership, and good standing of the tungsten projects, as well as a corporate law opinion regarding the ownership and good standing of PanMetals, dated March 13, 2025 (the “Title Opinion”). The Title Opinion relied upon remains current as of the effective date of this Report and no material changes to mineral tenure or ownership have occurred since its issuance.

3.2. Taxation

The Authors have explicitly acknowledged their reliance on information provided by Issuer staff and experts retained by the Issuer regarding taxation, including as follows: Portuguese Tax Code, “Código dos Impostos” - Portuguese Official Gazette (Diário da República). The utilization of this information is primarily for the purpose of supporting the economic analysis presented in Section 22.

3.3. Royalties

Regarding royalties, the Authors have similarly relied on information from Issuer staff, including as follows: Exploitation permit, Contrato C-167 - Portuguese Official Gazette (Diário da República), under Contrato (extrato) 527/2021, of December, 2nd, 2021.

3.4. Market and Metal Prices

The Authors have relied on experts retained by the Issuer in respect of marketing and metal price forecasting. Within the project's economic analysis, the Authors have relied upon pricing provided by Argus for long-term tungsten prices. The sources for the marketing and metal pricing information are referenced in Section 19 of the report. This information is also used in support of the economic analysis in Section 22.

4. Property Description and Location

4.1. Property Description and Location

The Borralha area comprises a small village developed around the formerly productive Borralha tungsten–tin mine and is accessible via National Road N103. The property is located approximately 3 kilometers south of the Venda Nova Dam, about 40 kilometers east of the city of Braga, and approximately 110 kilometers northeast of Francisco Sá Carneiro International Airport in Porto, Portugal.

The Borralha Property is situated at approximately UTM coordinates 29T 584,751 m E and 4,612,060 m N. The Property is registered in the name of Minerália, which holds the Property beneficially in trust for PanMetals pursuant to an Amended and Restated Promissory Transfer Agreement dated April 29, 2024 as amended February 20, 2025 among Mineralia, PanMetals and Pan Iberia Limited (the “Promissory Transfer Agreement”) wherein Mineralia holds the Property beneficially in trust for PanMetals until the transfer to PanMetals of registered title to the Property is completed, as expected in 2026. The mineral property rights for the Property are covered by Portuguese Mining License C-167, comprising an area of 382.48 hectares, and includes the historic Borralha tungsten mine and the surrounding mineralized areas (Figure 4-1).

PanMetals is a wholly owned subsidiary of ACM, which directly owns 100% of ACM Tungsten Unipessoal Lda. (“ACM Tungsten”) which in turn directly owns 100% of PanMetals. ACM Tungsten and PanMetals are both Portuguese companies.

Portugal has a well-established mining regulatory framework, supported by clear legislation and effective communication channels with the relevant government authorities and the Mining Bureau. These institutions demonstrate a pragmatic approach to mineral project development, including flexibility in addressing technical and administrative challenges, and maintain a constructive working relationship with the Geological Survey of Portugal. Available public data includes historical exploration records, regional geological surveys, and archived drill core.

National infrastructure is well developed, with reliable road networks and electrical power supply. Furthermore, the mining industry and the Project benefits from its proximity to a skilled and experienced mining workforce.



Figure 4-1: Location Map of the Borralha Property, Northern Portugal.

4.2. Project Mining License

The Project was originally covered by a Prospecting and Research License (MN/PP/033/12) encompassing an area of 12,750 hectares (127.5 km²). Historically, the Borralha property comprised 36 individual concessions in 1926, with a combined area of approximately 1,179 hectares. The concession area was subsequently expanded to 1,781 hectares and later to approximately 1,788 hectares.

The Prospecting and Research License MN/PP/033/12 was granted to Minerália and incorporated all historical mining titles within its boundaries. The license was initially valid until 2016, with subsequent three-year extensions applied for and approved. The exploration permit was issued by the Direção-Geral de Energia e Geologia (“DGEG”; General Directorate for Energy and Geology). In 2018, following the completion of the required work programs and investment commitments, Minerália became eligible to apply for an Experimental Mining License. This application was publicly disclosed in the Diário da República No. 35, dated 29 September 2019, under Aviso No. 2709/2019 (Figure 4-2).

PanMetals currently holds beneficial ownership of the Borralha Property, which is licensed in the name of Minerália and held beneficially in trust for PanMetals pursuant to an agreement effective 29 April 2024 as amended 20 February 2025 (the “Promissory Transfer Agreement”). Minerália holds the Property under Mining License C-167, granted by the DGEG of the Government of Portugal, covering an area of 382.48 hectares.

Under the terms of the Property Agreement, Minerália has agreed to transfer registered title of the Mining License to PanMetals which is expected to be completed in 2026.

Prior to the commencement of full-scale mining, a Definitive Feasibility Study (“DFS”) and an Environmental Impact Study (“EIS”) must be completed to the satisfaction of the DGEG. The Environmental Impact Assessment (“EIA”) has already been submitted to the national regulatory authorities. The terms of the Mining License include an initial 3% production royalty payable to the Government of Portugal.

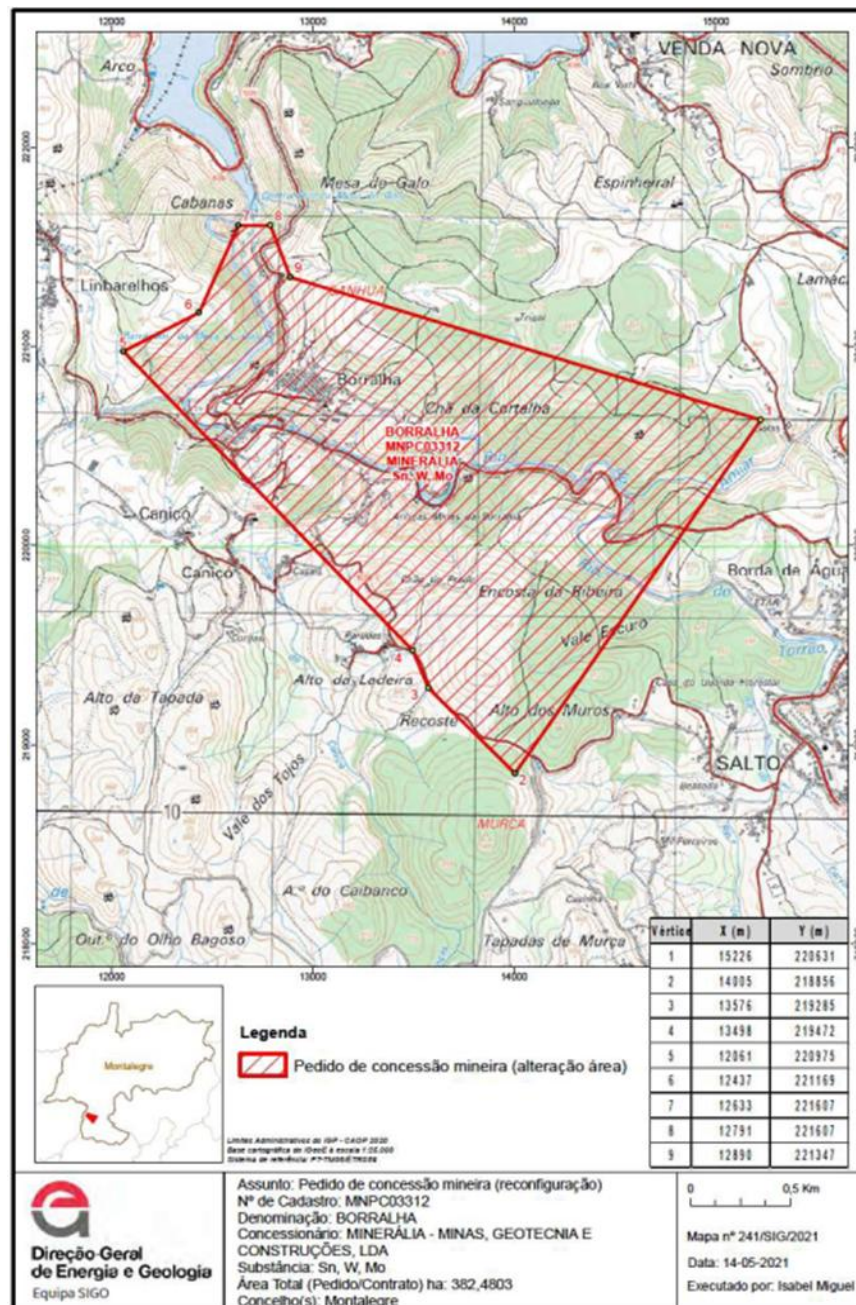


Figure 4-2: Area of Experimental Mining License (Minerália, 2022).

4.3. Property Ownership

Allied Critical Metals Inc. (“ACM” or the “Issuer”) is a corporation incorporated under the laws of British Columbia, Canada. ACM owns 100% of the Property through its subsidiary, PanMetals which holds beneficial title to the Property. ACM directly owns 100% of ACM Tungsten Unipessoal Lda. (“ACM Tungsten”) which in turn owns 100% of PanMetals. ACM Tungsten and PanMetals are both companies incorporated and existing under the laws of Portugal. The Property is registered in the name of Mineralia, which holds the Property beneficially in trust for PanMetals pursuant to the Promissory Transfer Agreement until the registration can be transferred to PanMetals which is expected in 2026.

4.4. Location of Mineralization

The Borralha Mining License encompasses an area significantly larger than the historic mining and processing facilities. All proposed advanced exploration and development activities targeting the mineralized intrusive breccia stock are located entirely within the established mining camp and are situated well within the boundaries of the permitted license area (Figure 4-3 and Figure 4-4).



Figure 4-3: Old Borralha Millsite looking Northeasterly from Santa Helena Breccia.



Figure 4-4: Inclined Production Shaft in the St. Helena Breccia Open Pit.

4.5. Exploration and Surface Rights, Environmental, Reclamation and Permitting

The Borralha Mining License grants the holder the right to access the surface for mineral exploration of the Property, which is carried out through routine consultation with any surface land owners. Surface rights over the areas where the principal exploration activities are being conducted are owned by the Baldios (common lands associations), with portions currently leased or otherwise held by local individuals for agricultural purposes. All exploration activities are carried out with the consent of, and without objection from, common lands, local farmers and land users within the community. Core logging and sampling operations are conducted at ACM core shed in Salto Village, which is rented from a local resident. Surface land owners and lessees have been consulted with and have agreed to exploration activities on the Property.

Exploration activities require prior approval from the Direção-Geral de Energia e Geologia (“DGEG”). As part of this process, the Comissão de Coordenação e Desenvolvimento Regional do Norte (“CCDR-N”) is consulted regarding the compatibility of the proposed exploration works with regional and municipal land-use planning instruments, including the applicable Regional Development Plans, as well as areas classified under the National Agricultural Reserve (“RAN”) and the National Ecological Reserve (“REN”). Apart from standard environmental compliance obligations, the Company has no responsibility for pre-existing environmental liabilities associated with historic mining activities, including legacy waste dumps. Notably, a significant portion of the historic waste material has been excavated and sold by the landowner for use as local road construction aggregate. The DGEG has agreed to exploration activities on the Property. DGEG approval occurs as a matter of routine consultation and submission of the proposed work program.

4.6. Significant Factors or Risks Affecting Access, Title, or Ability to Perform Work

All work on the Property has been carried out with the consent of the relevant landowners and without objections from the local community. Future exploration activities are subject to prior approval by DGEG, including consultation with CCDR-N, through the submission of proposed work programs. DGEG approval occurs as a matter of routine consultation and submission of the proposed work program.

The Project is accessible year-round via well-maintained, paved public highways. Within the Property, access is provided by a network of paved roads and well-maintained gravel roads that are suitable for year-round access by light vehicles and trucks. Much of the Property has been previously cleared due to historic mining activities and agricultural land use. Surrounding forested areas are predominantly composed of pine and oak species.

The regional climate permits year-round field operations; however, industrial activities may occasionally be restricted during the months of July and August due to reduced availability of local fire services, which are often redeployed to wildfire response efforts elsewhere in Portugal.

Except as described above, no other material risks or factors are known that would adversely affect access, title, or the ability to conduct exploration and development activities on the Property.

5. Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1. Accessibility

The Borralha Property is accessible all year-round via well-maintained paved highways extending northeast from the city of Porto, or alternatively via National Road N103 from the city of Braga. The Property is located approximately 110 km by road from Porto's Francisco Sá Carneiro International Airport (OPO), a distance comparable to that separating the Property from the deep-water Port of Leixões.

Access from Braga is provided by the paved National road N103, with a total distance of approximately 60 km to the Property.

Within the Property, access is facilitated by a network of paved and well-maintained gravel roads suitable for truck and light vehicle traffic. The Property lies approximately 35 km from the municipal capital of Montalegre via N103 and approximately 5 km from the parish of Salto.

The Borralha Mining License grants the holder the right to access the surface for mineral exploration of the Property, which is carried out through routine consultation with any surface land owners. See Section 4.5 above.

5.2. Climate and Vegetation

The climate of mainland north Portugal is strongly influenced by the Atlantic Ocean, as Portugal is the westernmost country in Europe. Its relatively southerly latitude results in a Mediterranean-type climate; however, summer temperatures are moderated by Atlantic maritime influences, and winters along the coastal regions are generally tempered.

In contrast, the northern and central interior regions of Portugal are predominantly mountainous, with plateaus locally exceeding elevations of 1,800 m above mean sea level ("AMSL"). In these areas, summers are generally cooler and winters may be relatively cold. Seasonal trends show increasing summer sunshine and temperatures, as well as milder winters, toward the south of the country. Snowfall is rare at sea level but becomes more common inland and at higher elevations in northern Portugal, including the Borralha area, where sporadic snowfall may occur during colder winter months.

Winter precipitation is relatively heavy north of Lisbon, and weather conditions in the far north are frequently wet and stormy. Average daily sunshine in northern Portugal ranges from approximately eight to nine hours during winter to ten to eleven hours during summer. Mainland Portugal is among the warmest countries in Europe, with average annual temperatures of approximately 13°C (55°F) in the north and 18°C (64°F) in the south. The climate in north-central Portugal, including the Borralha Property, is generally mild with temperatures ranging from freezing conditions in winter to summer highs in the mid-30s °C, and an average annual temperature of approximately 13°C (55°F).

Much of the Borralha Property has been cleared of trees due to historical mining activities and agricultural use. Forested areas range from sparse to locally dense cover, consisting primarily of pine and oak species. Cleared areas are generally covered by grass and low shrubs, except where agricultural practices have introduced hay or seed crops. Limited vineyard cultivation is present, mainly for personal or small-scale use.

5.3. Surface and Water Rights

The surface rights over the areas where the main exploration activities are proposed are either in common lands or privately owned. All exploration activities to date have been conducted with the full consent of the landowners and in consultation with local communities, without any reported conflicts or issues. See sections 4.5 and 5.1 above.

5.4. Local Resources and Infrastructure

The Borralha Property is near essential infrastructure, including paved road access, electrical power lines, ports, and airports. Electrical power and water supplies have been readily available throughout the historical mining operations at Borralha. Hydroelectric power is available from a dam and associated hydroelectric facility located approximately 3 km north of the Property, while abundant water resources are provided by the Borralha River, which flows through the Property (Figure 5-1).

A locally available labour force exists in the surrounding area, including retired or unemployed personnel with previous mining experience.

Accommodation and catering services for exploration personnel are available in the nearby town of Salto. With further advancement of the Project, existing mine offices and housing facilities at Borralha may also be refurbished or established to support on-site work programs. Heavy equipment and specialized contractors are readily accessible due to ongoing maintenance and upgrade activities associated with the nearby hydroelectric dam and regional power infrastructure.

The adjacent settlement of Caniçó and other nearby communities are predominantly rural and agricultural in nature and do not currently provide accommodation capacity suitable for a large exploration workforce.



Figure 5-1: View looking northward at the Borralha Penstocks and Power Plant

5.5. Physiography

The Property is located within upland, hilly terrain characterized by relatively low relief, with elevations ranging from approximately 700 to 950 m above mean sea level (“AMSL”). The Borralha River transects the Property, effectively separating the southern prospective Santa Helena Breccia zone from the northern area dominated by vein structures, which were the principal focus of historical mining operations at Borralha (Figure 5-2).



Figure 5-2: View looking Southward at the Santa Helena Open Pit and Waste Dump.

6. History

6.1. Borralha Mining and Production History

The Borralha Mine was discovered by Domingos Borralha following the identification of wolframite-bearing rocks on his land. In 1902, a mining concession was granted to the Compagnie de Mines d'Étain et Wolfram, which in 1909 became Mines de Borralha S.A., Brussels, and later Mines de Borralha S.A., Paris, in 1914. By 1910, Borralha had become the largest tungsten producer in Portugal.

The Borralha mines are located approximately at the center of the Borralha Mining District (Couto Mineiro), with mining activities extending over parts of five concessions: Borralha, Monte Borralha No. 1, Monte Borralha No. 3, Monte Borralha No. 4, and Caniçó. Although these concessions represent only about one-sixth of the total Mining District, the volume and extent of work carried out within them were substantial. Mining enabled the delineation of a vein system extending approximately 2,000 m in length, with a general east–west orientation, a width of approximately 1,000 m, and to depths reaching approximately 210 m below the reference elevation of 772 m AMSL, defined as mine Level 0. This level corresponds to the elevation of the Amiar stream near the Old Processing Plant (Lavaria Velha).

Mining was conducted predominantly by underground methods throughout the life of the operation. Although periods of open-pit mining occurred, all such activities predate 1956 and were limited to vein outcrops, alluvial and eluvial deposits, and the near-surface portion of the Santa Helena Breccia, a structure locally referred to by miners as a “stockwerk.”

Mining operations were organized into exploitation groups or mines, and were designated by letters A through I. In the final years of operation, active mining was restricted to groups A, B, D, and E. Groups C, G, and I only contained workings at Level 0 or above, while Group H was located outside the main Borralha mine area, in the Águas-Terças sector. Although the formal criteria used to define these groups are not documented, their boundaries are consistently controlled by geological features, suggesting that lithology, ore characteristics, and ground conditions were key factors in their delineation.

Mining activity at Borralha was virtually continuous from 1903 until closure in 1985, with two notable interruptions: a government-imposed suspension between mid-1944 and late 1946, and a second shutdown from early 1958 to late 1962.

During part of its operational history, Borralha was the most important tungsten mine in Portugal. In later years, it ranked second in national production, following the Panasqueira mines, which continued operating after Borralha output declined. Despite this, Borralha was traditionally characterized by higher ore grades and, during periods of low tungsten prices, was often more profitable than Panasqueira, although operating costs were higher due to both natural and managerial factors.

Total production of wolframite and scheelite concentrates from 1904 until mine closure in 1985 is estimated at approximately 18,500 tonnes of wolframite concentrate at an average grade of approximately 66% WO₃, although this figure is approximate and likely underestimates the true total. The highest annual production was achieved in 1955, with 524.3 tonnes of concentrate, of which 44.39 tonnes were produced by independent collectors (apanhistas) working vein structures, and 58.37 tonnes were derived from open-pit mining of the Santa Helena Breccia. The record monthly production of 100 tonnes of concentrate was achieved in May 1944, one month prior to the suspension imposed by ministerial decree (Order No. 33,707).

During the more recent operating period from 1975 to 1980, average annual production amounted to 302.8 tonnes, with a total of 1,816.95 tonnes produced.

Most of the production consisted of wolframite concentrates, with scheelite accounting on average for approximately 18% of total tungstate concentrate production. Between 1975 and 1980, Borralha also produced chalcopryite concentrates totaling 1,711.65 tonnes, corresponding to a ratio of approximately 1.06 tonnes of tungstate concentrates per tonne of chalcopryite concentrate. These chalcopryite concentrates contained silver values on the order of 0.3%. Minor production of tin concentrates was also recorded, derived from associated cassiterite mineralization.

Between 1981 and 1985, tungsten prices declined by more than 50%, from approximately USD 147 per metric tonne unit (“MTU”) to approximately 63 USD per MTU by July 1985. During the same period, average production costs increased by more than 30%, coinciding with a global downturn in the tungsten market. As a result, numerous tungsten operations worldwide ceased production, including the Borralha Mine, which closed permanently in 1985.

A summary of the total production per year is illustrated in the following Table 6-1.

Table 6-1: Total Production of Concentrates (after Mining Bureau data, 2020).

WOLFRAMITE Production			SCHEELITE Production		CASSITERITE Production	
Year	Grade (%)	Tons	Grade (%)	Tons	Grade (%)	Tons
1907	65	146				
1907	65	25				
1908	65	241				
1908	64.5	47				
1909	70	25				
1909	65	267				
1910	65	26				
1910	65	384				
1911	65	440				
1912	65	400				
1913	65	361				
1914	65	220				
1915	65	200				
1915	65	15.8			70.7	2.1
1916	65	321				
1922	65	77.4				
1923						
1924						
1925	15	36.1			65	8.5
1926	65	192.7			65	4.1
1927	65	92.3			65	8.3
1928	65	111.6				
1929	65	119.3				
1930	65	102.5			60	11
1931						
1932	65	82				
1934	65	84.7				
1935	55	135.9				
1936	65	135.1			65	1.6
1937					49.7	4
1937	70.43	139.3			40	2.1
1938	68.4	222.8				
1939	68.4	222.8			70	3.4
1963	70	123.2	65	10.7		
1964	70	134.8	65	15.4		
1965	70	145.9	65	13		
1966	70	214.7	65	19.6		
1967	70	253.3	65	20.4		
1968	55.68	435.7				
1969	70	425.8				
1970	70	304.5	70	80.9		
1971	70	306.4	70	67.4		
1972	70	305.7	70	69		
1973	70	279.9	70	65.7		
1974	70.66	305	73.64	55		
1975	70.48	319.2	75.07	57.9		
1976	70.27	265.3	70.8	45.6		
1977	70.35	187	68.65	39.2		
1978	69.9	202.5	70.96	39.4		
1979	70.52	278	70.7	72.6		
1980	69.9	240.2	69.8	76.3		
1981	68.9	266.6	68.4	82.9		
1982	68.74	202.1	67.13	65		
1983	68.63	210.5	67.66	40.6		
	Average %	Total Tons	Average %	Total Tons	Average %	Total Tons
Rounded	66	10,278.92	69	936.3	61	45.1

6.2. Historical Mineral Resource Estimate

In a technical report on the Project dated August 19, 2020, Minerália reported a mineral resource estimate for the Santa Helena Breccia (“SHB”). This technical report was not publicly disclosed and was prepared for internal company purposes in support of submissions to Portuguese regulatory authorities. The estimate was based on the results of nine diamond drill holes and channel samples from nine trenches, covering an area with an approximate strike length of 500 m and extending to depths of up to 200 m. Two drill holes were excluded from the estimate, as drilling was terminated prematurely upon intersecting historic artisanal workings at shallow depths, resulting in poor core recovery. Data spacing ranged from approximately 20 m to 100 m between drill holes and trenches. The estimate addressed tungsten mineralization only.

Trench channel samples were composited into 5 m intervals, while drill core samples were generally 1 m in length. The resulting dataset exhibited a high degree of grade variability within the breccia body, indicating a strong “nuggety” distribution of tungsten mineralization. Coarse-grained wolframite and localized patches of high-grade wolframite disseminations were commonly observed at surface, within trenches, and locally in SHB drill core.

Minerália personnel constructed a three-dimensional geological and mineralization model of the SHB and applied Ordinary Kriging for grade interpolation, with results subsequently compared against Inverse Distance interpolation. The outcomes of both interpolation methods were broadly comparable.

In the 2020 technical report, Minerália reported a historical estimate of Inferred mineral resources for the Santa Helena Breccia totaling 17,898,289 tonnes of mineralized material grading 1,420 g/t WO_3 , using a cut-off grade of 500 g/t WO_3 and an assumed bulk density of 2.70 g/cm³.

In 2024 a new resource estimation for the Santa Helena Breccia deposit was based on new and historical data acquired by December 2023. This mineral resource estimate used a cut-off grade of 0.10 $\text{WO}_3\%$ and displayed in the Inferred class 1.0 Mt of oxidized material with a grade of 0.21 $\text{WO}_3\%$ and 6.0 Mt of fresh material with a grade of 0.20 $\text{WO}_3\%$. The Indicated class of the oxidized material was estimated at 0.5 Mt with a grade of 0.19 $\text{WO}_3\%$ and the fresh material was estimated at 4.4 Mt with a grade of 0.22 $\text{WO}_3\%$.

An independent qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves and neither the author nor the Company is treating the historical estimate as current mineral resources or mineral reserves.

7. Geological Setting and Mineralization

7.1. Regional Geology

The Iberian Peninsula, comprising Spain and Portugal, forms part of the Variscan Fold Belt, whose European expression is strongly arcuate, in contrast to the predominantly linear pattern of other continental Paleozoic belts such as the Caledonides and Uralides. Within this context, the Iberian Massif represents a well-preserved segment of Variscan basement that largely escaped Alpine reactivation except at its margins. The massif is subdivided into several tectonostratigraphic zones distinguished by their paleogeographic evolution, tectonic history, magmatic episodes, and metamorphic characteristics (Figure 7-1).

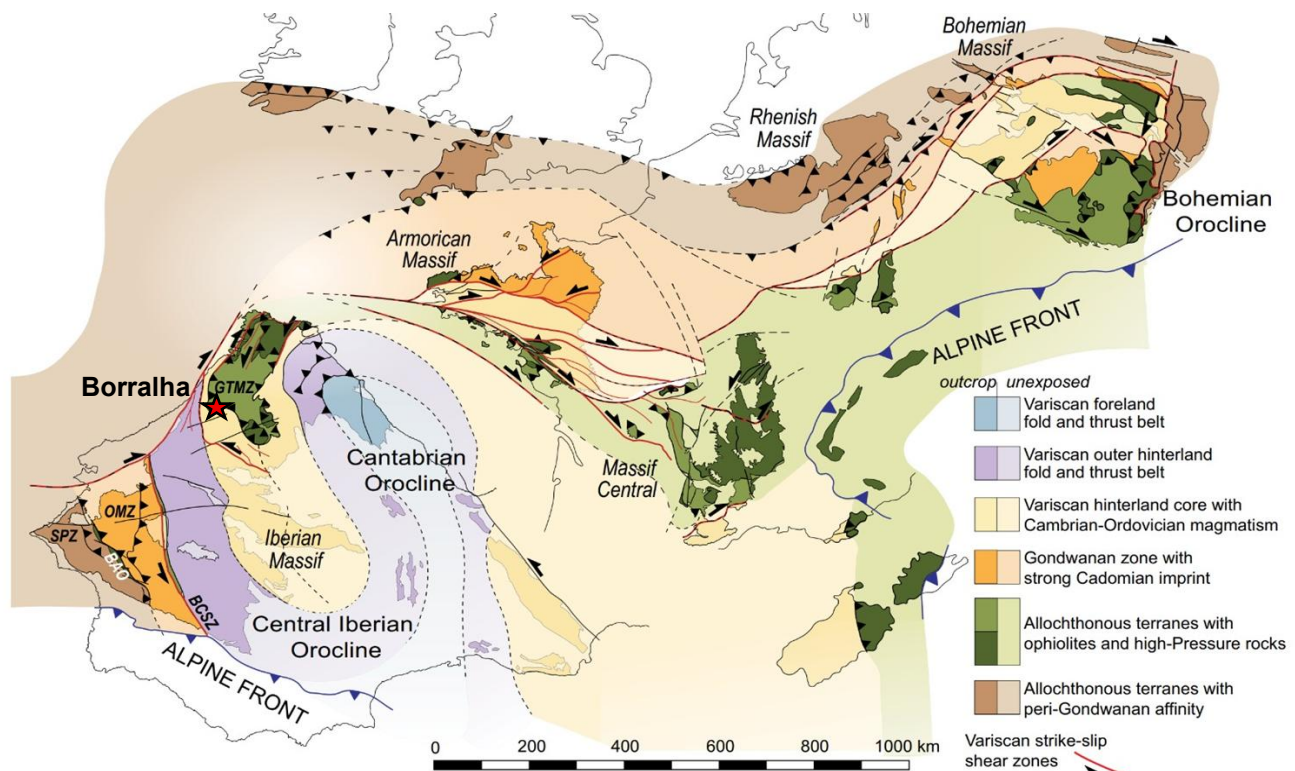


Figure 7-1: Major structural units from the Variscan Orogeny in Europe (Shaw&Johnston, 2016).

In Portugal, the geological framework is diverse and structurally complex. The territory is divided into two major terranes: the Hesperian Massif and the Epi-Hercynian Cover. The latter comprises the western and southern Meso-Cenozoic basins, including the Tagus and Sado depressions. The Hesperian Massif, known for its metallic mineral endowment, contains several geotectonic zones, among which the Galicia-Trás-os-Montes Zone (“GTMZ”) is the most significant in northern Portugal and hosts the tungsten deposits of the Borralha mining district.

The GTMZ is marked by the presence of two major mafic and ultramafic polymetamorphic massifs—Bragança and Morais. The surrounding formations, chiefly of Silurian age, include both acidic and basic volcanic sequences and are structurally juxtaposed against the massifs along large, low angle thrust faults. Locally, alkalic granites, porphyritic granites, biotite granites and calc-alkaline granites also occur. The Morais and Bragança massifs contain chromite, platinum, and potentially copper, nickel, and cobalt mineralization, whereas the surrounding country rocks present favorable conditions for tungsten, tin, precious metals, uranium, and polymetallic sulphide mineralization.

Within this broader regional context, the Borralha Mine area lies inside the Iberian Tin–Tungsten Metallogenic Province (Neiva, 1944; Thadeu, 1977, in Ribeiro & Pereira, 1982), which extends east of the Porto–Coimbra–Tomar shear zone and northwest of the Juromenha thrust. The mine is situated at the structural boundary between the Central Iberian Zone (“CIZ”) and the GTMZ, both shaped by the polyphase Variscan Orogeny.

The Variscan orogeny comprises three principal deformation phases (D1, D2, D3). Phase D1 generated folds with orientations and vergences dependent on whether the affected terrains were autochthonous, parautochthonous, or allochthonous, although NW–SE trending folds with vertical axial planes dominate in autochthonous domains. Phase D2 is best developed in allochthonous and parautochthonous units and is characterized by pronounced SE-vergent folding, including numerous recumbent folds with shortened inverted limbs. Phase D3 affected all terranes more uniformly, producing broad, low-amplitude folds with vertical axial planes. This phase was also associated with the development of vertical ductile shear zones. Regional fracturing occurred mainly during late- to post-D3 deformation, resulting in a ductile–brittle to brittle fracture network dominated by NNE–SSW and NNW–SSE orientations.

The GTMZ exhibits a strong structural stacking of allochthonous and parautochthonous sheets resulting from major thrusting events (Arenas et al., 1988; Ribeiro et al., 1990). These units demonstrate distinct stratigraphic, structural and metamorphic signatures. Allochthonous sequences consist of lithologically diverse upper and lower units interpreted as high-pressure metamorphic assemblages of continental affinity. The intermediate unit includes ophiolitic sequences and a thick serpentinitic mélange frequently interpreted as a Variscan suture zone. The basal parautochthonous sequences comprise Upper Cambrian to Devonian metasediments and Upper Cambrian to Upper Ordovician calc-alkaline and alkaline metavolcanic rocks. The boundary between GTMZ and CIZ—equivalent to the contact between allochthonous/parautochthonous sheets and the autochthon—is expressed as a major thrust zone.

Magmatism and medium- to high-grade metamorphism occurred concurrently throughout large parts of the CIZ and GTMZ, implying a significant thermal contribution from granitic magmas to the Variscan orogen (Dallmeyer et al., 1997; Abalos et al., 2002). Crustal thickening during D1 and D2 facilitated the emplacement of large nappes and produced the conditions necessary for generating crustal-anatexis granites, later deformed during D3 (Ortega & Ibarguchi, 1990; Dias & Ribeiro, 1995). Two principal groups of granitoids are recognized: (1) peraluminous two-mica granites, typically synchronous with D3 and associated with ductile shear zones, and (2) more basic, water-poor granitoids (monzonites, granodiorites, biotite granites) emplaced during late-D3 fracturing events.

The metasedimentary sequences in the Borralha region consist primarily of parautochthonous units of the Peritransmontano subdomain, correlatable with the Eastern Trás-os-Montes metasediments of the GTMZ, structurally overlying the autochthonous Lower Douro Domain of the Central Iberian Zone. According to Sheets 6-A and 6-C of the 1:50,000 Geological Map of Portugal, the Borralha Mine area lies within the S Formation, characterized by pelitic schists, abundant quartzitic schists, and intercalations of lyddite, quartzite, and calc-silicate rocks. The 1:200,000 scale Geological Map of Portugal (Sheet 2, 2000 edition) places the area within the Pelite–Greywacke Formation (“PGF”) of Lower Silurian age, composed of grey schists interbedded with black schists, ampelites, lyddite, and alternating pelitic, psammitic, greywacke, and volcanic tuff units.

Lithologically, the S Formation consists of phyllites, and mica-schists interlayered with black schists, quartzites, quartz-phyllites, and minor lyddite, ampelite, and calc-silicate rocks. The siliceous nature of the sequence is highlighted by abundant quartz-rich mica-schists containing metamorphic exudation quartz. Calc-silicate rocks occur in discontinuous, centimetric layers within the mica-schist succession. The Borralha mining district is further characterized by syntectonic two-mica granites of medium to coarse grain, intruding the metasedimentary envelope as part of the Variscan magmatic cycle. These granitoids played a significant role in the structural and metallogenic evolution of the region (Figure 7-2).

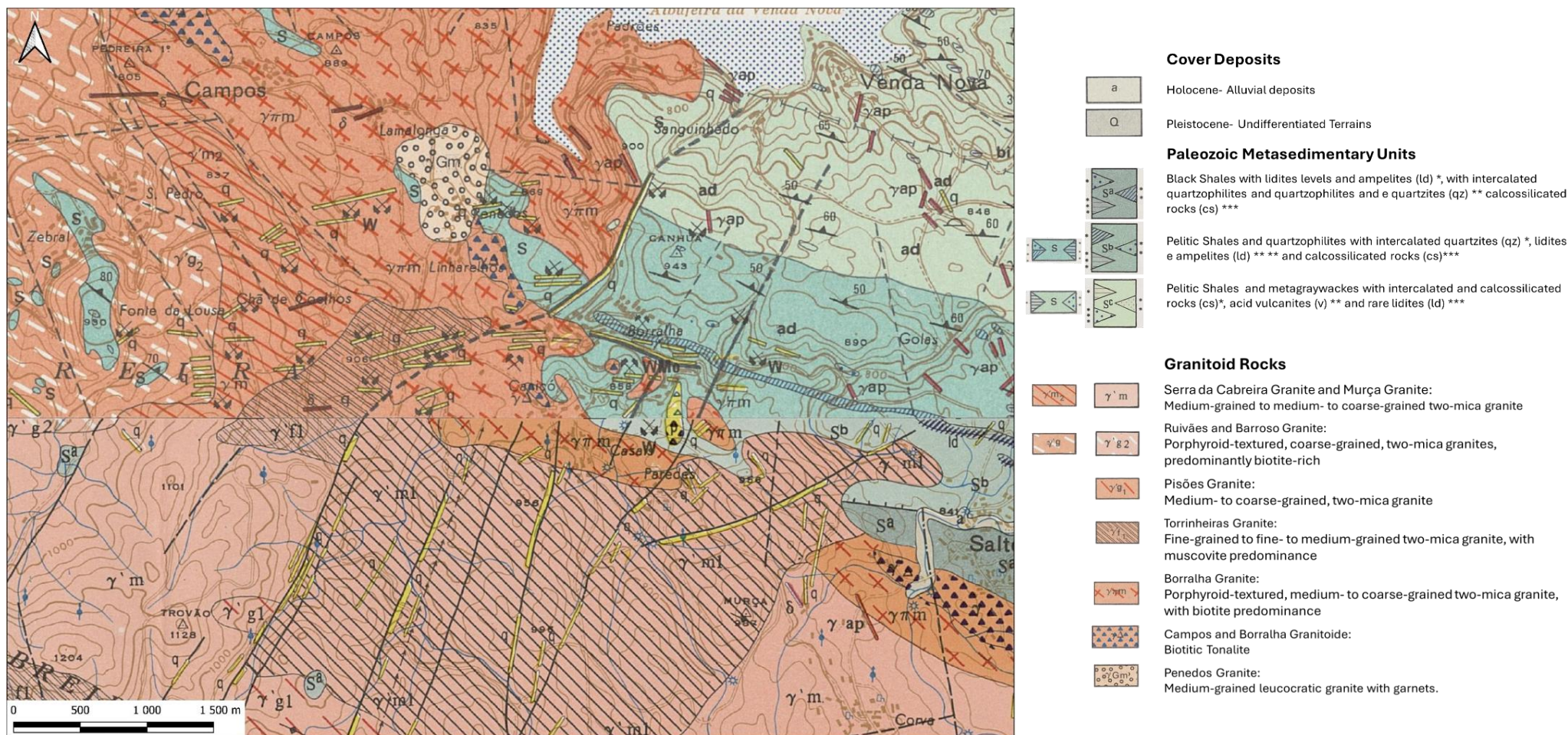


Figure 7-2: Geological map of the Borralha region, extract of the Geological Portuguese map at scale 1:50 000.

The tin–tungsten deposits of the Central Iberian Zone (“CIZ”) are largely associated with granites of various types, including aplite–pegmatite bodies (e.g., Lagares de Estanho in Queiriga), intra- and extra-batholithic veins (e.g., Bejanca in Vouzela and Fonte Santa in Freixo-de-Espada-à-Cinta), as well as hydrothermal vein systems. The latter are responsible for most of the Portuguese national tungsten production (Goinhas, 1987 in Martins, 2012). Thus, the Sn and W vein concentrations of the ZCI represent the culmination of a sequence of interconnected processes—some linked to magmatic phenomena, others to hydrothermal activity—and a crucial interaction between granites and metasedimentary rocks, which is essential for the formation of such deposits (Noronha, 1983).

Hydrothermal tin and tungsten mineralization displays a wide variety of spatial distributions; however, their occurrence is strongly controlled by lineaments parallel to the main Variscan structural trends, as well as by the presence of Variscan granitic outcrops and their metamorphic contact aureoles, which indicate the presence of shallow granitic intrusions. Mineralization may develop both in the contact zone between intrusive granites and metasediments, and in the contact zone between intrusive granites and older granitic bodies (Conde et al., 1971) (Figure 2-4).

According to Conde et al. (1971), the hydrothermal deposits of the Central Iberian Zone (“CIZ”) can be classified into three paragenetic types. The first group comprises tungsten deposits, such as Borralha, characterized by mineralization in molybdenite, wolframite, scheelite and, more rarely, cassiterite, accompanied by minor sulphides. The second group includes tin deposits, such as Montesinho, where greisen differentiation occurs with cassiterite mineralization, low sulphide content, and occasional beryl. The third group consists of tungsten–cassiterite deposits, such as Ribeira and Panasqueira, mineralized in wolframite and cassiterite and notable for their abundance of sulphides and carbonates.

In conclusion, the principal occurrences of W and Sn are controlled by structural features inherited from early or late Variscan shear systems, as well as by fractures associated with the emplacement of post-tectonic granites (Noronha, 1999).

7.2. Borralha Geological Settings

The Borralha mine is located within the Minho and Trás-os-Montes geological provinces of northern Portugal, in a region positioned at the boundary between the Central Iberian Zone (“CIZ”) and the Galicia–Trás-os-Montes Zone (“GTMZ”). This terrane consists predominantly of a Precambrian schist-graywacke complex composed of schist, graywacke, quartzite and amphibolite. Overlying and intruding this basement is a succession of Silurian metasedimentary formations, as well as numerous granitic bodies associated with the Hercynian orogeny. Among these granites, only the quartz-rich Penedos Granite is unequivocally intrusive, while the others (dated by Mendes (1968), represent syn-tectonic or late-tectonic phases of Hercynian magmatism. Tungsten and tin deposits throughout western and central Europe are similarly associated with the Hercynian orogenic cycle.

The Silurian metasedimentary units in the Borralha region constitute three main lithological groups, all belonging to parautochthonous terrains of the ZGTM. The oldest unit, of Wenlockian age, is composed of black schist with abundant horizons of lyddite and ampelites, interlayered with quartz-phyllites, quartzites and calc-silicate rocks. These rocks exhibit pelitic and psammitic compositions, with organic-rich and more siliceous layers concentrated at the base and pelitic facies dominating the upper portions. Above this, a second unit with similar lithological types is distinguished by its higher silica content, represented by quartzites and quartz-phyllites interbedded with phyllites. The abundance of quartz-rich mica-schists containing metamorphic exudation quartz highlights its siliceous character. The youngest metasedimentary sequence, of Ludlovian age, consists of pelitic schists and metagraywackes interlayered with calc-silicate rocks, acidic volcanic horizons and rare lyddites. These rocks contain more calc-silicate and volcanic components than the underlying units.

The granitoid intrusions in the area reflect several stages of Hercynian deformation, particularly the D3 phase, which produced extensive folding, shearing and crustal thickening. Syn-tectonic granitoids include both two-mica granites and biotite-rich granitoids. Among the two-mica granites are the Serra da Cabreira Granite, the Murça Granite, the Ruivães–Barroso Granite, the Pisões Granite and the Torrinheiras Granite. These bodies vary from fine- to coarse-grained, commonly exhibiting porphyritic textures and strong foliation due to aligned muscovite and quartz crystals. The biotite granitoids include the Borralha Granite—a coarse- to medium-grained porphyritic granite with aligned megacrysts—and the Campos–Borralha Tonalite, a finer-grained, biotite-rich unit locally known as “black rock.” The only post-tectonic granite in the area is the Penedos Granite, located approximately 1500 m northwest of the Borralha mines, characterized by a homogeneous medium- to coarse-grained texture with abundant globular quartz and conspicuous garnets.

The Borralha tungsten deposit itself is situated within the contact zone between the syn-tectonic Borralha Granite and the Silurian metasedimentary formations. The host rocks include both mica-schists and granite, frequently intruded by aplite-pegmatite veins and pods. A distinctive feature of the Borralha system is the presence of large siliceous intrusive breccia bodies, which are thought to have generated the fault-controlled and fracture-controlled vein networks that constitute the primary ore system (Noronha, 1972). These veins exhibit sub-vertical and sub-horizontal orientations and contain a mineral assemblage dominated by wolframite, scheelite, chalcopyrite, pyrite, pyrrhotite, sphalerite and molybdenite. Although both breccia bodies and veins are mineralized, historical mining targeted almost exclusively the latter due to their continuity and economic grade.

Geological mapping by Minerália has identified three principal lithological zones controlling the geometry of the deposit: the upper Granitic Zone, dominated by the Borralha syn-tectonic porphyritic granite; the lower Metasedimentary Zone, composed mainly of mica-schists; and the central Black Zone, consisting of fine- to medium-grained biotitic transitional rocks that occupy a broader interval than the zones above and below. At the boundary between the Black Zone and the underlying schists, numerous closely spaced lithological units appear interlayered as lenticular plates ranging from a few centimeters to several meters in thickness. In certain sectors, such as the southern end of the –60 level drift crossing the Santa. Helena Breccia, a medium-grained two-mica granite replaces the usual porphyritic granite indicating complex magmatic and structural interactions (Price, 2012). Within the lower schist zone, bands of quartz-rich schist interlayered with micaceous laminae impart a distinctive striped appearance, forming an important marker horizon particularly evident toward the northeastern portion of the concession. All lithological units are intruded by breccias, aplite–pegmatite dykes and mineralized quartz veins.

The study area is situated within a dense fracture network generated during a brittle deformation phase that post-dates the D3 tectonic event. Accordingly, it is appropriate to describe the characteristics of the principal fracture families observed in the deposit. Based on previous structural studies conducted at the Borralha mine, eight distinct fracture families have been identified, and these are summarized in (Table 7-1).

Table 7-1: Fracture groups are present in the Borralha area.

Fracture Group	Average Direction/Dip
F1	N20° E, 70° NW
F'1	N45° E, 60°NW
F2	N90° E, 60°N
F3	N110° E, 50°N
F4	N20°E, 70°SE
F5	N20°W, 80°SW
F6	N6°W, 70°E
F7	N140°E, 60°NE
F8	N140°E, 80°NE

It is important to highlight the fault-displacement characteristics of the fracture system present in the study area. The F1 and F'1 group exhibit normal faults with a left-lateral component, whereas groups F2, F4 and F5 show normal faults with a right-lateral component. F3 corresponds to a reverse fault with a left-lateral component, while the groups F7 and F8 represent reverse faults with a right-lateral component. From these observations, it may be concluded that most faults in the area are gravitational in nature, that F1 is the most frequent fracture group, and that reverse faults show little variation in orientation, generally remaining sub-parallel to the regional schistosity.

The mineralized structures in the deposit comprise two main types: vein structures and breccia structures, the latter represented by the Santa Helena Breccia and the Venise Breccia. Historically, mining activity focused predominantly on the vein systems, which are grouped into two categories: vertical veins, with dips exceeding 45°, and flat-lying veins, with dips below 30°. The vertical veins are responsible for most of the historical tungsten production.

Three structural orientations are recognized among the vertical veins. The first group displays predominant strikes from N 80° to N 100° and dips between 45° and 60° to the north; the second group strikes between N 100° and N 130°, dipping 50° to 60° northward; and the third group strikes between N 70° and N 90°, with dips ranging from 60° north to 80° south. These veins can also be classified according to their position within the former mine. In the central sector, the principal structures include the Santo António vein, historically the most important vein of the mine due to its thickness and high WO₃ grades, often displaying “herringbone” textures, and the Santa Helena vein, well defined west of the Santa Helena Breccia. In the southern sector, four veins were identified: São Henrique, São Luís, located at the southernmost limit of the deposit and notable for crossing the Santa Helena Breccia without deformation, and the “Gross Filon” and Vein 6, the latter two exploited only at surface and never investigated at depth.

The flat-lying veins of the Borralha deposit occur predominantly within the schist zone, except for those belonging to group B of the former mine, which are hosted in the granitic zone. Although these veins were less significant during historical mining, they present several structural orientations. The main productive veins strike N 100° to N 120° and dip northwards, representing the most important contributors to WO₃ production. Other groups included veins striking N 90° to N 120° and dipping south; veins striking N 40° to N 70° and dipping southeast; and veins striking N 40° to N–S and dipping east. Structural analysis shows that the dip of the displacement component is the most influential factor in the behavior of these veins, as many are intersected and offset by normal faults.

In addition to the vein structures, two quartz-cemented breccia bodies occur within the deposit: the Venise and the Santa Helena Breccias, both of which were later intruded by a leucocratic rock (Figure 2-5). The Santa Helena Breccia (“SHB”) constitutes the target for the current advanced exploration project and contains tungsten mineralization both within the cement and adjacent to quartz veins (Figure 2-6). The Venise Breccia (“VB”) is apparently smaller in size, displaying at the –60 level of the former mine a major axis-oriented N–S with an approximate length of 80 m and a minor axis of about 30 m. Its total vertical extent remains unknown, as no workings exist below the –110 level.

The Santa Helena Breccia is a sub-vertical structure of elliptical cross-section, oriented N–S, exceeding 500 m in length and reaching approximately 100 m in width, with an unknown depth. Contacts with the host rocks are abrupt and commonly marked by quartz veins or fault zones. A more detailed characterization of this deposit will be provided in the following section.

A figure that can resume the geological context from the Borralha area can be observed in the Figure 7-3.

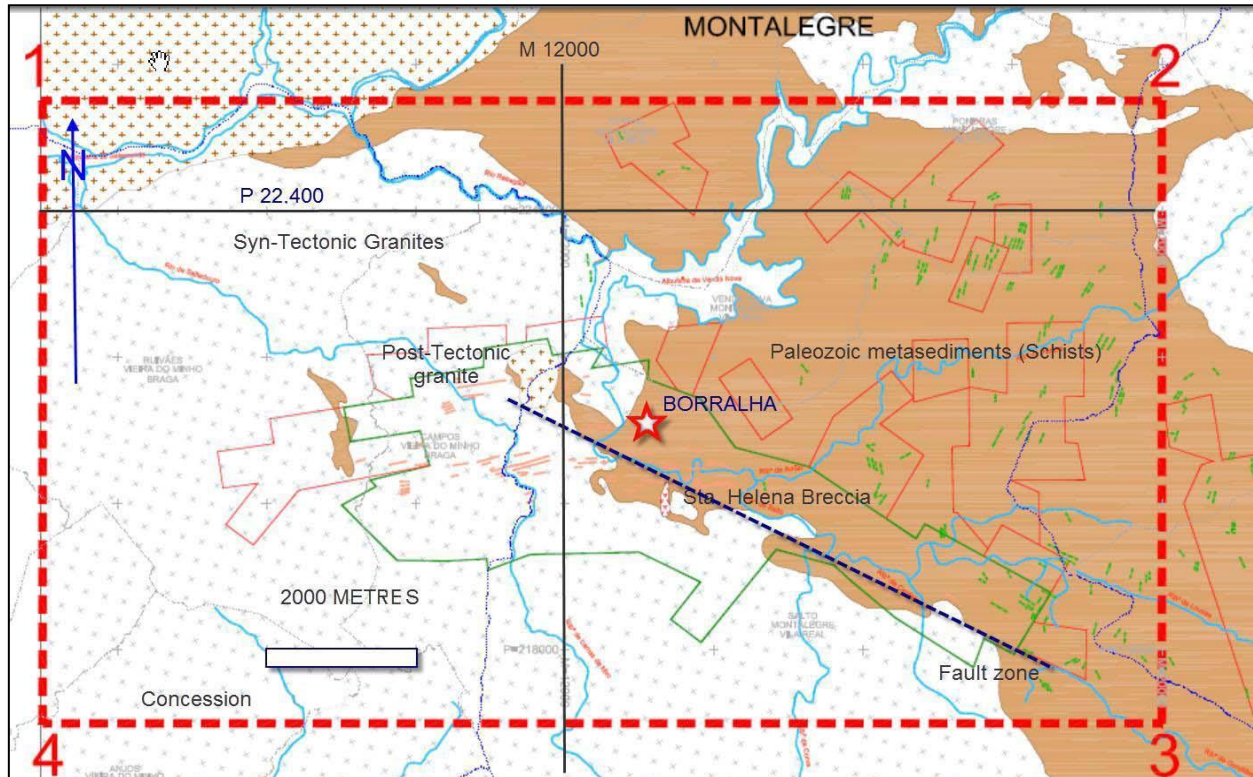


Figure 7-3: Simplified Geological Map of the Borralha Area (Minerália, 2022).

7.3. Mineralization

Most of the historical mining at Borralha was conducted underground, mostly on sub-vertical quartz veins. Limited surface open-pit extraction also took place, particularly on the northern portion of the Santa Helena Breccia intrusion. Underground mining exploited mineralization hosted in quartz veins, wall rocks and breccia, where wolframite accompanied by subordinate scheelite, chalcopyrite, pyrite, pyrrhotite, sphalerite and molybdenite was the predominant ore mineral (Noronha, 1983).

Three main geological environments host tungsten and tin mineralization in the Borralha district. The first consists of quartz veins containing wolframite, scheelite and sulphides. The second consists of aplite–pegmatite veins characterized by cassiterite mineralization. The third encompasses intrusive breccia bodies that occur either as pipe-like intrusions or as collapse breccias. Localized low-grade tin mineralization is present within some quartz veins both inside the historical mining area and further west. Aplite–pegmatite veins are only found in the eastern portion of the property, specifically east of the confluence between the Ribeira de Ameal and Ribeira do Salto.

The Santa Helena Breccia crops out at surface and has been partially exploited through underground workings and a series of small, shallow open pits in zones where tungsten-bearing quartz veins are more abundant. These quartz veins were repeatedly scavenged over the years by informal or illegal miners (“apanhistas”). Detailed historic underground mapping, surface geological surveying and more recent work indicate that the mineralized Santa Helena Breccia extends for at least 500 meters north–south, is between 80 and 120 meters wide east–west and remains open at depth. Similarly, the Venise Breccia appears to be oriented north–south and open to depth. At the –60 m mine level (the water level in the former workings) the Venise Breccia exhibits a strike length of approximately 80 meters and a width of around 30 meters, although its full vertical extent remains unknown due to lack of development below the –110 m level.

Across the Borralha concession, several quartz-veining districts have been recognized, including the Borralha sector; Cruzinhas, Vale de Corças and Chão d’Além-Rio; Águas Terças, Quebrada and Além-Rio; and Cerdeira. Among these, the Borralha sector was historically the most productive, hosting the highest tungsten grades and the greatest mined tonnage. The mines are located near the center of the area, covering parts of five historic concessions—Borralha, Monte Borralha Nos. 1, 3 and 4, and Caniçó—extending about 2,000 m east–west, 1,000 m north–south, and reaching depths of 210 m below the 772 m “zero level.” Mining was predominantly underground, although limited shallow open-pit work was carried out, especially prior to 1956, focusing on surface veins, alluvial and eluvial accumulations, and superficial parts of the Santa Helena Breccia.

Historical production records subdivided the mining area into alphabetical groups, A through I. Only Groups A, B, D and E saw significant mining in the later stages of operation (Mineralia, 2012). Group A is situated mostly within the eastern part of the Borralha concession, where the veins occur predominantly within the schist zone. Group B comprises parts of the Borralha and Monte Borralha No. 4 concessions and contains the main historical production shafts. The Santa Helena Breccia belongs to Group B, extending significantly southwards. Group C lies north of the Borralha River, bordered by Group A to the east and the Venise Breccia of Group D to the west. Group D adjoins Group B to the east and includes the Venise Breccia within the Monte Borralha No. 1 concession; it contains the longest north–south strike length of all the groups. Group E is positioned to the west of the deposit and includes the São José and René veins. Group F forms the westernmost sector, encompassing the Cruzinhas and Vale de Corças mines within the granitic zone. Group G occurs above the 0 level on the southern bank of the Borralha River. Groups H and I were small and short-lived operations; Group I was situated west of Group D within the Venise Breccia sector and north of Group E, while Group H was restricted to minor surface workings north of Group I in the Monte Borralha No. 3 concession (Figure 7-4).

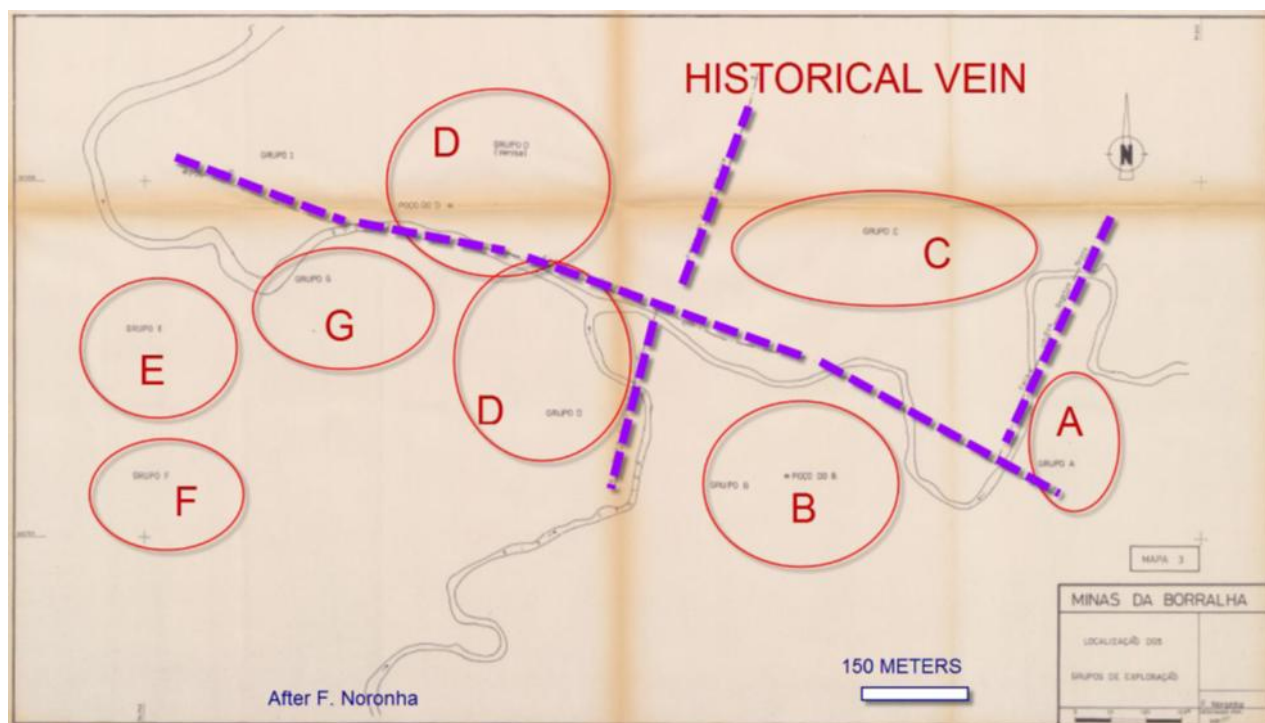


Figure 7-4: Old Historical groups from the Borralha Mine.

The Santa Helena Breccia lies within a complex geological contact zone involving syn-D3 Borralha granitoids, Silurian metasedimentary units and a transitional zone composed of granitoids containing large metasedimentary xenoliths (Noronha, 1983). The eastern and western margins of the breccia are marked by intensely fractured, barren quartz veins striking north–south. Historical mapping, combined with more recent drilling, indicates that the SHB extends for at least 575 meters north–south, exceeds 150 meters in width, and remains open below the –110 m mine level, suggesting a minimum depth of 300 meters. The SHB’s major axis trends north, consistent with the dominant structural orientation of the district.

This comprehensive geological and mining framework underscores the significance of Borralha as one of Portugal’s historically important tungsten districts and illustrates the structural and lithological complexity that controls mineralization in the region.

8. Deposit Types

The Santa Helena Breccia structure is the only breccia body of its type known in the Iberian Peninsula and one of the few documented in continental Europe. It is situated in the southern sector of the Borralha Mine, located between the mica-schist country rocks and Borralha Granite (Figure 2-5). The structure is subvertical with an elliptical cross-section, and its dimensions increase with depth. At surface, its major axis is oriented N–S, extending for approximately 600 meters with a width exceeding 100 meters. Although the full vertical extent is not known, one of the drillholes completed in 2023 intersected the breccia to a depth of 360 meters.

At the Santa Helena Breccia contacts with the country rocks are abrupt, and quartz veins reaching up to 3 meters in thickness are common in outcrop known in the region as “cavalão”. These veins locally coincide with fault zones; however, the faults do not appear to control the limits of the breccia. Instead, faults, whether containing barren quartz “cavalão” or not cut across the breccia body while maintaining their orientation inside and outside the structure (Noronha, 1983).

Considering the lithological zones defined for the Borralha Mine in the local geological framework and accounting for the fracture patterns within the Santa Helena Breccia area, it is evident that the schist zone is less fractured than the mixed zone and the granitic zones. Previous structural studies show that fracture groups F6 and F4 dominate on the eastern side of the structure, whereas group F1 and F5 prevail on its western side. This distribution suggests that the Santa Helena Breccia acted as a mechanically rigid nucleus that influenced the fracture evolution of the deposit, leading to significant anisotropic adjustments in the surrounding rocks.

Ferro (1957) also noted a zone extending more than 50 meters beyond the breccia body, characterized by intense fracturing resembling a “stockwork.”

The Santa Helena Breccia compositionally resembles its host rocks, containing fragments of granitoids, granites, pegmatites and mica-schists. Most clasts are angular, with occasionally slightly rounded fragments. Grain size is highly variable with large blocks occurring alongside centimeter-scale fragments. These components are cemented by hydrothermal quartz, with sporadic chlorite and adularia. The hydrothermal quartz is mineralized with wolframite, minor scheelite and various sulphides. Mineralization occurs within the cement, in open spaces, and along fractures within clasts, particularly in the larger ones (Noronha, 1983). At deeper levels, the structure contains injected leucocratic material composed mainly of quartz, white micas and wolframite which also transports small fragments of deeper lithologies upward.

The classification of the Santa Helena Breccia is complex. When applying standard academic criteria for breccia genesis there are several inconsistencies that highlight its unique formation history. Key characteristics include:

1. The breccia exhibits an elliptical shape at surface and appears conical at depth, although its geometry is only known down to 360 meters.

2. No clear structural control explains its occurrence, although a possible relationship with the intersection of N–S and N 90°–100° E fault systems cannot be ruled out.
3. Contacts between the breccia and the country rocks are sharp, with no evidence of displacement along them. Quartz veins commonly mark these contacts and may locally be associated with faults, with or without quartz “horses.”
4. The clasts share the same composition, metamorphic grade and deformation style as the host rocks. The distribution of clast types reflects the nature of adjacent country rocks, with mica-schist clasts predominating at shallow levels.
5. Clast size varies widely, from centimetric fragments to meter-scale blocks, independent of lithology.
6. Clasts display no preferred orientation or size distribution; they are randomly arranged with no systematic pattern.
7. Clasts are predominantly angular, with rare slightly rounded examples, and their boundaries are well defined.
8. Clasts are not preserved in their original orientation, as indicated by variable foliation orientations in mica-schist fragments and differing orientations of porphyritic granite blocks.
9. The clasts are cemented by hydrothermal quartz, with additional hydrothermal minerals present. At depth, the matrix includes injected leucocratic material.
10. Evidence for brecciation or alteration in the country rocks is limited, except for “angular-crackle-breccia” features near surface.
11. At the deepest known levels, leucocratic material acts as cement intruding multidirectional hydrothermal quartz veins.

Multiple authors have discussed the genesis of the Santa Helena Breccia. Conde et al. (1971) described it as a collapse breccia. Gaillard (1972) interpreted it as a block-caving collapse breccia. Prouhet and Bonnici (1972) proposed two possible origins, collapse or explosive breccia, but favored the latter based on their observations. Considering the characteristics described above, several breccia types can be excluded.

The structure clearly experienced internal movement, as the clasts are mixed and displaced from their original positions. However, this movement was limited in magnitude, as clast lithology remains correlated with the nature of the adjacent host rock. Moreover, movement was downward, indicated by the predominance of mica-schist clasts at shallow levels and the absence of clasts sourced from deeper zones. Therefore, the breccia cannot be classified as an effusive igneous breccia (Noronha, 1979a, 1983).

A metasomatic breccia origin is also unlikely because the clasts maintain angular forms with sharp boundaries, reflecting minimal corrosive alteration. The quartz cement, which accounts for 30–40% of the total breccia volume, and the absence of a pervasive matrix argue against a non-effusive igneous breccia origin (Noronha, 1979b). Hydrothermal intrusion breccias are likewise ruled out, as these require upward movement of clasts, which is not supported by evidence. No features suggest significant long-distance transport. The structure resembles, according to Konstantinov (1978), an “angular-crackle breccia,” characterized by minimal clast displacement and preservation of the host-rock lithologies (Noronha, 1979b; Noronha, 1983).

Based on all available evidence, the Santa Helena Breccia is best interpreted as a collapse breccia, with its formation linked to hydrothermal injection processes and explosive activity. Its genesis may be summarized as follows:

1. The breccia formed during a late stage of magmatic activity, probably associated with post-D3 processes.
2. Fluid-driven replacement processes were minor and did not generate voids in the quartz cement.
3. These voids likely developed through the action of relatively saline hydrothermal solutions at high pressure. These fluids deposited the earliest minerals, including wolframite. Concurrently, partial collapse of the magmatic chamber caused limited downward movement of fragments, producing open spaces.
4. During this collapse, sub horizontal fractures developed and were subsequently filled by hydrothermal fluids of lower salinity and temperature, leading to the deposition of quartz and most sulphides.
5. Later injection of leucocratic material (interpreted from geochemical and mineralogical studies as the final differentiation product of a granite like the Borralha Granite) transported small clasts of collapsed lithologies from depth to higher levels. This material also carries minor tungsten mineralization.

From this description, the Santa Helena Breccia clearly represents a structure of exceptional geological interest with major implications for the mining potential of the Borralha deposit and for the economic significance of tungsten within the region.

The Santa Helena Breccia hosts significant tungsten, copper, zinc and molybdenum mineralization, accompanied by minor concentrations of niobium, tin, thorium, uranium, rare earth elements, bismuth, silver and lead. Wolframite typically occurs as fine-grained disseminations within breccia fragments, in association with other ore and gangue minerals, and/or within zones displaying clear evidence of hydrothermal alteration. In addition, late-stage transparent quartz veinlets containing coarse-grained wolframite crosscut the breccia, highlighting multiple mineralizing events, a geological model of the Santa Helena breccia can be observed in Figure 8-1.

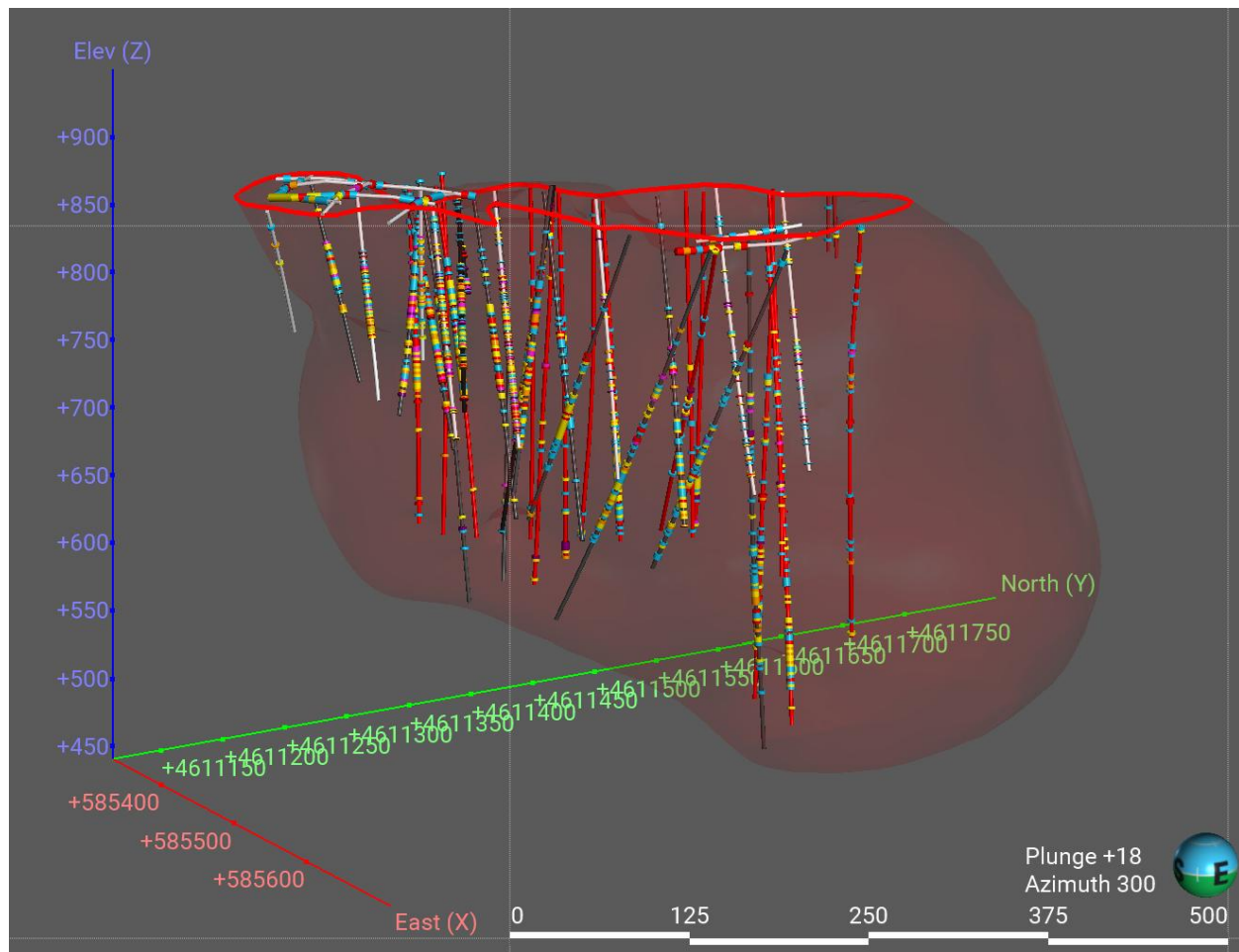


Figure 8-1: Geological Model of the Santa Helena breccia in the Borralha area.

Microscopic examination of drill core from the Santa Helena Breccia reveals several distinct types of tungsten mineralization. The principal tungsten minerals are wolframite and minor scheelite, followed by finer disseminated tungstates. These occur in three main textural settings, shown in Figure 8-2:

- Fine to very fine-grained wolframite and scheelite disseminated within breccia fragments.
- Medium- to coarse-grained wolframite hosted in the siliceous cement where grain sizes commonly exceed 5–10 mm and may surpass 10 mm. This mineralization is typically associated with muscovite I and II $\pm$ quartz $\pm$ Fe-chlorite.
- Coarse-grained wolframite occurring in late quartz veins that cut the breccia representing a late mineralizing phase superimposed upon earlier brecciation and cementation processes.



Figure 8-2:Core photographs showing the distinct types of mineralization of the Santa Helena Breccia- A) fine-grained wolframite and scheelite disseminated, B) Medium- to coarse-grained wolframite hosted in the siliceous cement, C) Coarse-grained wolframite occurring in late quartz veins.

Sulphide minerals—principally chalcopyrite, pyrite, pyrrhotite and sphalerite—are found in association with magnesium–iron chlorite, consistent with hydrothermal conditions documented by Bobos and Noronha (2017).

The mineralizing events of the Borralha deposit have been studied by Lima et al. (2015). The results of this work have identified four mineralizing stages (Figure 8-3). They are:

- Stage I – Titanium-Tin-Tungsten-Rare Earth mineralization.
- Stage II – Tungsten-Niobium-Tantalum mineralization.
- Stage III – Iron-Copper-Zinc +/- Tin mineralization; and lastly
- Stage IV – Bismuth-Lead-Silver mineralization.

- **Stage I** - ilmenite (Fig. A) ± cassiterite I ± apatite ± REE phosphates (Fig. B) ± scheelite I (Fig. C) ± muscovite I ± Fe, Mn chlorite ± biotite ± quartz I;
- **Stage II** - wolframite I and II* (Fig. D,E,F) ± scheelite II (Fig. I) ± muscovite II ± Fe chlorite ± quartz II;
- **Stage III** – Nb-W oxides (Fig. G) ± cassiterite II (Fig. K) ± major sulphides (pyrite ± chalcopyrite ± sphalerite) (Fig. J) ± Mg, Fe chlorite;
- **Stage IV** – wolframite III (Fig. H) ± native bismuth ± minor sulphides (bismutinite ± molybdenite ± galena (Fig. L) ± matildite ± aikinite ± pavonite ± stannite ± greenockite).

*these two wolframites are distinguish by its distinct reflector power promoted by an enrichment in iron - $W_{I(FeO)} < W_{II(FeO)}$

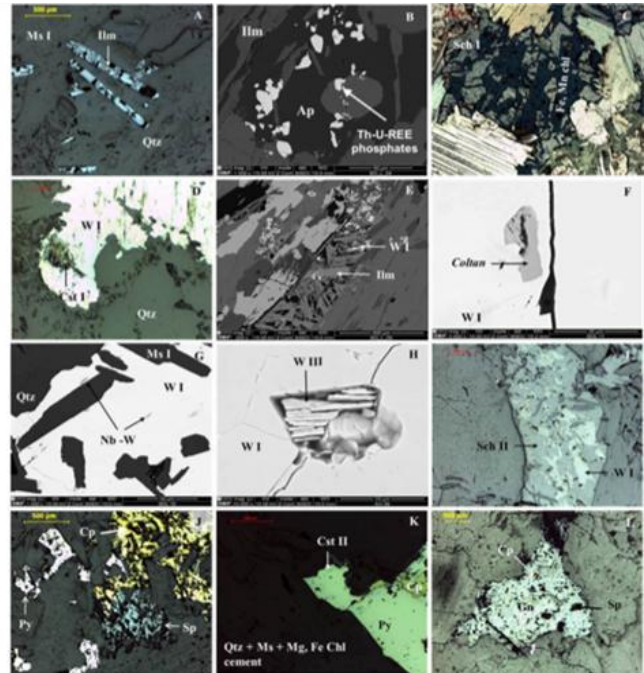


Figure 8-3: The distinct mineralizing stages of the Santa Helena breccia.

The following Figure 8 4 illustrates the four mineralizing stages from the Lima et al. (2017) study together with the defined hydrothermal alteration stages.

	Hydrothermal Alterations				Supergene Alteration
	Muscovitization	Sericitization	Cloritization I	Cloritization II	
Quartz	I		II		
Wolframite					
Scheelite					
Pyrite		I	II	III	
Chalcopyrite					
Sphalerite					
Galena					
Marcassite					
Stannite					
Molybdenite					
Apatite					
Bismuthinite					
Plagioclase					
Bismuth					
Sulfosalts					
Matildite					
Grenockite					
Covelite					

Figure 8-4: Hydrothermal alterations and its relationship with the mineralizing stages.

9. Exploration

9.1. Introduction

No exploration work was carried out on the Property between 1983 and 2011, when Blackheath Resources Inc. optioned the Property from Minerália. Following the option agreement, Minerália continued to operate as the exploration contractor.

9.2. Digitizing, Surveying and Geological Mapping

Minerália's 2011 exploration program focused on the compilation and digitization of available historical geological maps and mine plans. This work led to the identification of three priority exploration targets: (i) the under-exploited sub-horizontal vein systems located north of the Borralha River within the historic mining area, (ii) the Santa Helena Breccia located south of the river and (iii), the Venise Breccia located below the old group D.

Owing to the absence of historical documentation for numerous small-scale, informal ("illegal") workings, many overgrown workings and mineralized outcrops required clearing prior to surveying and geological mapping. Several accessible shallow adits were surveyed, mapped, and correlated with historical mine plans, and the results were cross validated against the detailed geological mapping published by Noronha (1983).

Additional work conducted during the initial exploration phase included topographic surveying, establishment of a systematic survey grid, and soil geochemical sampling (Minerália, 2020).

9.3. Trenching and Channel Sampling

Prior to 2011, the Santa Helena Breccia had not been subject to systematic exploration by trenching or drilling. Following completion of detailed geological mapping, exploration efforts were directed toward areas extending beyond the partially mined open pits with a series of long trenches excavated across the southern portion of the Santa Helena Breccia. A total of nine trenches were excavated, subsequently cleaned, geologically mapped, and channel sampled. Channel samples were collected at nominal 5-metre intervals using hand-held rock saws and/or chisels, in accordance with standard industry practices (Minerália, 2020 Table 9-1).

Table 9-1: Locations of the 2011 Trenches and Channel Sampling (Minerália, 2022).

Trench Nrº	Start		Finish		Length (m)
	E (UTM)	N (UTM)	E (UTM)	N (UTM)	
T1	585545	4611132	585596	4611219	100
T2	58550	4611175	585566	4611168	135
T3	585455	4611171	585491	4611228	65
T4	585621	4611160	585558	4611257	110
T5	585584	4611133	585516	4611227	115
T6	585524	4611126	585585	4611146	65
T7	585530	4611127	585467	4611205	100
T8	585548	4611553	585540	4611440	125
T9	585527	4611553	585521	4611464	100

Analytical results from the 2011 channel sampling program were highly encouraging. Notable intercepts included 20 m grading 0.33% WO₃, including a higher-grade interval of 5 m grading 1.09% WO₃. Seven of the nine trenches returned grade–thickness intervals considered sufficiently significant to warrant further exploration, and disseminated wolframite hosted within the breccia was identified in all trenches. Composite intervals grading greater than 0.1% WO₃ are illustrated in Figure 9-1. Minerália (2020) compiled and tabulated the channel sample composite results, which are presented in Table 9-2.

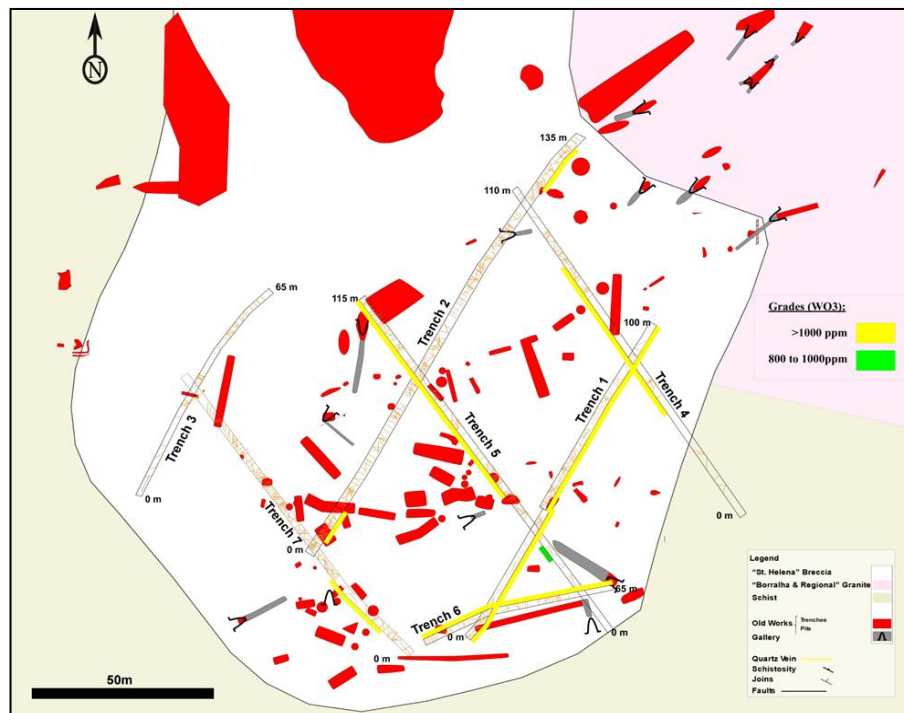


Figure 9-1: Plan of Trenches and Composite Sample Grades in the Southern Portion of the Santa Helena Breccia (Minerália, 2022).

Table 9-2: 2011 Channel Sample Composite Tungsten Results (Minerália, 2022).

Sample	From (m)	To (m)	Width (m)	WO ₃ %
Trench T1 (all samples)	0	100	100	0.13
including	75	95	20	0.33
including	85	90	5	1.09
Trench T2	0	5	5	0.23
and	120	125	5	0.27
Trench T4	35	85	50	0.10
including	35	65	30	0.14
Trench T5	55	110	55	0.14
including	55	65	10	0.41
and including	85	90	5	0.24
and including	105	110	5	0.33
Trench T6	0	50	50	0.10
including	0	25	25	0.13

In the author’s opinion, the trenching and channel sampling procedures documented by Minerália were appropriate and representative for this style of mineralization and are consistent with accepted industry best practices. The technical work was conducted by qualified professionals in accordance with standard exploration protocols.

9.4. Drilling

Since 2013 five phases of drilling have been completed on the Property. These include: (1) two diamond drill holes completed in 2013, totaling 297.75 m, located north of the Borralha River and designed to test sub-horizontal vein mineralization within the main historic mine area; (2) nine diamond drill holes completed in 2014, totaling 1,383.55 m, which targeted tungsten–tin mineralization within the Santa Helena Breccia (SHB); (3) two diamond drill holes completed in 2017, totaling 236.25 m, to further test the SHB mineralization; and (4) in the 2023 drilling program comprising three diamond drill holes totaling 490.4 m and eleven reverse circulation (“RC”) drill holes totaling 2,619 m, also focused on continued evaluation of the SHB mineralization, finally in 2025 a total of 17 reverse circulation drill holes, 4,210 m.

The cumulative drilling completed on the Property since 2013 totals 9,236 m. A detailed description and interpretation of each drilling phase is specified in Section 10 (Figure 9-2).

The sixth phase of drilling commenced in February 2026, comprising approximately 20,000 metres of core drilling. This program focuses on infill drilling for resource conversion, step-out drilling to test open mineralization trends, and initial delineation of the Venise Breccia target.

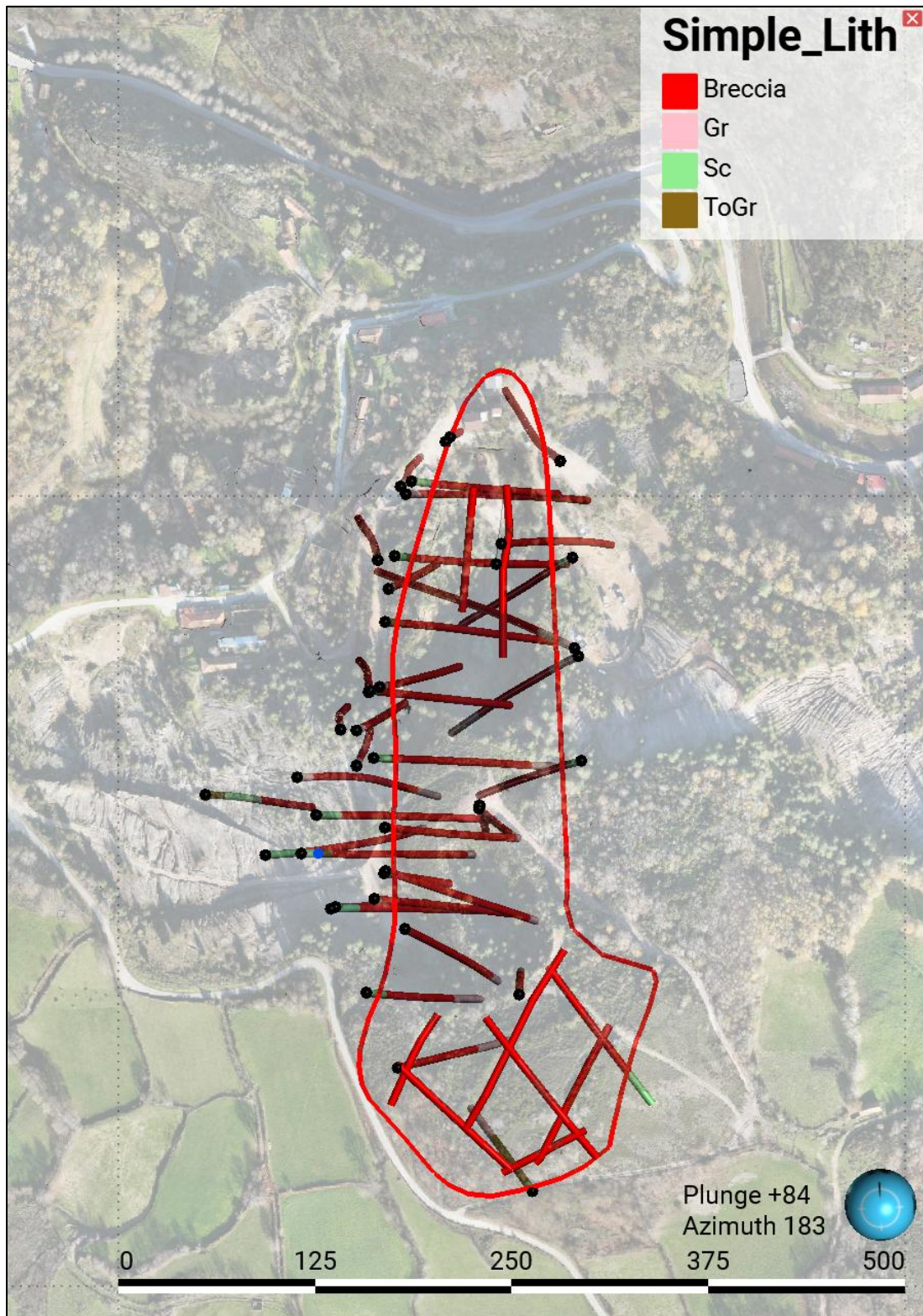


Figure 9-2: Drill holes and trenching developed in the Santa Helena Breccia.

9.5. Mineralogical and Petrographical Studies

Santa Helena Breccia has been the subject of several petrographic studies since the early stages of prospecting and exploration.

During an initial phase in 2014, twelve samples were collected at various depths from drill hole Bo_05 and studied by a research team from the Faculty of Sciences of the University of Porto. This study defined the principal types of economically relevant mineralization, the main stages of mineralization and depositional sequence, and the key hydrothermal alteration events that affected the deposit. The work confirmed the presence of tungstate minerals, namely wolframite and scheelite, as well as sulphide minerals including pyrite, chalcopyrite, sphalerite, galena, molybdenite, bismuthinite, marcasite, matildite, and stannite.

Four distinct stages of hydrothermal alteration were identified. The first stage, muscovitization, was characterized by the deposition of cassiterite, ilmenite, apatite, monazite, and rare earth element (“REE”) oxides, including cerium and lanthanum oxides. The second stage, sericitization, involved the deposition of a second generation of quartz together with wolframite generations I and II. During this stage, episodes of calcium-rich depositional conditions occurred, resulting in the precipitation of scheelite. The first generation of euhedral pyrite was also deposited during this stage.

The third stage of hydrothermal alteration, chloritization, was marked by the deposition of sulphide minerals, including sphalerite, chalcopyrite, bismuthinite, and molybdenite. A subsequent fourth stage, representing a second phase of chloritization, was characterized by the deposition of wolframite generation III, a third generation of pyrite, galena, marcasite, stannite, native bismuth, silver sulfosalts, and matildite.

Finally, a supergene alteration stage was recognized, leading to the formation of covellite. This supergene mineral assemblage can also be observed at deeper levels due to the intense fracturing affecting the breccia.

Recently, with the objective of achieving a comprehensive understanding of the mineralogy and the liberation sizes of the mineral phases of economic interest, a detailed mineralogical study was carried out at the PetroLab laboratories in Cornwall, United Kingdom. This study was designed to provide essential data relevant to ore processing and metallurgical flowsheet development. An initial sample was subjected to crushing and grinding to achieve 100% passing 1.0 mm, after which it was fractionated into six particle-size classes: +800 µm, +300 µm, +180 µm, +100 µm, +53 µm, and –53 µm. Quantitative mineralogical analysis was performed using Zeiss Mineralogic Mining software coupled with a Zeiss EVO MA 25 scanning electron microscope (“SEM”).

Consistent with previous studies, two principal mineral classes were identified: oxides and sulphides. Among the oxide minerals, wolframite is the dominant phase, occurring predominantly in the +300 μm fraction and frequently associated with scheelite. Cassiterite is most abundant in the +53 μm fraction. Within the sulphide mineral group, pyrite is the dominant phase, with the highest abundance observed in the -53 μm fraction, together with sphalerite, which is also preferentially concentrated in this fine fraction. Chalcopyrite shows its highest abundance in the +100 μm fraction.

From an economic perspective, gangue minerals are the most abundant constituents across all size fractions and include quartz, micas, plagioclase, and potassium feldspar. The mineralogical distribution by size fraction is illustrated in Figure 9-3.

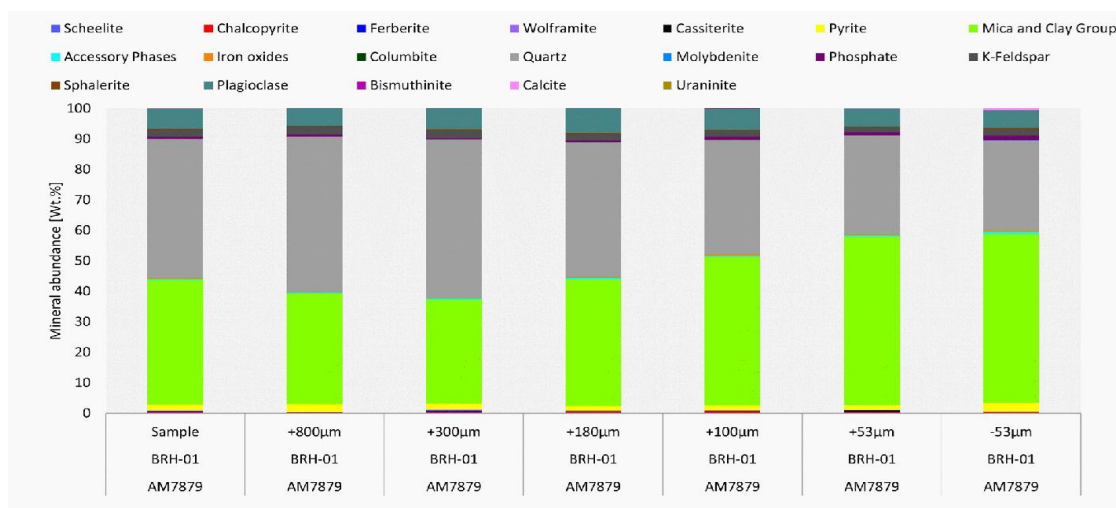


Figure 9-3: Mineralogical distribution in the distinct studied granulometries.

Particle liberation characteristics were evaluated for three minerals of primary economic interest to the Project: wolframite, scheelite, and cassiterite. Wolframite exhibits poor to good degrees of liberation, depending on the particle-size fraction considered. The highest liberation values were observed in the +53 μm and +180 μm size fractions, where wolframite is approximately 80% to 86% liberated (Figure 9-4). Scheelite shows good to excellent liberation in the same size fractions, with liberation levels ranging from approximately 99% to 100% (Figure 9-5). Cassiterite displays high degrees of liberation, ranging from approximately 93% to 100%, in the +100 μm , +53 μm , and -53 μm size fractions (Figure 9-6).

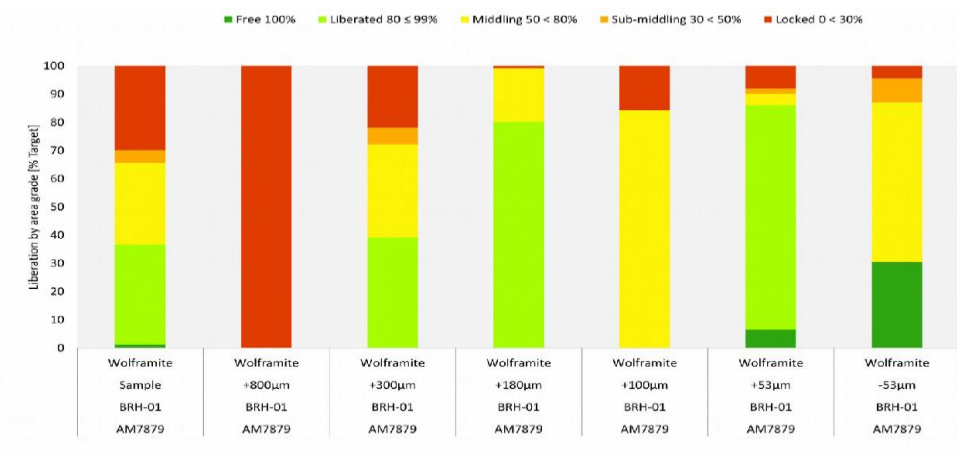


Figure 9-4: Liberation analysis for the wolframite group.

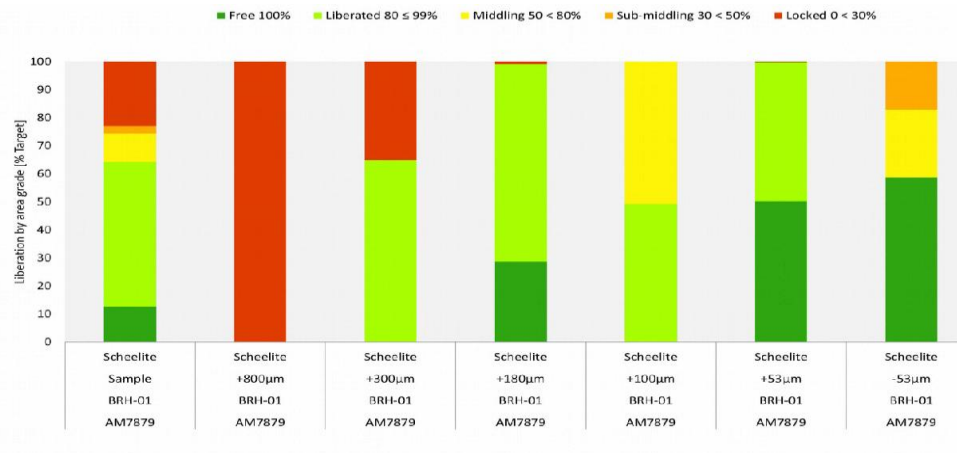


Figure 9-5: Liberation analysis for the scheelite.

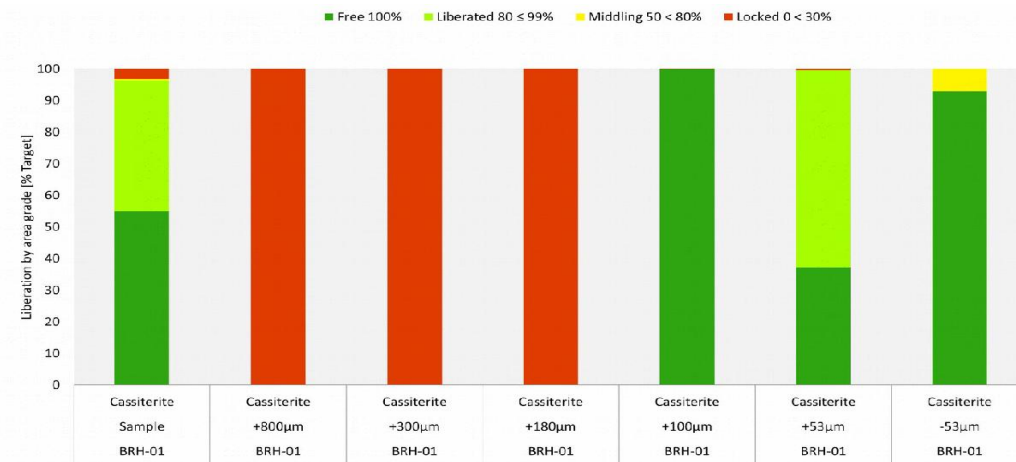


Figure 9-6: Liberation analysis for the cassiterite.

10. Drilling

Since the first exploration work on the Borralha project the focus was mostly centered on different drilling campaigns. As stated in the previous section, there were five distinct drilling phases from 2013 to the present. In this section there is a description and interpretation of each drilling campaign.

During Blackheath Resources Inc.'s tenure, a total of thirteen diamond drill holes were completed on the Property, comprising 1,917.55 m of drilling, predominantly using HQ-sized core. In 2013, two drill holes were completed to test the sub-horizontal vein systems located north of the Borralha River. During the 2014 and 2017 exploration programs, eleven drill holes were completed to test mineralization within the Santa Helena Breccia (Table 10-1).

Table 10-1: Summary of 2013-2017 Diamond Drilling (Minerália, 2022).

Company	Period	Total Holes	Total Length (m)
Blackheath	2013	2	297.75
Blackheath	2014	9	1383.55
Blackheath	2017	2	236.25
Total	2013 - 2017	13	1917.55

10.1. Phase 1 - Drilling of Sub-Horizontal Veins

Two diamond drill holes, BO_1_13 and BO_2_13, totaling 297.75 m, were completed in 2013 to test an unmined area located along strike from previously productive sub-horizontal quartz–wolframite veins on the north side of the Borralha River (Figure 10-1). The objective of this drilling program was to confirm the presence, continuity and thickness of vein structures in an area where vein-hosted wolframite mineralization was known to be nuggety, erratic and localized within discrete shoots. Both drill holes yielded geologically significant results. Drill hole BO_1_13 intersected a total of fourteen quartz veins and veinlets (Figure 10-2), while drill hole BO_2_13 intersected four quartz veins and veinlets (Figure 10-3). At a downhole depth of approximately 29 m, drill hole BO_1_13 intersected what is interpreted to be an undocumented historic working, resulting in approximately 0.9 m of core loss.

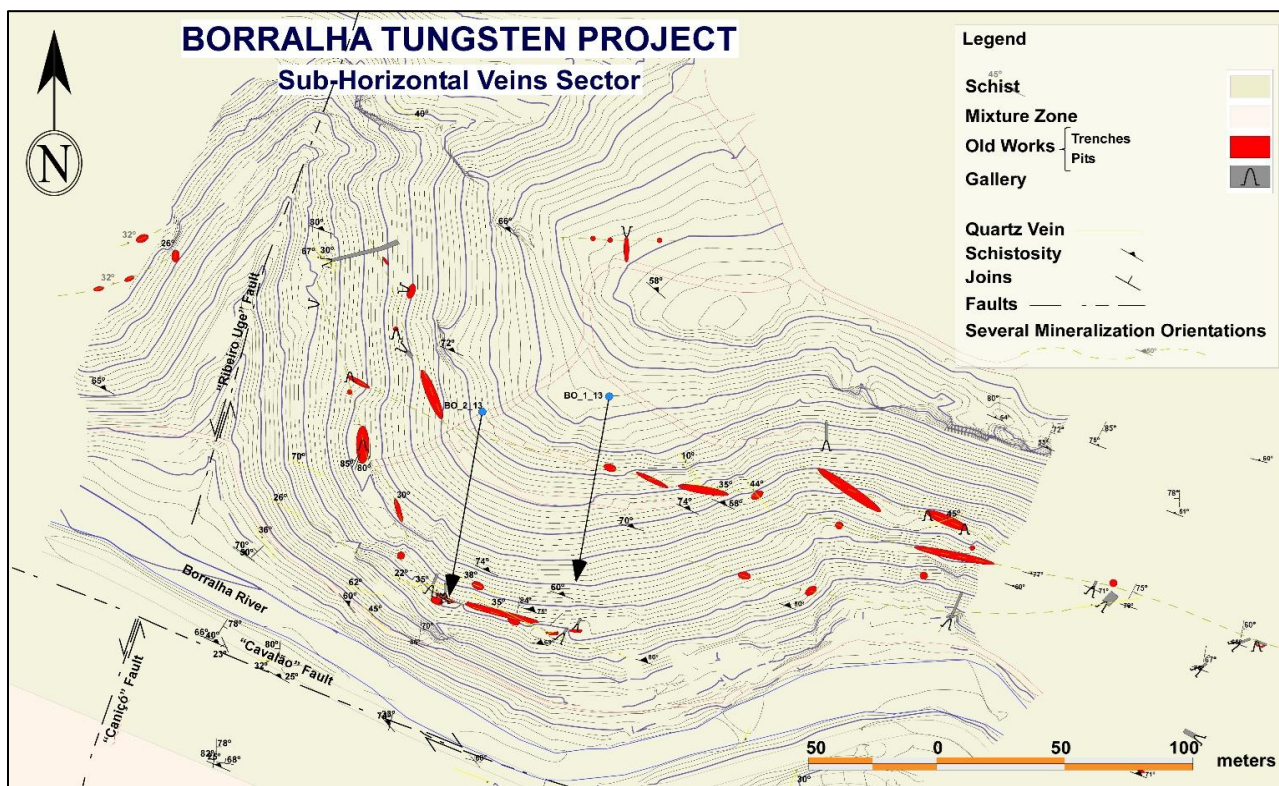


Figure 10-1: Plan of the 2013 Diamond Drill Holes (Price, 2013).

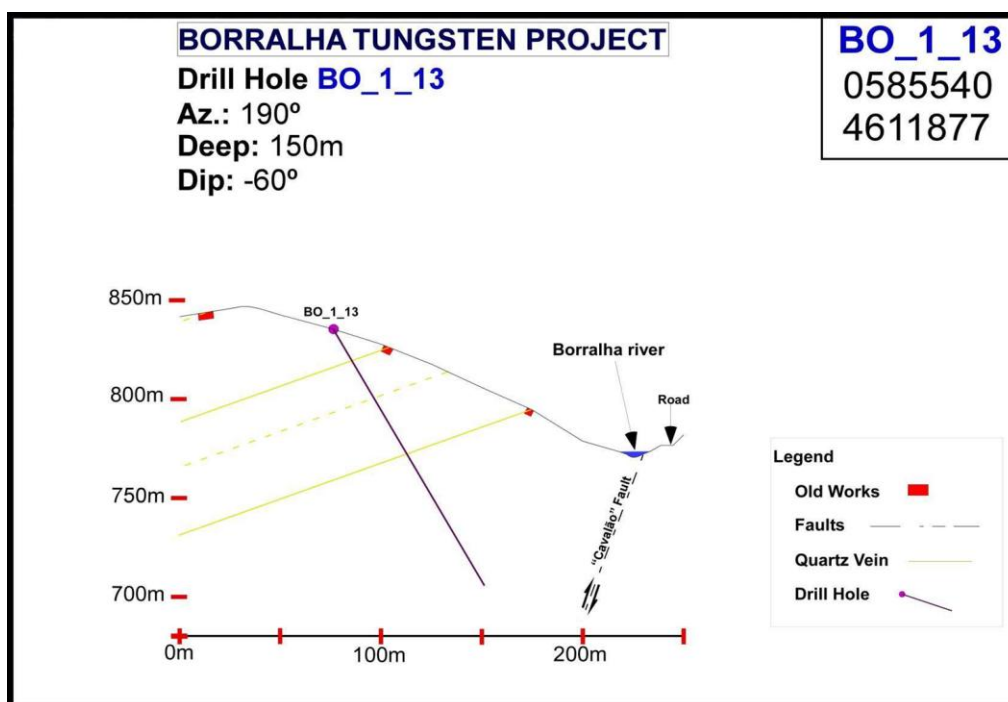


Figure 10-2: Vertical Cross-Section of Diamond Drill Hole BO_1_13 (Price, 2013).

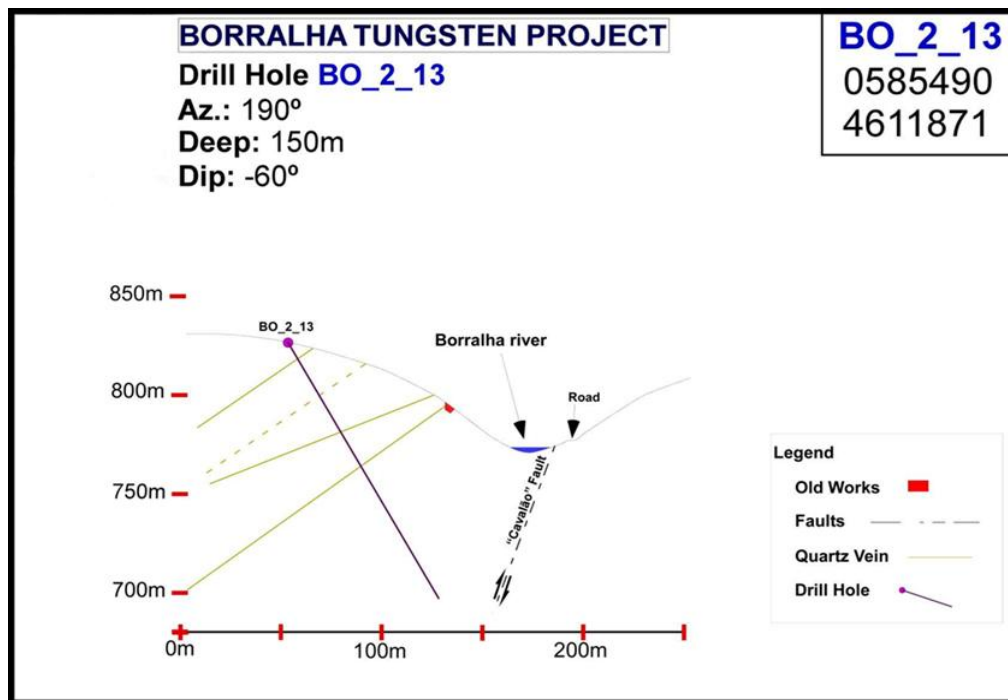


Figure 10-3: Vertical Cross-Section of Diamond Drill Hole BO_2_13 (Price, 2013).

The results of these drill holes confirmed the presence of mineralized quartz–wolframite veins within this previously unmined portion of the Borralha mine complex. Significant mineralized interceptions from the 2013 drilling program were tabulated by Price (2013) and are presented in Table 10-2.

Table 10-2: Table of Intercept Results from 2013 Drilling Sub-Horizontal Veins.

Drillhole *	From (m)	To (m)	Interval (m)	WO ₃ %
BO_1/13	19.4	20.4	1.0	0.23
BO_1/13	47.3	48.3	1.0	0.21
BO-2_13	48	49	1.0	0.29

*true widths are unknown.

10.2. Phases 2 and 3 - 2014 and 2017 Diamond Drilling Programs

During the 2014 and 2017 exploration programs, a total of eleven HQ-sized diamond drill holes were completed to test the Santa Helena Breccia, comprising 1,619.8 m of drilling. Much of the SHB is concealed beneath approximately 1 m to more than 5 m of till and waste material derived from numerous historic test pits. Accordingly, the drilling programs were designed to evaluate the continuity and consistency of tungsten mineralization over an area measuring approximately 500 m in a north–south direction by 100 m in an east–west direction, and to depths exceeding 200 m below the highest drill collar elevation. Two drill holes, BO_08 and BO_11, were abandoned after intersecting undocumented historic underground workings.

Table 10-3 summarizes notable drill hole intersections of tungsten mineralization within the SHB as reported by Miner lia (2020). Figure 10-4 illustrate the geology of the SHB and the locations and orientations of the 2014 and 2017 drill holes, respectively, while Figure 10-5 shows examples of coarse-grained wolframite mineralization intersected during SHB drilling.

Figure 10-6 presents a simplified geological logging for drill hole BO_8A/14, illustrating the SHB profile looking north-northeast, and Figure 10-7 presents a vertical cross-section of drill hole BO_12/17, illustrating the distribution of tungsten mineralization within the SHB and the surrounding country rock.

Table 10-3: Drill hole intersections from the 2014 and 2017 drilling campaigns.

Drill hole*	Interval	Drill hole*	Interval
Bo_03:	7m@ 0.08% WO ₃ [from: 29m]	Bo_08a:	185m@ 0.19% WO ₃ [from: 0m]
			incl. 118m@ 0.29% WO ₃ [from: 57m]
Bo_04:	16m@ 0.06% WO ₃ [from: 3m]	Bo_09:	57m@ 0.06% WO ₃ [from: 85m]
Bo_05:	96m@ 0.14% WO ₃ [from: 21m]		incl. 20m@ 0.11% WO ₃ [from: 36m]
	63m@ 0.20% WO ₃ [from: 54m]	Bo_10:	105m@ 0.06% WO ₃ [from: 85m]
Bo_06:	76m@ 0.09% WO ₃ [from: 36m]		21m@ 0.15% WO ₃ [from: 115m]
	51m@ 0.12% WO ₃ [from: 36m]	Bo_11:	not completed
Bo_07:	55m@ 0.09% WO ₃ [from: 108m]	Bo_12:	176m@ 0.15% WO ₃ [from: 0m]
	30m@ 0.13% WO ₃ [from: 108m]		incl. 92m@ 0.25% WO ₃ [from: 39m]
Bo_08:	not completed		

*true widths are unknown.

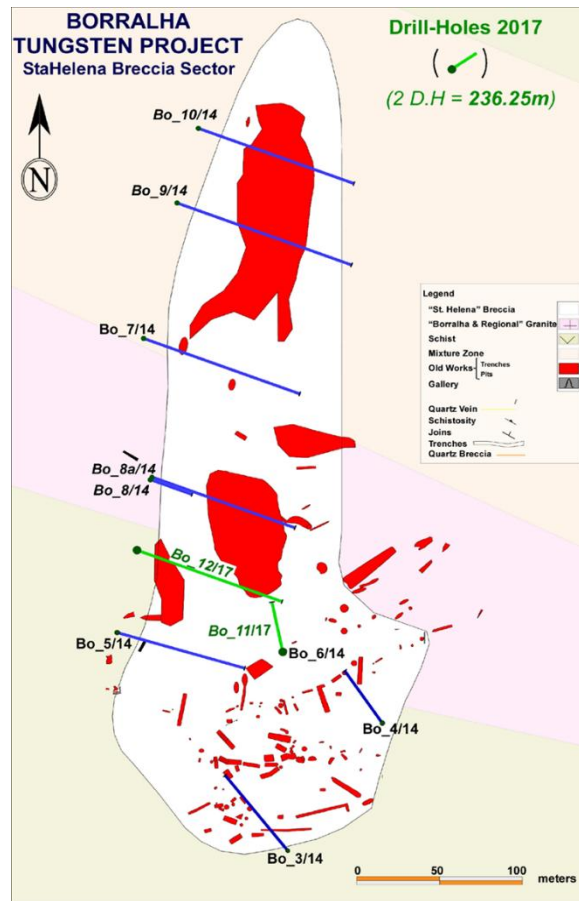


Figure 10-4: Geology of the Santa Helena Breccia (Minerália, 2020).

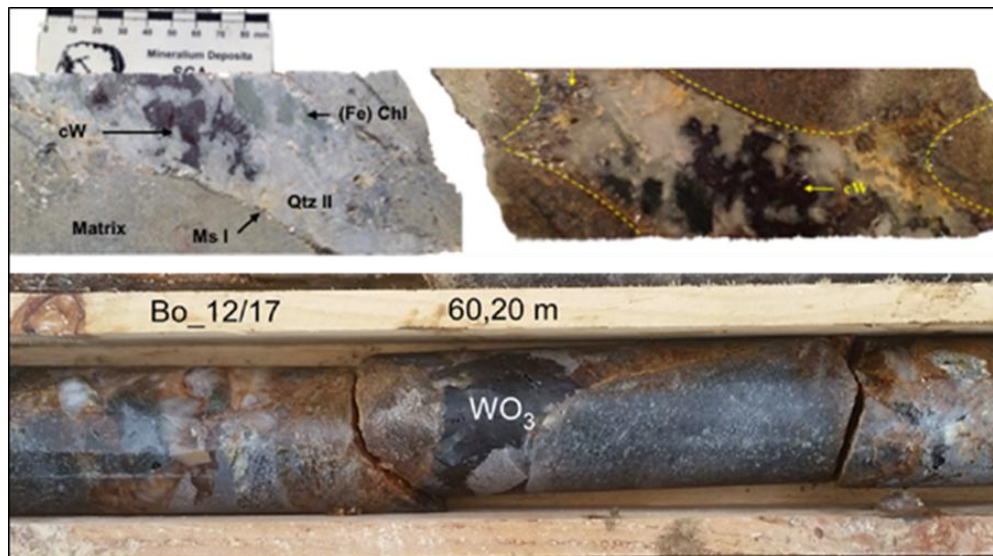


Figure 10-5: Coarse-grained Wolframite in Santa Helena Breccia Drill Core.



Bo_12

Borralha Project

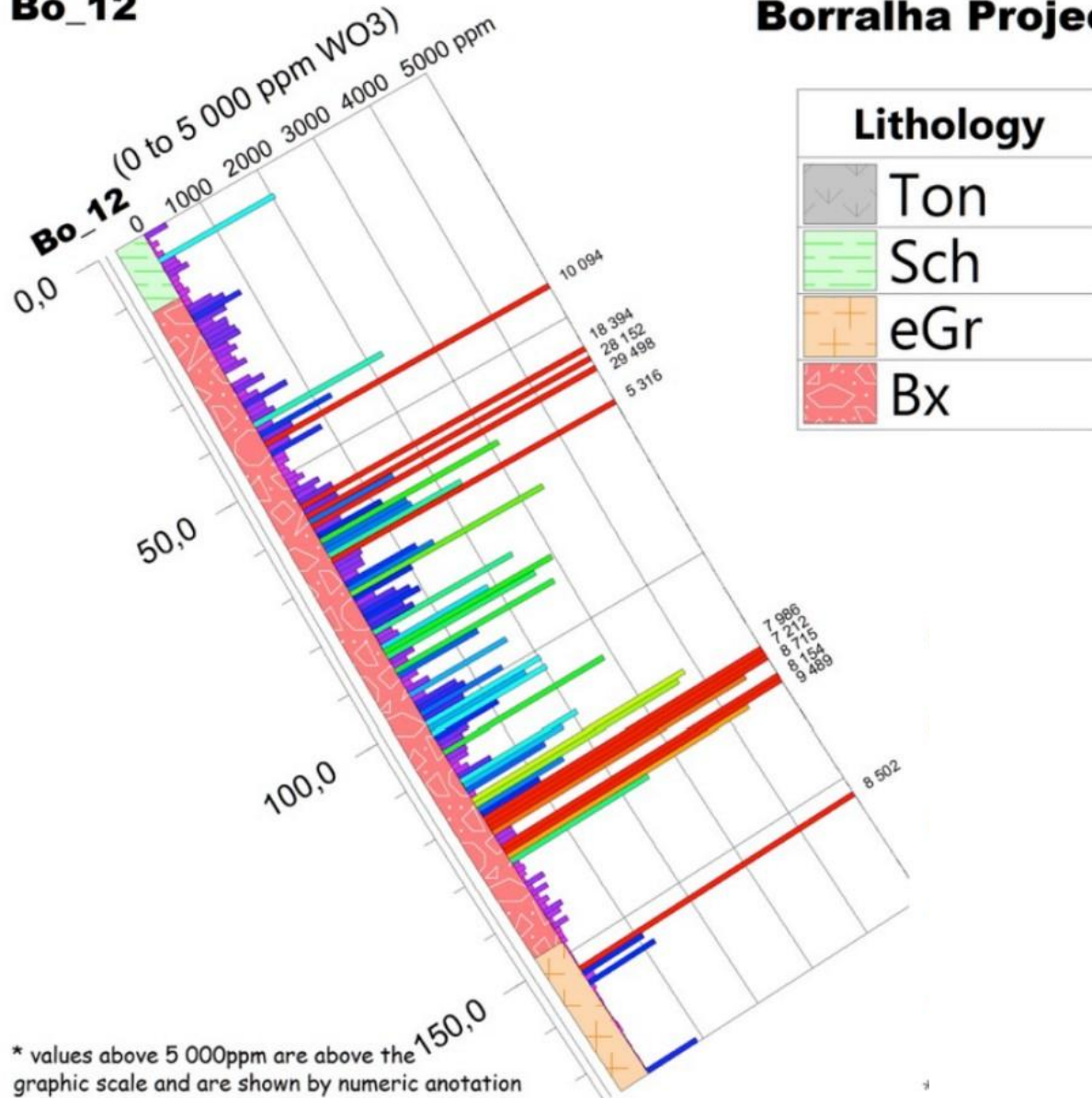


Figure 10-7: Simplified log of Drill Hole BO_12/17 with Tungsten Results (PanEx Resources, 2020).

10.3. Phase 4 – 2023-24 Diamond and Reverse Circulation Drilling Program

The fourth phase of drilling was conducted between mid-September 2023 and late January 2024 and focused on testing the southern portion of the Santa Helena Breccia. Qualified professional personnel employed by Minerália were contracted to supervise and manage the drilling program. The program comprised three P-size diamond drill holes, namely Bo_Met_01, Bo_Met_02, and Bo_Met_02a, totaling 490.4 m, together with eleven reverse circulation (“RC”) drill holes, Bo_RC_01 through Bo_RC_11, totaling 2,619.0 m. Drill hole Bo_Met_02 intersected undocumented historic underground workings and was abandoned; the hole was subsequently re-drilled nearby as Bo_Met_02a. Both diamond and RC drilling services, including personnel and equipment, were provided by Sondeos y Perforaciones Industriales del Bierzo S.A. (“SPI”), based in San Román de Bembibre, León, Spain. Pertinent diamond and RC drill hole information is summarized in Table 10-4. Drill hole collar locations and traces are shown on the plan view in Figure 10-8, and representative cross-sectional views are presented in Figure 10-9 and Figure 10-10. while Figure 10-11 shows examples of wolframite mineralization intersected during the core drilling carried out in this drilling phase.

Table 10-4: Summary of Pertinent 2023-24 Drill Hole Data (after Minerália, 2024).

Drill Hole Name	UTM (Zone 29T)		Elev (m)	Azimuth (deg)	Dip (deg)	Length (m)
	Easting (m)	Northing (m)				
Bo_Met_01	585520.90	4611356.90	878.00	179.74	79.42	253.20
Bo_Met_02	585457.90	4611314.80	859.79	110.00	53.00	72.90
Bo_Met_02a	585459.00	4611316.30	860.94	118.25	50.29	164.30
Bo_RC_01	585520.50	4611354.94	878.00	180.00	80.27	219.00
Bo_RC_02	585469.40	4611278.89	859.29	129.19	59.97	150.00
Bo_RC_03	585466.70	4611472.00	836.60	109.00	59.65	237.00
Bo_RC_04	585587.70	4611505.60	824.98	230.00	69.54	264.00
Bo_RC_05	585588.14	4611443.87	835.45	230.00	70.34	306.00
Bo_RC_06	585586.78	4611379.57	852.00	240.00	70.36	236.00
Bo_RC_07	585423.11	4611294.11	855.47	100.00	55.58	195.00
Bo_RC_08	585416.74	4611352.57	839.67	105.00	60.10	236.00
Bo_RC_09	585454.99	4611387.43	846.78	106.00	60.07	250.00
Bo_RC_10	585460.60	4611194.60	892.00	90.00	59.90	150.00
Bo_RC_11	585539.00	4611503.20	815.80	46.30	89.52	376.00

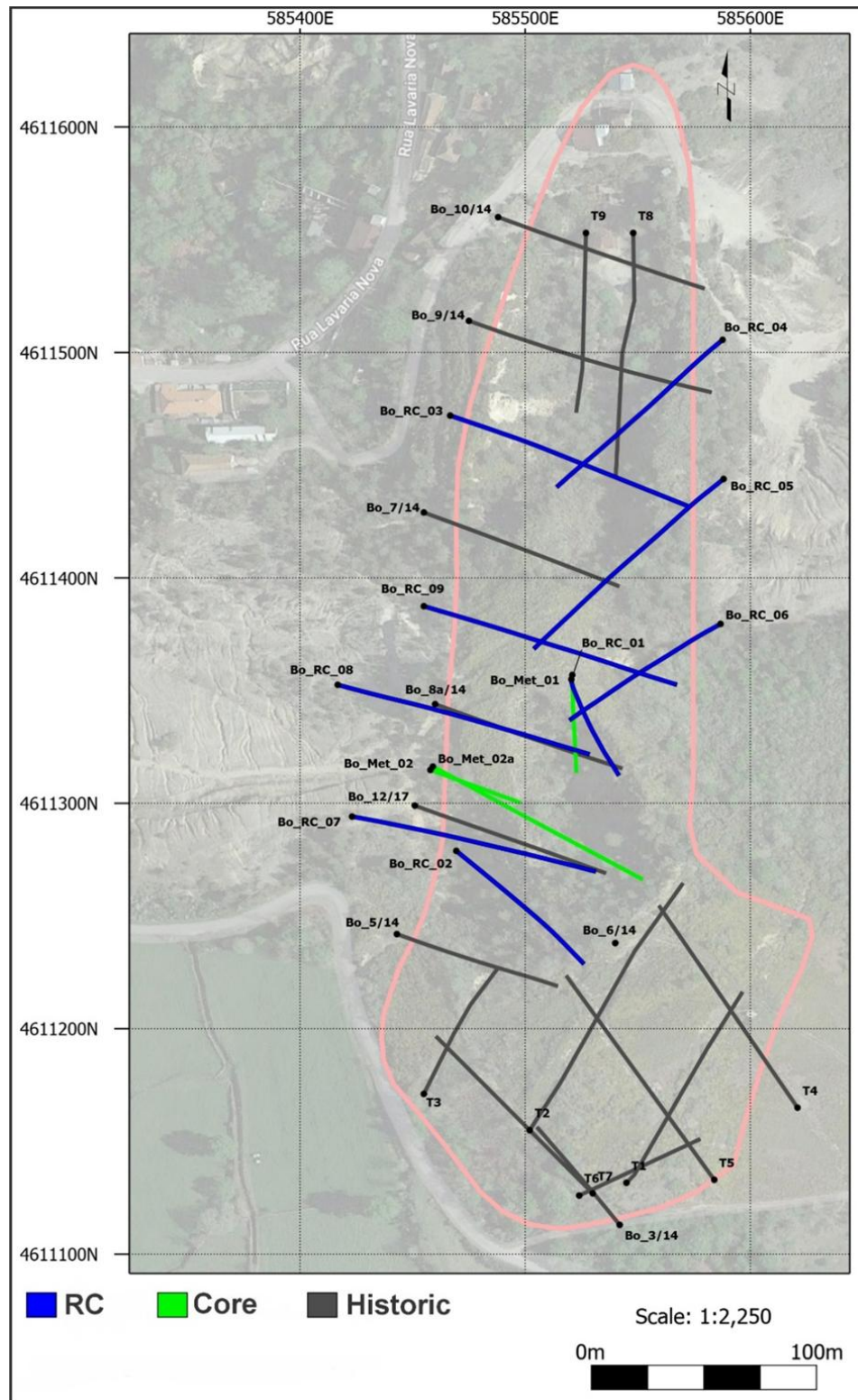


Figure 10-8: Drill Hole Plan for the Santa Helena Breccia Zone (after Minerália, 2024).

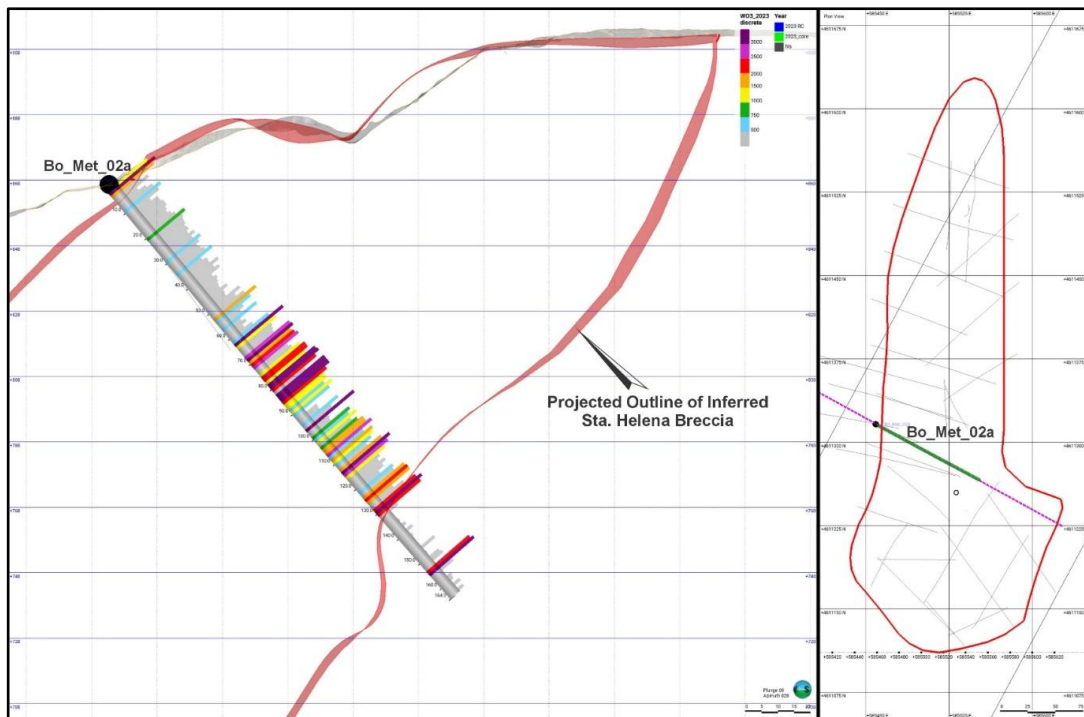


Figure 10-9: Vertical Cross-Section of Drill Hole Bo_Met_02a with WO3 Grade Distribution (after Minerália, 2024).

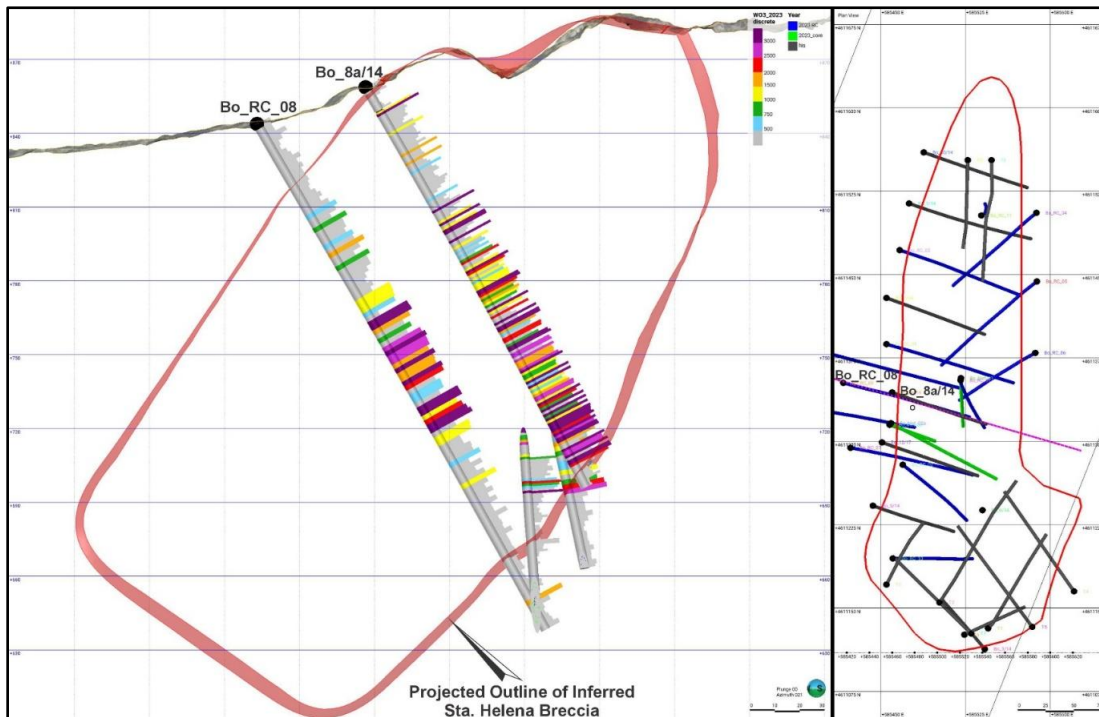


Figure 10-10: Vertical Cross-Section of Drill Hole Bo_RC_08 and B0-8a_14 with WO3 Grade Distribution (after Minerália, 2024).



DDH Bo-Met_01 - within drilling interval 94.2 to 94.3 m



DDH Bo-Met_01 - within drilling interval 165.3 to 165.4 m



DDH Bo-Met_01 - within drilling interval 172.3 to 172.4 m

Figure 10-11: Photographs of Wolframite in DDH Bo_Met_01 drill core.

10.4. Phase 5 – 2025 Reverse Circulation Drilling Program

The fifth phase of drilling was conducted between January and October 2025 and mostly focused on testing the central and northern portions of the Santa Helena Breccia.

Seventeen reverse circulation drill holes, namely Bo_RC_14 through Bo_RC_30, totalled 4,200 m. The drill holes Bo_RC_23 and Bo_RC_24 intersected undocumented historical underground working and needed to be cancelled. All these RC drilling services, including personnel and equipment, were provided by Sondeos y Perforaciones Industriales del Bierzo S.A. (“SPI”), based in San Román de Bemibre, León, Spain. The RC drill hole information is summarized in Table 10-5. Drill hole collar locations and traces are shown on the plan view in Figure 10-12, and representative cross-sectional views are presented in Figure 10-13 and Figure 10-14 while Figure 10-15 shows examples of wolframite mineralization intersected during the RC drilling carried out in this drilling phase. Table 10-6 summarizes the mineralized intervals intercepted during the 2025 drilling campaign.

Table 10-5: Summary of Pertinent 2025 Drill Hole Data (after Minerália, 2025).

Drill Hole Name	UTM (Zone 29T)		Elev (m)	Azimut h (deg)	Dip (deg)	Lengt h (m)
	Easting (m)	Northing (m)				
Bo_RC_14/25	585445	4611405	109	80	250	264.00
Bo_RC_15/25	585347	4611368	109	70	300	255.00
Bo_RC_16/25	585406	4611329	105	60	240	251.00
Bo_RC_17/25	585426	4611295	109	75	250	237.00
Bo_RC_18/25	585461	4611431	109	75	300	241.00
Bo_RC_19/25	585470	4611493	109	82	350	248.00
Bo_RC_20/25	585543	4611516	109	70	350	237.00
Bo_RC_21/25	585481	4611557	109	85	400	370.00
Bo_RC_22/25	585484	4611552	109	70	360	375.00
Bo_RC_23/25	585514	4611587	109	80	-	45.00
Bo_RC_24/25	585511	4611584	0	90	-	42.00
Bo_RC_25/25	585435	4611406	0	90	300	291.00
Bo_RC_26/25	585586	4611449	289	60	400	278.00
Bo_RC_27/25	585464	4611511	0	90	350	250.00
Bo_RC_28/25	585583	4611568	290	80	400	318.00
Bo_RC_29/25	585444	4611383	109	87	310	256.00
Bo_RC_30/25	585454	4611428	0	90	300	252.00

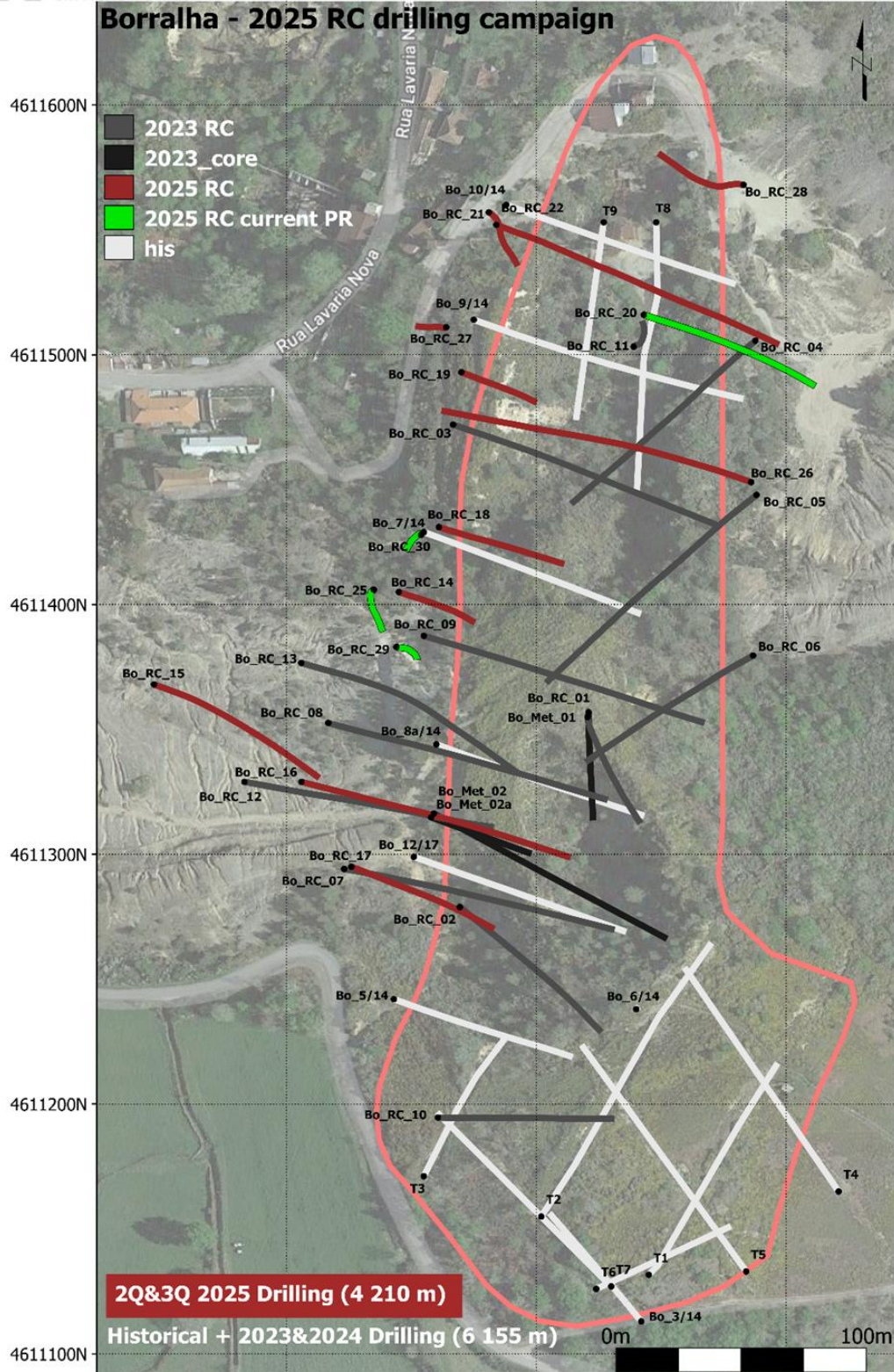
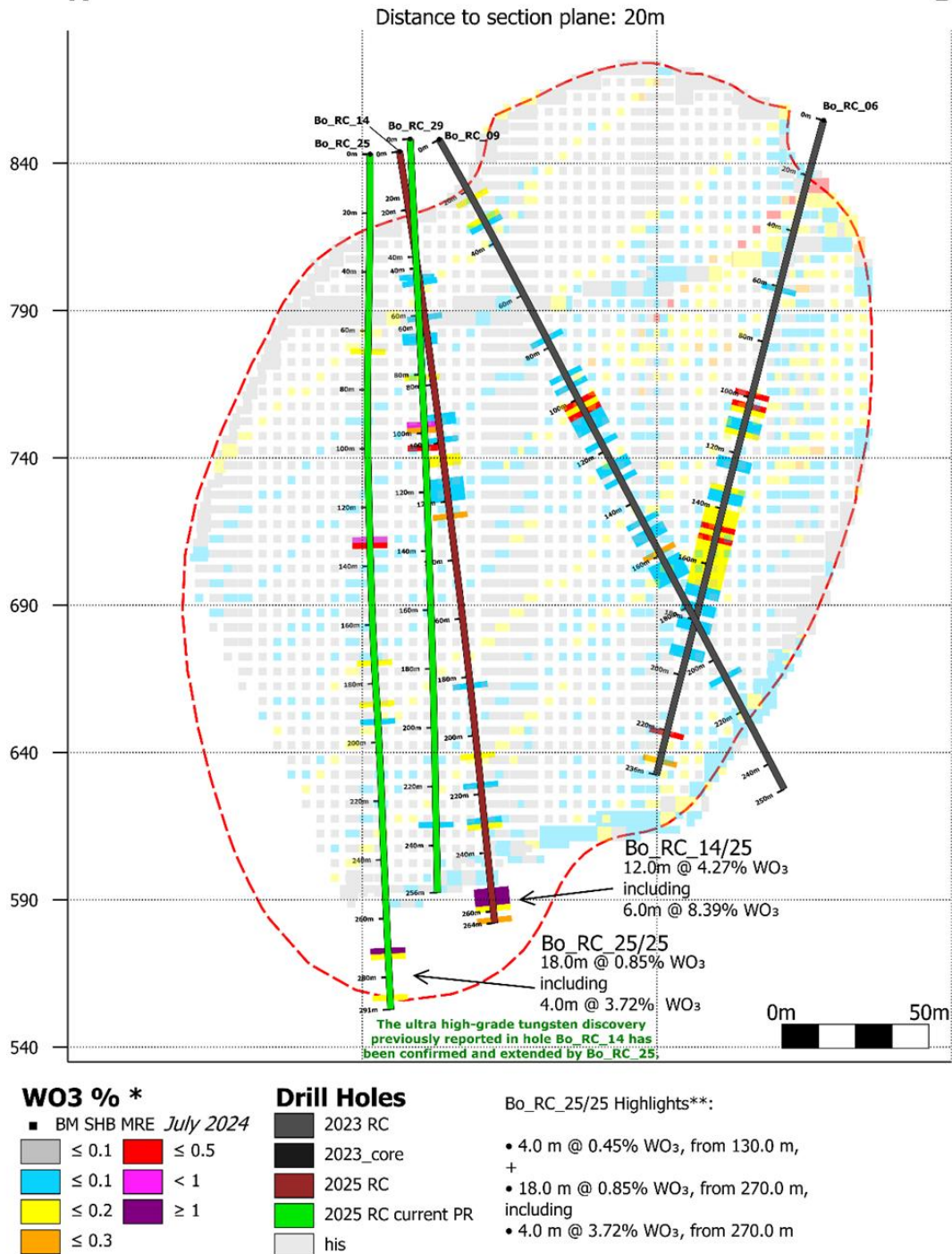


Figure 10-12: Drill Hole performed in the Santa Helena Breccia until the releasing of this report.



Borralha RC_25/25 CS

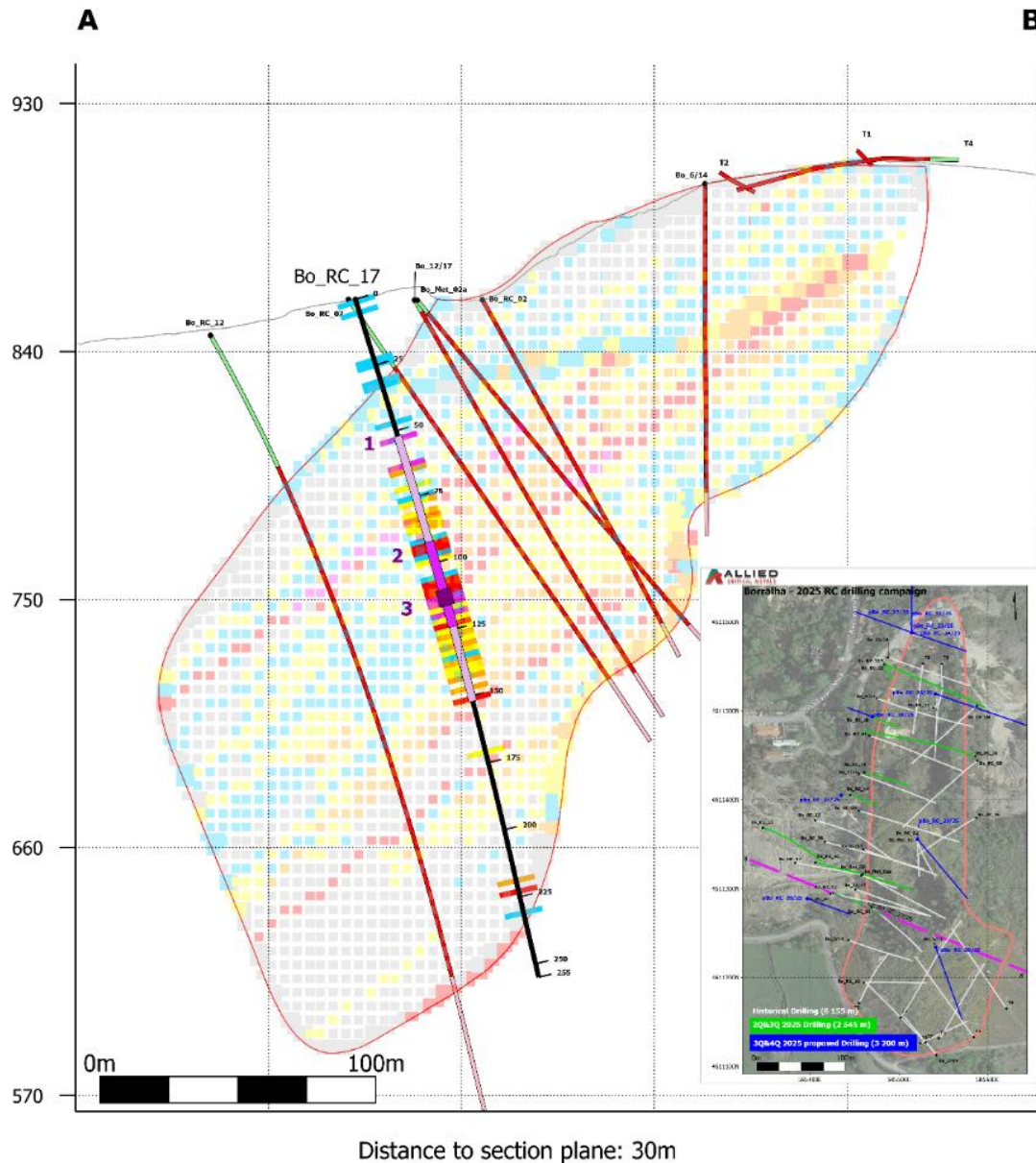


*Only >0.05% WO₃ drillhole assays displayed

**TW - True Width. Estimated true widths were calculated from hole orientation and the interpreted geometry of the mineralized corridors.

Figure 10-13: Vertical Cross-Section of Drill Hole Bo_RC_14 and Bo_RC_25 with WO₃ Grade Distribution (after ACM-Press Release 12/11/2025).

Borralha RC_17/25 CS



WO3 %

■ BM SHB MRE (5*10*5)				
■ ≤ 0.1	■ ≤ 0.2	■ ≤ 0.5	■ ≥ 1	
■ ≤ 0.1	■ ≤ 0.3	■ < 1		

*Only >0.05% WO3 Bo_RC_17/25 assays displayed

Bo_RC_17/25 Highlights:

- 1) 100.0 m / 89.9 m TW @ 0.21% WO₃, from 52.0 m, including
- 2) 32.0 m / 28.8 m TW @ 0.33% WO₃, from 92.0 m, including
- 3) 6.0 m / 5.4 m TW @ 0.74% WO₃, from 110.0 m

**TW - True Width. Estimated true widths were calculated from hole orientation and the interpreted geometry of the mineralized corridors.

Figure 10-14: Vertical Cross-Section of Drill Hole Bo_RC_17 with WO3 Grade Distribution (after ACM-Press Release 11/09/2025).



Figure 10-15: Examples of wolframitic mineralization obtained during the 2025 RC drilling campaign.

Table 10-6: Summary of intervals from 2025 Drill Hole Data (after Minerália, 2025).

DH ID	From (m)	To (m)	DH length (m) ^[1]	True Width factor ^[1]	True Width (m) ^[1]	WO ₃ (%)	DH (m) @ WO ₃ (%)
Bo_RC_14/25	52.0	64.0	12.0	<i>tbd</i> ^[2]	-	4.27	12.0m @ 4.27%
<i>inc.</i>	52.0	58.0	6.0	"	-	8.39	6.0m @ 8.39%
Bo_RC_15/25	164.0	166.0	2.0	0.88	1.8	0.97	2.0m @ 0.97%
Bo_RC_16/25	60.0	150.0	90.0	0.97	87.1	0.24	90.0m @ 0.24%
<i>inc.</i>	100.0	150.0	50.0	0.96	48.2	0.34	50.0m @ 0.34%
<i>inc.</i>	100.0	140.0	40.0	0.97	38.6	0.40	40.0m @ 0.40%
<i>inc.</i>	100.0	128.0	28.0	0.97	27.1	0.51	28.0m @ 0.51%
<i>inc.</i>	100.0	118.0	18.0	0.97	17.4	0.68	18.0m @ 0.68%
<i>inc.</i>	100.0	110.0	10.0	0.97	9.7	1.11	10.0m @ 1.11%
<i>inc.</i>	100.0	106.0	6.0	0.97	5.8	1.78	6.0m @ 1.78%
Bo_RC_17/25	52.0	152.0	100.0	0.90	89.9	0.21	100.0m @ 0.21%
<i>inc.</i>	92.0	124.0	32.0	0.90	28.8	0.33	32.0m @ 0.33%
<i>inc.</i>	106.0	120.0	14.0	0.90	12.6	0.52	14.0m @ 0.52%
<i>inc.</i>	110.0	116.0	6.0	0.90	5.4	0.74	6.0m @ 0.74%
Bo_RC_18/25	154.0	228.0	74.0	0.87	64.6	0.12	74.0m @ 0.12%
<i>inc.</i>	154.0	158.0	4.0	0.88	3.5	0.21	4.0m @ 0.21%
+	192.0	206.0	14.0	0.87	12.2	0.15	14.0m @ 0.15%
+	226.0	228.0	2.0	0.87	1.7	0.35	2.0m @ 0.35%
Bo_RC_19/25	124.0	128.0	4.0	0.84	3.4	0.19	4.0m @ 0.19%
Bo_RC_20/25	142.0	188.0	46.0	0.91	41.8	0.15	46.0m @ 0.15%
<i>inc.</i>	170.0	188.0	18.0	0.91	16.4	0.29	18.0m @ 0.29%
<i>inc.</i>	170.0	176.0	6.0	0.91	5.5	0.76	6.0m @ 0.76%
Bo_RC_21/25	256.0	298.0	42.0	<i>tbd</i> ^[2]	-	0.19	42.0m @ 0.18%
<i>inc.</i>	256.0	280.0	24.0	"	-	0.28	24.0m @ 0.28%
<i>inc.</i>	256.0	274.0	18.0	"	-	0.34	18.0m @ 0.34%
<i>inc.</i>	266.0	274.0	8.0	"	-	0.40	8.0m @ 0.40%
<i>inc.</i>	266.0	270.0	4.0	"	-	0.62	4.0m @ 0.62%

DH ID	From (m)	To (m)	DH length (m) [1]	True Width factor [1]	True Width (m) [1]	WO3 (%)	DH (m) @ WO3 (%)
Bo_RC_22/25	284.0	348.0	64.0	<i>tbd</i> ^[2]	-	0.12	64.0m @ 0.12%
<i>inc.</i>	316.0	332.0	16.0	"	-	0.21	16.0m @ 0.21%
Bo_RC_23/25	<i>Cancelled</i>						
Bo_RC_24/25	<i>Cancelled</i>						
Bo_RC_25/25	130.0	134.0	4.0	<i>tbd</i> ^[2]	-	0.45	4.0m @ 0.45%
+	270.0	288.0	18.0	"	-	0.85	18.0m @ 0.85%
<i>inc.</i>	270.0	274.0	4.0	"	-	3.72	4.0m @ 3.72%
<i>inc.</i>	270.0	272.0	2.0	"	-	7.34	2.0m @ 7.34%
Bo_RC_26/25	140.0	166.0	26.0	0.39	10.2	0.24	26.0m @ 0.24%
<i>inc.</i>	140.0	152.0	12.0	0.40	4.7	0.38	12.0m @ 0.38%
<i>inc.</i>	140.0	142.0	2.0	0.40	0.8	2.02	2.0m @ 2.02%
Bo_RC_27/25	204.0	250.0	46.0	0.72	33.1	0.22	46.0m @ 0.22%
<i>inc.</i>	228.0	250.0	22.0	0.72	15.8	0.35	22.0m @ 0.35%
<i>inc.</i>	228.0	234.0	6.0	0.72	4.3	1.02	6.0m @ 1.02%
Bo_RC_28/25	90.0	98.0	8.0	0.68	5.4	0.28	8.0m @ 0.28%
<i>inc.</i>	96.0	98.0	2.0	0.68	1.4	0.94	2.0m @ 0.94%
+	206.0	214.0	8.0	0.70	5.4	0.24	8.0m @ 0.24%
<i>inc.</i>	210.0	214.0	4.0	0.70	2.7	0.42	4.0m @ 0.42%
Bo_RC_29/25	96.0	106.0	10.0	0.79	7.9	0.27	10.0m @ 0.27%
<i>inc.</i>	96.0	100.0	4.0	0.79	3.2	0.45	4.0m @ 0.45%
Bo_RC_30/25	<i>No significant intercepts</i>						

Notes: [1] Reported intervals are downhole lengths. Estimated true widths were calculated from hole orientation and the interpreted geometry of the mineralized corridors. Estimates may vary locally where geometry changes. Where intervals fall outside the resource block-model domains, true widths are not estimated and only downhole lengths are reported. [2] True widths are unknown, to be defined after further MRE update.

As of this effective date, the Company has completed a total of 9,236 m of combined drilling within the SHB, comprising infill of historical drill holes and step-out drilling toward the distinct extents of this breccia deposit.

10.5. Phase 6 – 2026 core drilling campaign

Allied Critical Metals initiated its sixth drilling campaign at the Borralha Project in February 2026. The program comprises approximately 20,000 metres of core drilling and is designed to:

- infill the Sta. Helena Breccia to support resource conversion;
- collect geotechnical and metallurgical data to support mine design and development;
- test step-out targets along open mineralization vectors at Sta. Helena; and
- support the delineation of a maiden Mineral Resource Estimate at the Venise Breccia.

As of April 2026, drilling is ongoing. Analytical results are pending and have not been incorporated into the Mineral Resource Estimate or the economic analysis presented in this report.

11. Sample Preparation, Analyses and Security

11.1. Introduction

All trench and drill core samples collected between 2011 and 2017 were collected, prepared, and securely shipped for analysis by qualified Minerália personnel. Drill core reject samples from the 2014 and 2017 drilling programs, which were collected by the author during several site examinations, together with drill core samples from the 2023–2024 drilling program, and duplicate samples obtained from the 2025 RC drilling rejects were properly described, labelled, and securely shipped to the same ISO-accredited ALS Global laboratory in Seville, Spain, for analysis.

11.2. Sample Preparation

11.2.1. Historic Sample Preparation

The following section discusses sample preparation and handling during the 2011-2017 exploration programs.

Channel samples are typically collected over 5.0-metre intervals. Each sample is placed in a new plastic bag together with its corresponding sample tag. Samples are catalogued and sealed in secure pails for shipment. Sample shipment forms are completed on site, with one copy inserted into a shipment container and a second copy retained for reference. Samples are securely transported on a regular basis to the assay laboratory by Minerália personnel. Drill core was collected directly from the drill rig by Minerália personnel under the supervision of the Minerália project manager. Drill core boxes are labelled by the drillers using permanent markers, with drill hole depths recorded on wooden blocks placed within the core boxes. Depth markers are clearly inserted at the end of each drill run. Where possible, digital photographs of mineralized intervals and host rock are taken in the field. The drill core is then transported to the core logging and storage facility located on private property where Minerália maintains its field offices. Core boxes are stored in a secure, access-restricted area during processing. Drill core is geotechnically logged and digitally photographed. Geological descriptions are initially recorded on paper logs and subsequently transcribed into a digital spreadsheet database by Minerália personnel. Drill core samples were typically collected at nominal 1.0 m intervals, with sample boundaries adjusted to respect lithological contacts. Sample tags are placed in the core boxes at the start of each sample interval. Certified high- and low-grade tungsten standards and blank samples are inserted at a frequency of approximately one control sample per 15 routine samples. Geological logging records lithology, structure, alteration, mineralization, and oxidation using standardized descriptive fields. Each stage of drill core handling and processing is overseen and inspected by the designated Minerália representative to ensure sample integrity and security. Rock and drill core samples are securely bagged and either delivered directly or shipped under secure conditions to the designated assay laboratory.

11.2.2. Sample Preparation Verification

Bedrock exposure within the Santa Helena Breccia intrusion is limited. Most of the intrusive body is concealed beneath displaced till and/or waste material derived from numerous historic test pits. The only exposed bedrock occurs high on the walls of the old open pits at the northern end of the intrusion and is not safely accessible. At the time of the author's site examination, no rock saw or core-splitting equipment was available to quarter drill core stored on site. Consequently, the author selected ten drill core reject samples, originally collected by Minerália from three drill holes at various depths, for independent verification. The same certified reference material used during the 2017 analytical program was also included as part of the verification sampling. To test the sample preparation of the RC drilling the authors selected four samples to run a series of duplicates. These duplicates were obtained by splitting duplicate samples from the RC drilling.

11.2.3. Historic Sample Re-Analysis Preparation

It was recommended by the author that all available pulp samples from the nine drill holes completed during the 2013 to 2017 drilling campaigns be re-analyzed for tungsten and a full multi-element suite using ICP analytical methods. The original pulps and reject pulps from this drilling had been stored in secure, dry facilities at the former smelter site within the Borralha mine. Minerália personnel found a portion of the stored pulps were in poor condition, including damaged sample bags and missing or unclear identification. These samples were then replaced with equivalent rejected material that was confirmed to be in suitable condition. All samples were re-labelled prior to shipping using a new numerical sequence, and a set of five certified reference materials was inserted in varying order at a frequency of one control sample per 20 routine samples to monitor analytical quality. These samples were then packaged on pallets and shipped by direct courier to the ISO-accredited sample preparation facilities of ALS Global Laboratory in Seville, Spain with completed sample shipment forms placed within each pallet. There the samples were weighed, logged, and tracked within the ALS laboratory management system. Substitute reject samples were crushed and pulverized, and together with the pulp samples, were forwarded to ALS Global's certified assay laboratory in Galway, Ireland, for chemical analysis.

11.2.4. 2023-24 Drill Core and Cuttings and Sample Preparation

11.2.4.1. 2023 Diamond Drill Core

Two P-size diamond drill holes were completed during the 2023-2024 drilling campaign. Drill core contained in core boxes was transported by truck from the drill sites to the Borralha core shed on the Property by a designated Minerália employee. Each core box was secured with straps, and metal covers to protect the contents during transport. At the core shed, the core boxes were inspected to confirm that depth markers were present and intact then the core was photographed, measured for recovery and rock quality designation (“RQD”), geologically logged and marked for sampling. Drill core sampling was carried out by longitudinally cutting the core into two symmetrical halves. Core cutting was performed using fresh water and was overseen by the Minerália core shed supervisor. The saw was cleaned using pressurized water after each 1 m of core cutting. Samples were collected at nominal 1.0-metre intervals with sample boundaries adjusted to respect logged lithological contacts. Each sample was placed into a labelled sample bag and securely sealed. The position of each sample interval was marked on the remaining half-core within the core box using a corresponding identification tag to maintain reference and traceability. Sample reference sheets summarizing all samples collected from each drill hole were completed during the core-cutting process. These sheets were used to document the insertion of quality control (“QC”) samples into the sample stream and to prepare laboratory requisition and shipment forms.

11.2.4.2. 2023 Reverse Circulation Cuttings

During the 2023-2024 campaign a total of eleven reverse circulation drill holes were completed. All sample bags were pre-labelled prior to drilling and assigned unique internal sequence numbers that served as sample identifiers for both analytical and reject samples. For each analytical sample, a quarter of the material recovered over a 2.0-metre drilling interval was collected while each reject sample comprised a quarter of the material recovered over a 1.0-metre interval. Thus, two reject samples are equivalent to one analytical sample. Analytical samples were collected directly from the rig-mounted splitter in accordance with a predefined sampling list that records the sampled intervals and sampling sequence for each drill hole. This list also identifies intervals selected for duplicate sampling and the positions of certified reference materials (“CRMs”) within the sample sequence. CRMs were inserted at a frequency of approximately one per 20 samples (5%), and field duplicate samples were collected at the same frequency (5%), with CRMs and duplicates alternated with every tenth sample.

A representative sub-sample of the rejected material was collected using a scoop, rinsed, and examined under a binocular microscope or hand lens to log lithology and mineralization. Representative chips from each 1.0-metre interval were retained and stored in 32-compartment chip trays. Each compartment was sequentially numbered internally, and the drill hole identifier and depth interval were recorded on the exterior of each tray.

Analytical and reject samples were transported in sealed boxes from the drill site to the core shed by a designated Minerália employee. Analytical samples were stored on clearly labelled pallets for subsequent direct shipment to the ALS Global sample preparation laboratory in Seville, Spain. Pulp and reject samples were subsequently stored in a secure logging room on the Property.

11.2.5. 2025 Reverse Circulation Cuttings and Sample Preparation

The procedure during the 2025 RC drilling campaign was similar to the 2023-2024 campaign although a few changes were made with the goal of storing a higher quantity of samples from each drilling hole. Thus, improving the overall QA/QC recovered weight control. In the previous campaign a part of the rejects were discharged to properly certified dumps, but during the 2025 campaign rejects were weighted and stored in a secure logging room on the Property.

11.3. Sample Analyses and Assays

11.3.1. Historic Sample Analyses and Assays

Sampling and assay procedures employed during historical production at the Borralha mines are not documented. Rock, drill core, and channel samples collected by Minerália personnel between 2011 and 2017 were securely delivered to the ISO-accredited ALS Global sample preparation facilities in Seville, Spain. At these facilities, samples were prepared by crushing to achieve approximately 70% passing a 2 mm screen, splitting to a 250 g sub-sample, and pulverizing under hardened steel to achieve approximately 85% passing a 75 µm screen. Prepared pulps were then forwarded by ALS Seville to their certified assay laboratory located on Dublin Road, Loughrea, County Galway, Ireland, for X-ray fluorescence (“XRF”) analysis. Remaining pulps and coarse rejects were returned to Minerália for secure storage. Minerália analyzed all drill core, rock, and channel samples for tungsten using the W-XRF05 analytical method (X-ray fluorescence spectroscopy), which reports tungsten concentrations in the range of 10 to 5,000 ppm W. Samples returning tungsten values greater than 5,000 ppm W were re-analyzed using the W-XRF10 method, which provides results in the range of 0.01% to 50% W. ALS Global Laboratories in Seville maintained internal quality assurance and quality control (“QA/QC”) procedures, including routine pulp duplicate analyses. In addition, Minerália implemented its own internal QA/QC program through the systematic insertion of certified reference materials, blank samples, and drill core duplicates into analytical batches. All standards and blanks were sourced from Geostats Pty Ltd., an Australian-certified reference material provider. ALS Global Laboratories are independent of Minerália and other parties associated with the Borralha Project and routinely participate in the PTP-MAL (Proficiency Testing Program for Mineral Analysis Laboratories).

Analytical and assay results were delivered directly to Minerália by email, followed by signed assay certificates sent by courier. QA/QC results were reviewed on an ongoing basis. Certified reference materials reporting values outside three standard deviations of their expected values were considered failures, triggering re-assaying of the entire batch. Blank samples returning values exceeding three times the analytical detection limit were also deemed failures and resulted in batch re-analysis.

11.3.2. Verification Sample Analyses and Assays

The QP and peer reviewer ten drill core reject samples together with the RC duplicate samples and one certified standard sample, were properly bagged and securely delivered directly to the ALS Global laboratory in Seville, Spain. At this facility, the reject samples were re-homogenized, and a representative pulp split was prepared from each sample for analysis. The resulting eleven sample pulps, including the standard pulp, were then shipped directly to the ALS Global certified assay laboratory in Galway, Ireland, for multi-element analysis.

Two analytical procedures were applied to the sample pulps. The first procedure (ALS code ME-4ACD81) analyzed base metals using a 4-acid digestion and provided results for: Ag, As, Cd Co, Cu, Li, Mo, Ni, Pb, Sc, Ti and Zn. The second procedure (ME-MS81) utilized lithium borate fusion followed by mass spectrometry to analyze: Ba, Ce, Cr, Cs, Dy, Er, Ga, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Rb, Sc, Sm, Sn, Sr, Ta, Tb, Th, Ti, Tm, U, V, W, Y, Yb and Zr. The QP peer reviewer considers that these analytical methods are appropriate for the mineralization style present at the Borralha Property and are consistent with accepted industry standards for data verification and multi-element geochemical characterization.

The QP peer reviewer received the Certificate of Analysis and QC Certificate for the verification samples, a copy of each of these certificates accompanies this report as Figure 11-1 shown below.



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CERTIFICATE SV23095059

Project: P23-05

P.O. No.: SV23-0417

This report is for 11 samples of Crushed Rock submitted to our lab in Seville, Spain on 5-APR-2023.

The following have access to data associated with this certificate:

VITOR AREZES

JOAO BARROS

J. DOUGLAS BLANCHFLOWER

To: MINOREX CONSULTING
25856 28TH AVENUE
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CANADA

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SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-24	Pulp Login – Rcd w/o Barcode
PUL-QC	Pulverizing QC Test
LOG-22	Sample login – Rcd w/o BarCode
SPL-22	Split sample – rotary splitter
PUL-31	Pulverize up to 250g 85% <75 um
HOM-01m	Homogenize sample – mechanical

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS81	Lithium Borate Fusion ICP-MS	ICP-MS
ME-4ACD81	Base Metals by 4-acid diq.	ICP-AES

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

Signature:



Andrey Tairov, Technical Manager, Ireland



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Project: P23-05

CERTIFICATE OF ANALYSIS SV23095059

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS81 Ba ppm 0.5	ME-MS81 Ce ppm 0.1	ME-MS81 Cr ppm 5	ME-MS81 Cs ppm 0.01	ME-MS81 Dy ppm 0.05	ME-MS81 Er ppm 0.03	ME-MS81 Eu ppm 0.02	ME-MS81 Ga ppm 0.1	ME-MS81 Gd ppm 0.05	ME-MS81 Hf ppm 0.05	ME-MS81 Ho ppm 0.01	ME-MS81 La ppm 0.1	ME-MS81 Lu ppm 0.01	ME-MS81 Nb ppm 0.05
805 65		2.84	373	80.3	49	34.9	2.33	1.10	0.71	39.0	2.99	3.65	0.44	42.3	0.16	23.3
805 66		2.74	333	54.6	131	32.9	1.92	0.87	0.58	36.5	2.71	3.09	0.31	28.1	0.15	24.1
805 114		3.10	219	87.5	36	41.9	2.18	0.83	0.47	43.0	2.91	2.20	0.35	48.1	0.12	30.0
805 115		3.82	230	20.4	9	38.4	1.88	0.79	0.18	49.3	2.32	1.86	0.31	9.7	0.07	23.8
808A 89		3.06	463	79.6	69	24.8	3.53	2.09	0.92	27.6	4.50	7.29	0.72	39.7	0.33	18.70
808A 95		2.12	316	64.8	39	30.5	3.53	2.04	0.65	32.8	3.76	4.42	0.70	32.5	0.28	29.8
808A 158		1.02	220	32.3	16	32.4	1.71	0.91	0.41	40.6	2.02	2.35	0.30	15.6	0.10	25.9
809 109		1.82	333	54.6	49	26.9	2.94	1.66	0.68	21.3	3.34	3.91	0.56	26.1	0.24	13.30
809 111		2.58	285	55.7	72	21.3	3.05	1.72	0.72	17.9	3.72	6.74	0.58	26.9	0.25	12.85
809 167		2.02	217	27.5	47	18.50	1.54	0.86	0.36	22.0	1.68	2.63	0.27	13.8	0.12	15.25
801 Standard		0.02	36.5	6.1	2480	328	1.40	0.85	0.22	7.7	1.30	0.47	0.25	2.6	0.15	3.48

***** See Appendix Page for comments regarding this certificate *****



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Project: P23-05

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CERTIFICATE OF ANALYSIS SV23095059

Sample Description	Method Analyte Units LOD	ME-MS81 Nd ppm 0.1	ME-MS81 Pr ppm 0.02	ME-MS81 Rb ppm 0.2	ME-MS81 Sc ppm 0.5	ME-MS81 Sm ppm 0.03	ME-MS81 Sn ppm 0.5	ME-MS81 Sr ppm 0.1	ME-MS81 Ta ppm 0.1	ME-MS81 Tb ppm 0.01	ME-MS81 Th ppm 0.05	ME-MS81 Ti % 0.01	ME-MS81 Tm ppm 0.01	ME-MS81 U ppm 0.05	ME-MS81 V ppm 5	ME-MS81 W ppm 0.5
BO5 65		31.3	9.21	366	8.1	4.71	131.0	35.5	4.3	0.38	13.10	0.26	0.17	6.73	48	3600
BO5 66		22.7	6.28	360	9.6	3.66	115.5	35.9	3.4	0.33	10.10	0.21	0.17	9.00	42	4830
BO5 114		31.4	9.54	436	6.0	3.82	208	23.9	6.1	0.37	10.50	0.18	0.13	15.85	23	4570
BO5 115		8.4	2.37	477	4.6	2.11	191.0	14.0	4.8	0.34	4.50	0.09	0.10	16.75	21	2470
BO8A 89		32.2	9.26	258	10.3	5.44	103.0	29.2	2.6	0.60	14.35	0.33	0.29	6.66	54	969
BO8A 95		25.9	7.31	362	6.7	4.09	137.0	20.4	4.3	0.56	12.65	0.20	0.29	12.35	31	5630
BO8A 158		13.0	3.79	466	5.5	2.10	140.0	14.2	3.8	0.28	6.37	0.11	0.13	12.70	22	4610
BO9 109		22.6	6.08	283	8.0	4.13	65.3	34.6	2.0	0.49	9.05	0.23	0.22	4.51	39	437
BO9 111		23.1	6.35	246	6.8	4.14	57.9	41.2	2.3	0.54	10.65	0.22	0.36	6.05	32	514
BO9 167		11.4	2.92	279	6.2	2.14	68.7	36.0	6.4	0.24	6.33	0.10	0.12	11.60	19	823
BO1 Standard		3.4	0.83	513	33.1	1.08	16.8	23.8	1.2	0.19	0.60	0.14	0.14	0.37	139	1555

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CERTIFICATE OF ANALYSIS SV23095059

CERTIFICATE COMMENTS

ACCREDITATION COMMENTS

Applies to Method:

The methods immediately below this line are ISO 17025:2017 Accredited. INAB Registration No: 173T
ME-MS81



LABORATORY ADDRESSES

Applies to Method:

Processed at ALS Seville located at Poligono Parque Plata, Calle Camino Mozarabe naves 13 y 15, Camas (Sevilla), Spain.
HOM-01m LOG-22 LOG-24 PUL-31
PUL-QC SPL-22 WEI-21

Applies to Method:

Processed at ALS Loughrea located at Dublin Road, Loughrea, Co. Galway, Ireland.
ME-4ACD81 ME-MS81



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QC CERTIFICATE OF ANALYSIS SV23095059

Sample Description	Method Analyte Units LOD	ME-MS81 Ba ppm 0.5	ME-MS81 Ce ppm 0.1	ME-MS81 Cr ppm 5	ME-MS81 Cs ppm 0.01	ME-MS81 Dy ppm 0.05	ME-MS81 Er ppm 0.03	ME-MS81 Eu ppm 0.02	ME-MS81 Ga ppm 0.1	ME-MS81 Cd ppm 0.05	ME-MS81 Hf ppm 0.05	ME-MS81 Ho ppm 0.01	ME-MS81 La ppm 0.1	ME-MS81 Lu ppm 0.01	ME-MS81 Nb ppm 0.05	ME-MS81 Nd ppm 0.1
STANDARDS																
AMIS0343																
Target Range – Lower Bound																
Upper Bound																
OREAS 102a		343	580	30	3.16	17.00	11.05	3.62	19.9	19.20	9.81	3.56	323	1.62	33.7	180.0
Target Range – Lower Bound		300	528	19	2.78	16.25	9.96	3.48	19.8	18.75	8.32	3.19	291	1.52	29.3	162.0
Upper Bound		368	646	42	3.42	19.95	12.25	4.30	24.5	23.0	10.30	3.93	355	1.88	35.9	198.0
OREAS 602b																
Target Range – Lower Bound																
Upper Bound																
REE-1		101.5	4000	282	1.03	856	719	23.4	49.0	446	484	208	1720	94.4	>2500	1485
Target Range – Lower Bound		89.6	3560	244	0.95	762	631	21.1	49.8	390	431	187.0	1495	83.2	3640	1310
Upper Bound		110.5	4360	310	1.19	932	771	25.9	61.0	476	527	229	1825	101.5	>2500	1600
BLANKS																
BLANK																
Target Range – Lower Bound																
Upper Bound																
BLANK		0.8	<0.1	<5	<0.01	<0.05	<0.03	<0.02	<0.1	0.05	<0.05	0.01	<0.1	<0.01	<0.05	<0.1
Target Range – Lower Bound		<0.5	<0.1	<5	<0.01	<0.05	<0.03	<0.02	<0.1	<0.05	<0.05	<0.01	<0.1	<0.01	<0.05	<0.1
Upper Bound		1.0	0.2	10	0.02	0.10	0.06	0.04	0.2	0.10	0.10	0.02	0.2	0.02	0.10	0.2
DUPLICATES																
BO9 109																
DUP																
Target Range – Lower Bound																
Upper Bound																
BO9 167		217	27.5	47	18.50	1.54	0.86	0.36	22.0	1.68	2.63	0.27	13.8	0.12	15.25	11.4
DUP		230	27.4	48	18.25	1.54	0.87	0.43	22.2	1.79	2.87	0.26	13.6	0.14	15.60	11.2
Target Range – Lower Bound		212	26.0	40	17.45	1.41	0.79	0.36	20.9	1.60	2.56	0.24	12.9	0.11	14.60	10.6
Upper Bound		235	28.9	55	19.30	1.67	0.94	0.43	23.3	1.87	2.94	0.29	14.5	0.15	16.25	12.0

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Project: P23-05

QC CERTIFICATE OF ANALYSIS SV23095059

Sample Description	Method Analyte Units LOD	ME-MS81 Pr ppm 0.02	ME-MS81 Rb ppm 0.2	ME-MS81 Sc ppm 0.5	ME-MS81 Sm ppm 0.03	ME-MS81 Sn ppm 0.5	ME-MS81 Sr ppm 0.1	ME-MS81 Ta ppm 0.1	ME-MS81 Tb ppm 0.01	ME-MS81 Tl ppm 0.05	ME-MS81 Tl % 0.01	ME-MS81 Tm ppm 0.01	ME-MS81 U ppm 0.05	ME-MS81 V ppm 5	ME-MS81 W ppm 0.5	ME-MS81 Y ppm 0.1
STANDARDS																
AMIS0343																
Target Range – Lower Bound																
Upper Bound																
OREAS 102a		57.9	261	8.1	24.2	7.3	40.8	2.5	2.84	37.0	0.17	1.55	647	35	12.1	102.0
Target Range – Lower Bound		52.2	231		22.2	5.7	37.0	2.0	2.74	35.6	0.14	1.47	596	23	7.3	94.4
Upper Bound		63.8	282		27.2	8.4	45.4	2.6	3.37	43.6	0.20	1.81	728	47	10.2	115.5
OREAS 602b																
Target Range – Lower Bound																
Upper Bound																
REE-1		457	1035	<0.5	381	522	137.5	226	106.5	749	0.39	106.0	140.0	8	8.6	5920
Target Range – Lower Bound		391	942		343	448	116.0	208	95.6	666	0.34	95.4	123.5	<5	8.5	4930
Upper Bound		479	1150		419	548	142.0	254	117.0	814	0.43	116.5	151.0	20	11.5	6030
BLANKS																
BLANK																
Target Range – Lower Bound																
Upper Bound																
BLANK		0.02	<0.2	<0.5	0.06	<0.5	0.1	<0.1	<0.01	<0.05	<0.01	0.02	<0.05	<5	0.6	<0.1
Target Range – Lower Bound		<0.02	<0.2		<0.03	<0.5	<0.1	<0.1	<0.01	<0.05	<0.01	<0.01	<0.05	<5	<0.5	<0.1
Upper Bound		0.04	0.4		0.06	1.0	0.2	0.2	0.02	0.10	0.02	0.02	0.10	10	1.0	0.2
DUPLICATES																
809 109																
DUP																
Target Range – Lower Bound																
Upper Bound																
809 167		2.92	279	6.2	2.14	68.7	36.0	6.4	0.24	6.33	0.10	0.12	11.60	19	823	7.8
DUP		3.27	276	5.1	2.03	72.2	36.1	6.6	0.24	6.45	0.10	0.12	12.40	19	809	8.7
Target Range – Lower Bound		2.92	263	4.9	1.95	66.4	34.1	6.1	0.22	6.02	0.09	0.10	11.35	13	775	7.7
Upper Bound		3.27	292	6.4	2.22	74.5	38.0	6.9	0.26	6.76	0.12	0.14	12.65	25	857	8.8

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QC CERTIFICATE OF ANALYSIS SV23095059

Sample Description	Method Analyte Units LOD	ME-MS81 Yb ppm 0.03	ME-MS81 Zr ppm 1	ME-4ACD81 Ag ppm 0.5	ME-4ACD81 As ppm 5	ME-4ACD81 Cd ppm 0.5	ME-4ACD81 Co ppm 1	ME-4ACD81 Cu ppm 1	ME-4ACD81 Li ppm 10	ME-4ACD81 Mo ppm 1	ME-4ACD81 Ni ppm 1	ME-4ACD81 Pb ppm 2	ME-4ACD81 Sc ppm 1	ME-4ACD81 Ti ppm 10	ME-4ACD81 Zn ppm 2
STANDARDS															
AMIS0343				<0.5	18	<0.5	3	52	7010	3	13	6	<1	30	80
Target Range – Lower Bound				<0.5	<5	<0.5	<1	47	6300	<1	11	<2	<1	<10	70
Upper Bound				1.1	24	1.0	5	56	7730	6	17	10	2	50	90
OREAS 102a		10.45	367												
Target Range – Lower Bound		9.78	311												
Upper Bound		12.00	383												
OREAS 602b				>100	873	4.9	5	4930	20	7	15	495	3	<10	761
Target Range – Lower Bound				106.5	782	3.6	3	4610	<10	5	11	442	<1	<10	686
Upper Bound				100.0	966	6.1	7	5310	40	10	17	544	6	20	842
REE-1		678	>10000												
Target Range – Lower Bound		610	17200												
Upper Bound		746	>10000												
BLANKS															
BLANK				<0.5	<5	<0.5	<1	1	<10	<1	<1	<2	<1	<10	3
Target Range – Lower Bound				<0.5	<5	<0.5	<1	<1		<1	<1	<2			<2
Upper Bound				1.0	10	1.0	2	2		2	2	4			4
BLANK		<0.03	<1												
Target Range – Lower Bound		<0.03	<1												
Upper Bound		0.06	2												
DUPLICATES															
B09 109				1.2	5	2.1	10	404	140	4	18	12	6	<10	179
DUP				1.3	5	2.2	10	384	130	4	19	10	6	<10	170
Target Range – Lower Bound				0.7	<5	1.5	9	379	120	3	17	8	5	<10	164
Upper Bound				1.8	10	2.8	12	409	150	5	20	14	7	20	185
B09 167		0.83	93												
DUP		0.88	100												
Target Range – Lower Bound		0.78	91												
Upper Bound		0.93	102												

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Project: P23-05

QC CERTIFICATE OF ANALYSIS SV23095059

Sample Description	Method Analyte Units LOD	ME-MS81 Ba ppm 0.5	ME-MS81 Ce ppm 0.1	ME-MS81 Cr ppm 5	ME-MS81 Cs ppm 0.01	ME-MS81 Dy ppm 0.05	ME-MS81 Er ppm 0.03	ME-MS81 Eu ppm 0.02	ME-MS81 Ga ppm 0.1	ME-MS81 Gd ppm 0.05	ME-MS81 Hf ppm 0.05	ME-MS81 Ho ppm 0.01	ME-MS81 La ppm 0.1	ME-MS81 Lu ppm 0.01	ME-MS81 Nb ppm 0.05	ME-MS81 Nd ppm 0.1
DUPLICATES																
JP_01_159		85.9	12.0	85	43.8	1.47	0.61	0.16	22.8	1.28	1.44	0.23	5.5	0.10	17.10	5.3
DUP		90.9	11.2	89	42.8	1.25	0.68	0.18	23.6	1.38	1.27	0.23	5.5	0.09	16.90	5.1
Target Range – Lower Bound		83.5	10.9	78	41.1	1.24	0.58	0.14	21.9	1.21	1.24	0.21	5.1	0.08	16.10	4.8
Upper Bound		93.3	12.3	96	45.5	1.48	0.71	0.20	24.5	1.45	1.47	0.25	5.9	0.11	17.90	5.6

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Finalized Date: 18-APR-2023
Account: MINOREX

An INAB accredited testing laboratory Reg. No. 1737T. Accredited methods are listed in the Scope of Accreditation available on request.

Project: P23-05

QC CERTIFICATE OF ANALYSIS SV23095059

Sample Description	Method Analyte Units LOD	ME-MS81 Pr ppm 0.02	ME-MS81 Rb ppm 0.2	ME-MS81 Sc ppm 0.5	ME-MS81 Sm ppm 0.03	ME-MS81 Sn ppm 0.5	ME-MS81 Sr ppm 0.1	ME-MS81 Ta ppm 0.1	ME-MS81 Tb ppm 0.01	ME-MS81 Th ppm 0.05	ME-MS81 Ti % 0.01	ME-MS81 Tm ppm 0.01	ME-MS81 U ppm 0.05	ME-MS81 V ppm 5	ME-MS81 W ppm 0.5	ME-MS81 Y ppm 0.1
DUPLICATES																
JP_01_159		1.46	473	5.3	1.26	56.4	28.0	4.0	0.23	2.95	0.05	0.10	15.95	<5	1275	7.8
DUP		1.46	477	4.9	1.28	54.4	27.2	3.9	0.24	2.91	0.05	0.13	16.80	<5	1260	7.7
Target Range – Lower Bound		1.37	451	4.3	1.16	52.1	26.1	3.7	0.21	2.73	0.04	0.10	15.50	<5	1205	7.3
Upper Bound		1.55	499	5.9	1.36	58.7	29.1	4.2	0.26	3.13	0.06	0.13	17.25	10	1330	8.2

***** See Appendix Page for comments regarding this certificate *****



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CANADA

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Project: P23-05

QC CERTIFICATE OF ANALYSIS SV23095059

Sample Description	Method Analyte Units LOD	ME-MS81 Yb ppm 0.03	ME-MS81 Zr ppm 1	ME-4ACD81 Ag ppm 0.5	ME-4ACD81 As ppm 5	ME-4ACD81 Cd ppm 0.5	ME-4ACD81 Co ppm 1	ME-4ACD81 Cu ppm 1	ME-4ACD81 Li ppm 10	ME-4ACD81 Mo ppm 1	ME-4ACD81 Ni ppm 1	ME-4ACD81 Pb ppm 2	ME-4ACD81 Sc ppm 1	ME-4ACD81 Ti ppm 10	ME-4ACD81 Zn ppm 2
DUPLICATES															
JP_01_159		0.63	37												
DUP		0.69	33												
Target Range – Lower Bound		0.60	32												
Upper Bound		0.72	38												

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Project: P2025-01

CERTIFICATE OF ANALYSIS SV25230211

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS81 Ba ppm 0.5	ME-MS81 Ce ppm 0.1	ME-MS81 Cr ppm 5	ME-MS81 Cs ppm 0.01	ME-MS81 Dy ppm 0.05	ME-MS81 Er ppm 0.03	ME-MS81 Eu ppm 0.02	ME-MS81 Ga ppm 0.1	ME-MS81 Gd ppm 0.05	ME-MS81 Hf ppm 0.05	ME-MS81 Ho ppm 0.01	ME-MS81 La ppm 0.1	ME-MS81 Lu ppm 0.01	ME-MS81 Nb ppm 0.05
P2501-01		2.26	212	48.8	31	42.6	2.11	0.90	0.47	42.3	2.55	2.23	0.37	24.6	0.10	38.1
P2501-02		1.72	195.0	38.0	25	22.2	1.68	0.99	0.41	22.4	1.80	3.47	0.35	19.2	0.20	13.55
P2501-03		1.14	354	64.4	14	27.4	2.20	0.92	0.54	31.5	3.05	3.05	0.37	34.6	0.11	19.80
P2501-04		1.84	191.5	57.7	22	5.65	2.48	1.05	0.89	13.0	2.77	1.88	0.42	31.7	0.11	7.95

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An INAB accredited testing laboratory Reg. No. 173T. Accredited methods are listed in the Scope of Accreditation available on request.

Project: P2025-01

CERTIFICATE OF ANALYSIS SV25230211

Sample Description	Method Analyte Units LOD	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
		Nd ppm 0.1	Pt ppm 0.02	Bb ppm 0.2	Sc ppm 0.5	Sm ppm 0.03	Sn ppm 0.5	Sr ppm 0.1	Ta ppm 0.1	Tb ppm 0.01	Th ppm 0.05	Ti % 0.01	Tm ppm 0.01	U ppm 0.05	V ppm 5
P2501-01		20.2	5.52	480	3.9	3.29	141.0	14.6	5.9	0.40	7.68	0.13	0.14	13.40	21
P2501-02		14.6	4.09	248	2.7	2.42	46.3	53.9	2.9	0.26	7.99	0.12	0.17	21.8	23
P2501-03		24.9	7.12	351	3.7	3.56	96.7	58.1	6.0	0.43	11.70	0.17	0.14	10.15	25
P2501-04		22.6	6.67	102.5	2.6	3.92	107.5	41.0	1.1	0.40	9.67	0.11	0.14	7.83	21

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Project: P2025-01

CERTIFICATE OF ANALYSIS SV25230211

Sample Description	Method Analyte Units LOD	ME-MS81	ME-MS81	ME-MS81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81
		Y ppm 0.1	Yb ppm 0.03	Zr ppm 1	Ag ppm 0.5	As ppm 5	Cd ppm 0.5	Co ppm 1	Cu ppm 1	Li ppm 10	Mo ppm 1	Ni ppm 1	Pb ppm 2	Tl ppm 10	Zn ppm 2
P2501-01		11.2	0.70	88	11.4	15	6.4	5	1370	230	46	11	36	<10	548
P2501-02		10.2	1.30	126	0.7	<5	0.9	4	136	80	10	16	16	<10	140
P2501-03		11.0	0.71	101	7.1	11	18.7	4	451	110	33	17	25	<10	802
P2501-04		10.2	0.89	69	8.7	13	<0.5	11	560	30	7	9	230	<10	78

***** See Appendix Page for comments regarding this certificate *****

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	Project: P2025-01 CERTIFICATE OF ANALYSIS SV25230211								
CERTIFICATE COMMENTS									
Applies to Method:	ACCREDITATION COMMENTS The methods immediately below this line are ISO 17025:2017 Accredited. INAB Registration No: 173T ME-MS81 								
Applies to Method:	LABORATORY ADDRESSES Processed at ALS Seville located at Poligono Parque Plata, Calle Camino Mozarabe naves 13 y 15, Camas (Sevilla), Spain. <table border="0"> <tr> <td>CRU-31</td> <td>CRU-QC</td> <td>LOG-22</td> <td>LOG-24</td> </tr> <tr> <td>PUL-32</td> <td>PUL-QC</td> <td>SPL-22Y</td> <td>WEI-21</td> </tr> </table>	CRU-31	CRU-QC	LOG-22	LOG-24	PUL-32	PUL-QC	SPL-22Y	WEI-21
CRU-31	CRU-QC	LOG-22	LOG-24						
PUL-32	PUL-QC	SPL-22Y	WEI-21						
Applies to Method:	Processed at ALS Loughrea located at Dublin Road, Loughrea, Co. Galway, Ireland. <table border="0"> <tr> <td>ME-4ACD81</td> <td>ME-MS81</td> </tr> </table>	ME-4ACD81	ME-MS81						
ME-4ACD81	ME-MS81								

Figure 11-1: Verification Samples Certificate of Analysis and Quality Control Certificate.

11.3.3. Analyses and Assays of Re-Analyzed Drill Samples

The re-analysis of historical drill core samples was undertaken primarily to reassess WO₃ concentrations and to evaluate the presence and distribution of additional metals of potential economic interest, including copper, silver, tin, molybdenum, and rare earth elements. A total of 1,264 samples were re-analyzed at the ALS Global sample preparation and assay laboratories using the ME-MS81 and ME-4ACD81 analytical methods.

The ME-MS81 analytical procedure employs a lithium borate fusion followed by inductively coupled plasma–mass spectrometry (“ICP-MS”) analysis. This method is particularly effective for the quantitative determination of a broad range of major and trace elements, including those hosted within resistive mineral phases. The analytical element suites and detection ranges associated with this method are presented in Figure 11-1.

Table 11-1 ALS method ME-MS81 analyzed elements and ranges.

Element	Range (ppm)	Element	Range (ppm)	Element	Range (ppm)	Element	Range (ppm)
Ba	0.5-10,000	Hf	0.05-10,000	Sm	0.03-1,000	V	5-10,000
Ce	0.1-10,000	Ho	0.01-1,000	Sn	0.5-10,000	W	0.5-10,000
Cr	5-10,000	La	0.1-10,000	Sr	0.1-10,000	Y	0.1-10,000
Cs	0.01-10,000	Lu	0.01-1,000	Ta	0.1-2,500	Yb	0.03-1,000
Dy	0.05-1,000	Nb	0.05-2,500	Tb	0.01-10,000	Zr	1-10,000
Er	0.03-1,000	Nd	0.1-10,000	Th	0.05-1,000		
Eu	0.02-1,000	Pr	0.02-1,000	Ti	0.01%-10%		
Ga	0.1-10,000	Rb	0.2-10,000	Tm	0.01-10,000		
Gd	0.05-1,000	Sc	0.5-500	U	0.05-1,000		

In addition to the ICP-MS analyses, the samples were also analyzed using ALS Global’s ME-4ACD81 analytical procedure, which determines base metal concentrations following a four-acid digestion and subsequent ICP-MS analysis. The analytical element suite and detection ranges associated with this method are presented in Table 11-2.

Where tungsten concentrations exceeded the upper detection limits of the ICP methods, samples were re-analyzed using the W-XRF15b procedure, which employs a lithium borate fusion followed by X-ray fluorescence (“XRF”) analysis to provide accurate results for high-grade tungsten samples.

Table 11-2: ALS method ME-4ACD81 analyzed elements and ranges.

Element	Range (ppm)	Element	Range (ppm)	Element	Range (ppm)	Element	Range (ppm)
Ag	0.5-100	Co	1-10,000	Mo	1-10,000	Sc	1-10,000
As	5-10,000	Cu	1-10,000	Mi	1-10,000	Tl	10-10,000
Cd	0.5-1,000	Li	10-10,000	Pb	2-10,000	Zn	2-10,000

11.3.4. Core and RC sample Analyses and Assays

At the ALS Global sample preparation laboratory in Seville, Spain, diamond drill core and reverse circulation (“RC”) samples were prepared by crushing to achieve approximately 70% passing a 2 mm screen. Each sample was then split to a 250 g sub-sample and pulverized using hardened steel to achieve approximately 85% passing a 75 µm screen. The resulting pulps were shipped directly to ALS Global’s certified assay laboratory located on Dublin Road, Loughrea, County Galway, Ireland. Remaining pulps and coarse rejects were returned to Minerália for secure storage.

Samples were analyzed using ALS Global’s ME-MS81 analytical method which applies a lithium borate fusion followed by inductively coupled plasma–mass spectrometry (“ICP-MS”) analysis, and the ME-4ACD81 method which determines base metal concentrations using a four-acid digestion followed by ICP-MS analysis. Samples reporting tungsten concentrations exceeding the upper detection limits of these methods were re-analyzed at the same laboratory using the W-XRF15b procedure, which employs a lithium borate fusion followed by X-ray fluorescence (“XRF”) analysis. Analytical results were transmitted securely to Minerália by electronic means.

11.4. Sample Security

All data collection activities, including sampling, insertion of quality control samples, packaging, and transportation, were conducted under the supervision of a qualified Minerália geologist. No employee, officer, director, or associate of the issuer was involved in the preparation of samples for analysis.

Analytical samples were placed sequentially on pallets labelled with the company identification code and sample series. Sample requisition forms were prepared using sample reference sheets generated since the previous shipment. Pallets were sealed and stored in a locked sample dispatch room until shipment. Once a full shipment was assembled, sealed sample bags were shipped directly by courier to the ALS Global sample preparation laboratory in Seville, Spain. Upon receipt, ALS laboratory personnel verified the integrity of the seals and confirmed receipt of the samples in good order by email to Minerália.

The QP took ten drill core verification samples and four RC duplicate samples were securely bagged and shipped directly to the ALS Global laboratory in Seville in accordance with industry-standard procedures to ensure analytical integrity. Prepared sample pulps from both Minerália’s programs and the author’s verification samples were then securely and directly transferred between ALS Global laboratories in Spain and Ireland. It is the QP’s opinion that Minerália personnel exercised appropriate care and diligence in the handling, preparation, and secure shipment of all rock, drill core, and RC cutting samples. Furthermore, it is the author’s opinion that the sampling, sample preparation, handling, and security procedures applied to both the QPs verification samples and Minerália’s channel and drilling samples were carried out in accordance with accepted industry best practices.

12. Data Verification

12.1. Historic Data Verification

Upon acquiring the Borralha mining license, Minerália undertook confirmation of the locations of the numerous historical underground workings on the Property. However, many of these workings are either blocked or unsafe to access, and as a result the authors were able to conduct only personal inspection of limited underground workings.

Notwithstanding these limitations, Minerália verified the available historical exploration and mining data prior to compiling a comprehensive exploration database. The authors independently verified this database through surface inspections and by obtaining and analyzing drill core reject samples corresponding to historical drill holes.

Minerália’s verification procedures for drill core analytical results are considered adequate to support the reliability and credibility of the analytical data. The performance of certified reference materials is illustrated in Figure 12 1, which presents results for Certified Raw Material (“CRM”) GW-03 across multiple analytical batches.

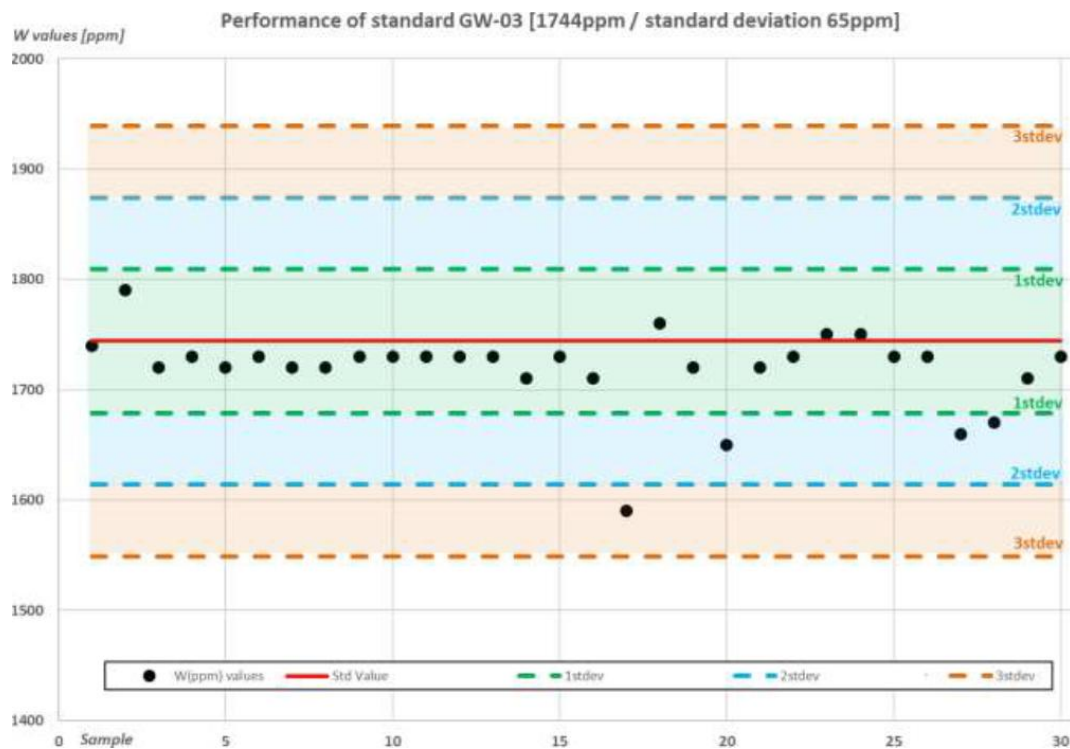


Figure 12-1: 2013-2017 Standard Material Sample Results over Several Assay Batches (after Minerália, 2020).

12.2. Independent Verification Sampling

12.2.1. Verification Sampling and Analytical Procedures

The QPs verified and photographed the locations of several historical mine workings by personal inspection in both the northern Borralha zone and the southern Santa Helena Breccia area. The author also reviewed available records, maps, and exploration data relating to the Borralha Project, with particular emphasis on the SHB.

As the SHB is poorly exposed and because no facilities were available during the site visit to quarter the stored drill core, the QP selected and submitted ten drill core reject samples and 4 RC duplicate samples for independent verification. These samples were sourced from core drill holes BO5, BO8A, and BO9, which had previously been set aside for metallurgical testing and from RC drill holes Bo_RC_17, Bo_RC_18, Bo_RC_22 and Bo_RC_26. The verification samples were selected from a range of depths in three widely spaced drill holes, with BO9, Bo_RC_22 and Bo_RC_26 representing the northern extent of the SHB, BO8A and Bo_RC_18 testing the central portion of the breccia, and BO5 and Bo_RC_17 testing the southern portion of the SHB (see Figure 10-12).

As previously described, two analytical procedures were applied to the drill core reject sample pulps and to the RC duplicate samples. The first procedure (ALS code ME-4ACD81) employed a four-acid digestion followed by ICP-MS analysis and provided results for a suite of base and associated metals, including Ag, As, Cd, Co, Cu, Li, Mo, Ni, Pb, Sc, Ti, and Zn. The second procedure (ME-MS81) utilized lithium borate fusion followed by ICP-MS analysis to determine concentrations of a broad range of trace and rare earth elements, including Ba, Ce, Cr, Cs, Dy, Er, Ga, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Rb, Sc, Sm, Sn, Sr, Ta, Tb, Th, Ti, Tm, U, V, W, Y, Yb, and Zr.

Tungsten analytical results for the verification samples are presented in Table 12-1, while a summary of the most significant analytical results is provided in Table 12-2. The corresponding Certificates of Analysis for the verification samples are included as Figure 11-1.

Table 12-1: Sample data submitted for analytical verification.

Sample No.	DDH No.	From (m)	To (m)	Interval (m)	Geological Log Entry
BO5 65	BO5	65.0	66.0	1.0	SHB w/ veinlets w/ f.g. Wo and Sc diss.
BO5 66	BO5	66.0	67.0	1.0	SHB w/ veinlets w/ f.g. Wo and Sc diss.
BO5 114	BO5	114.0	115.0	1.0	SHB w/ f.g.–m.g. Wo, Cp & Sc diss.
BO5 115	BO5	115.0	116.0	1.0	SHB w/ f.g.–m.g. Wo, Cp & Sc diss.
BO8A 89	BO8A	89.0	90.0	1.0	Fractured SHB w/ possible f.g. Wo.
BO8A 95	BO8A	95.0	96.0	1.0	Fractured SHB w/ possible f.g. Wo.
BO8A 158	BO8A	158.0	159.0	1.0	SHB w/ mafics and f.g. Wo & Sc.
BO9 109	BO9	109.0	110.0	1.0	Fractured and fresh SHB w/ boxworks.
BO9 111	BO9	111.0	112.0	1.0	Fractured & fresh SHB w/ boxworks, c.g. Wo grain.
BO9 167	BO9	167.0	168.0	1.0	Fractured and fresh SHB with boxworks.

4837	Bo_RC_17	118.0	120.0	2.0	SHB composed by leucocratic rock
5132	Bo_RC_18	38.0	40.0	2.0	SHB composed by granite
5089	Bo_RC_22	318.0	320.0	2.0	SHB composed by granite
4656	Bo_RC_26	198.0	200.0	2.0	SHB composed by granite

Table 12-2: Comparison Table of Original Drill Core XRF Tungsten Values versus Verification Samples Tungsten Analytical Values (after Minerália, 2020).

Sample	Drill Hole	From	To	Minerália Samples W (ppm)		Verification Samples W (ppm)
No.	No.	(m)	(m)	(W-XRF15)	(ME-MS81)	(ME-MS81)
BO5 65	BO5	65	66	4140	4140	3600
BO5 66	BO5	66	67	5200	5090	4830
BO5 114	BO5	114	115	4430	4380	4570
BO5 115	BO5	115	116	2090	2650	2470
BO8A 89	BO8A	89	90	963	N/A	969
BO8A 95	BO8A	95	96	6310	N/A	5630
BO8A 158	BO8A	158	159	4390	N/A	4610
BO9 109	BO9	109	110	450	N/A	437
BO9 111	BO9	111	112	120	N/A	514
BO9 167	BO9	167	168	10	N/A	823
4837	Bo_RC_17	118.0	120.0	N/A	4410	4590
5132	Bo_RC_18	38.0	40.0	N/A	217	106
5089	Bo_RC_22	318.0	320.0	N/A	1645	1400
4656	Bo_RC_26	198.0	200.0	N/A	84.6	168
BO1 Std	Certified W Reference Std GW-03				1744	1555

12.2.2. Verification Sampling Results

The results of the verification sampling reflect the partial local “nuggety” nature of the tungsten mineralization and underscore the importance of conducting comprehensive multi-element analyses on all samples. A comparison of higher tungsten values from drill holes BO5 and BO8A indicates notable variability between tungsten grades originally analyzed by XRF and those obtained from the verification samples analyzed using two independent analytical procedures.

In drill hole BO9, samples originally analyzed by XRF returned consistently low tungsten grades; however, the corresponding verification samples yielded significantly higher tungsten values. There is no evident explanation for this discrepancy other than the likelihood that the original XRF analyses of the sample pulps did not fully detect the total tungsten content which was subsequently identified through mass spectrometry-based analytical methods.

A discrepancy was also observed between the two tungsten analyses of the certified reference material GW-03. According to Minerália (2020), their internal QA/QC results indicate that inserted GW-03 standard samples were generally compliant, with only four of thirty analytical batches returning values exceeding one standard deviation from the expected value. One possible explanation for the lower tungsten value obtained from the GW-03 standard analyzed with the verification samples is that the standard, stored for approximately six years in a small envelope, may not have been adequately re-homogenized prior to analysis. Notwithstanding this issue, ALS Global's internal quality control procedures and results support the conclusion that the analytical results obtained from the fourteen verification samples are credible and reliable.

Based on these findings, it is strongly recommended that all rock and drill core samples be subjected to full multi-element analysis rather than relying solely on tungsten determinations by XRF. A particularly important outcome of the verification program was the identification of significant copper and silver values. Historically, the Borralha Mine intermittently produced tin concentrates between 1915 and 1939, copper concentrates from 1963 to 1983, and silver values have been noted in historical documentation. However, because recent SHB drill core samples had previously been analyzed only for tungsten, the presence and grade of accessory mineralization were inferred primarily from visual identification of chalcopyrite and cassiterite in the core. Verification sample results indicate tungsten concentrations ranging from 969 to 4,830 ppm, associated with copper values ranging from 0.083% to 0.576% and silver values ranging from 6.7 to 18.5 g/t. These results highlight the polymetallic nature of the Santa Helena Breccia mineralization and the potential economic significance of associated metals.

12.3. 2023-25 Sample Verification

Minerália maintains well-documented quality assurance and quality control (“QA/QC”) procedures throughout all exploration programs. Certified reference materials (“CRMs”) are inserted into the sample stream at a regular frequency of one CRM every 20 routine samples, and two blank samples are included in each analytical batch. A Minerália project geologist is responsible for monitoring sampling procedures and assessing conditions at the sample preparation laboratory during each exploration campaign.

All CRMs and blank samples are sourced from independent third-party suppliers, including CDN Resource Laboratories Ltd., Geostats Pty Ltd., and OREAS. Five CRMs are routinely employed, each designed to monitor different elements and grade ranges. The CRM CDN-ME-1404, supplied by CDN Resource Laboratories Ltd., is used to test elevated concentrations of base metals, including copper, lead, and zinc, with associated silver. The CRMs GM-11 and GW-03, supplied by Geostats Pty Ltd., are used to monitor molybdenum and tungsten grades, respectively. The CRMs OREAS 700 and OREAS 21f, supplied by OREAS, are also employed; OREAS 700 is designed to test high tungsten concentrations with low tin, copper, and zinc contents, while OREAS 21f represents a blank composed of barren regional granite and is primarily used to verify the effectiveness of cleaning procedures during crushing and milling (Figure 12-2, Figure 12-3, Figure 12-4, Figure 12-5, Figure 12-6).

If the analytical result of any CRM exceeds $\pm$ three standard deviations from its expected value, all routine samples bracketed by the preceding and subsequent CRM insertions are re-analyzed to ensure that no analytical bias has affected the dataset.

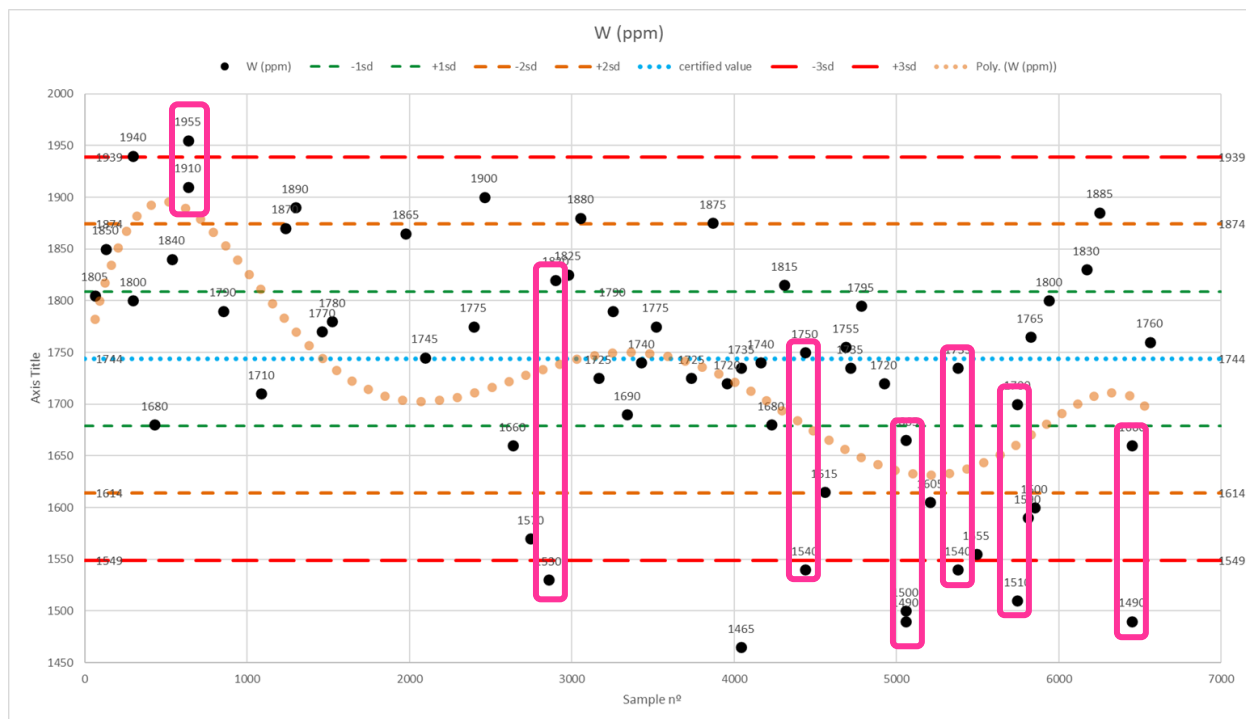
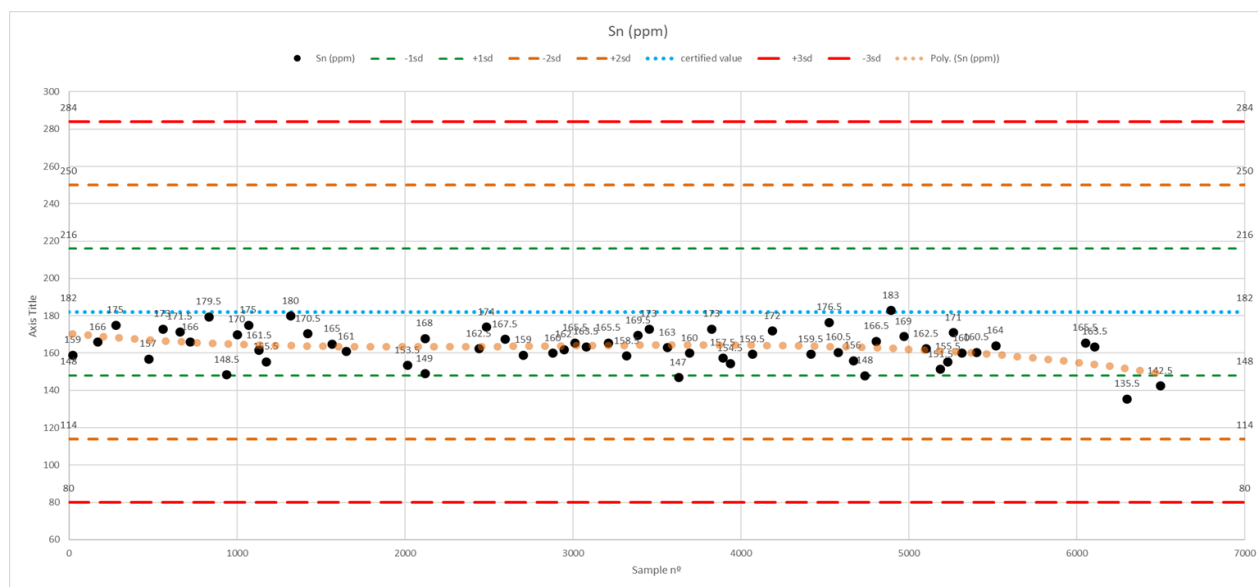
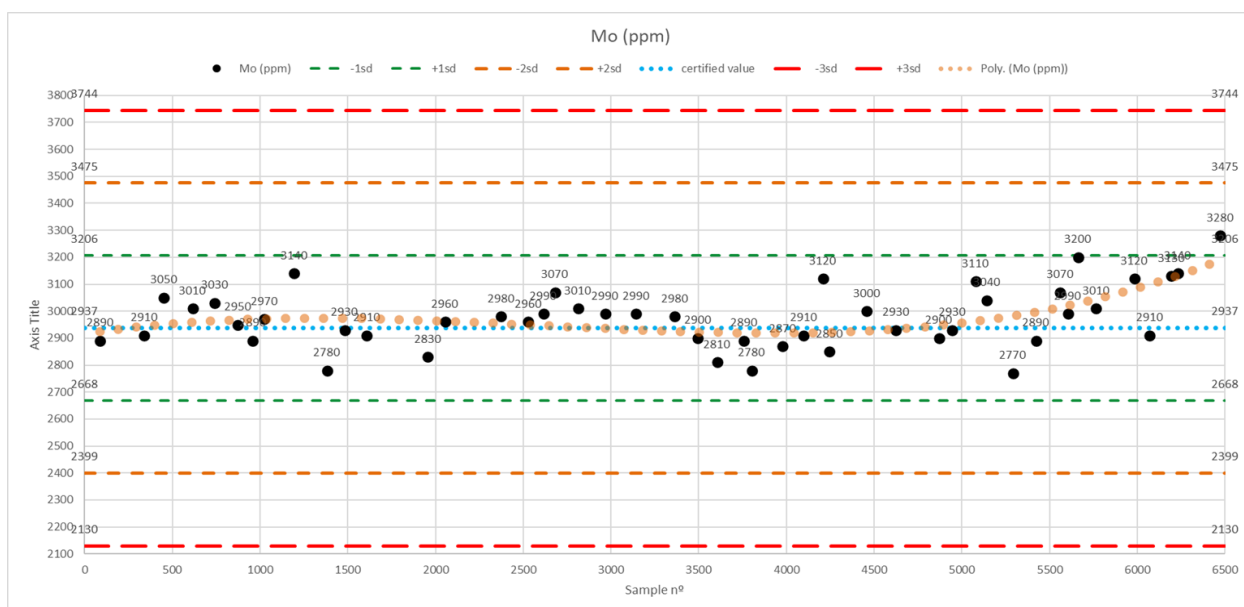


Figure 12-2: Example of Tungsten QA/QC using CRM GW-03 (after Miner lia. 2025), (  reassay due to QA/QC failure).





Example of Tungsten QA/QC using sample duplicated (after Minerália. 2025). Field duplicate samples for diamond drilling are generated by cutting the remaining half core longitudinally with a diamond saw, producing two quarter-core samples. One quarter-core is submitted to the laboratory as a field duplicate, while the other quarter-core is retained on site for reference. For reverse circulation (“RC”) drilling, field duplicates are collected by taking a quarter split of the drilled material directly from the splitter at the same time as the primary analytical sample is collected (Figure 12-7).

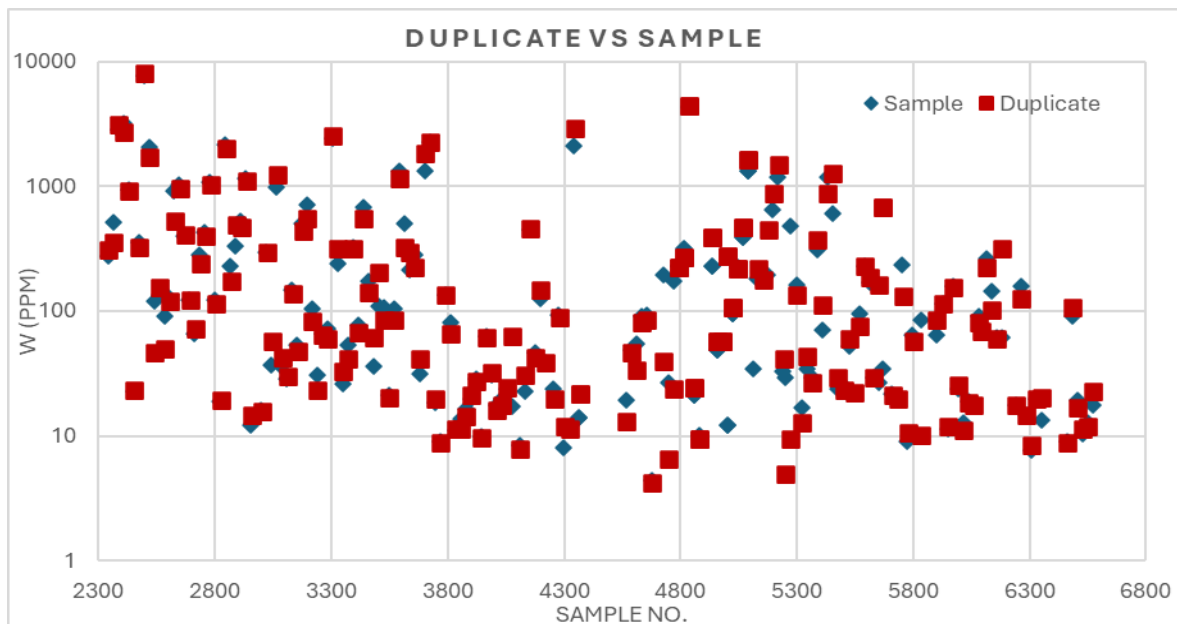


Figure 12-7: Example of Tungsten QA/QC using sample duplicated (after Minerália. 2025).

In addition to analytical verification using certified reference materials (“CRMs”) and duplicate samples, all samples collected from reverse circulation (“RC”) drilling are weighed to monitor sample recovery and to confirm the effectiveness of the sampling technique. This procedure is implemented to ensure optimal recovery of mineralized material during drilling, particularly considering the high density of tungsten-bearing minerals, which could otherwise be susceptible to sampling bias. Figure 12-8 illustrates an example of sample weight variation with depth. Lower sample weights at shallow depths are interpreted to reflect a higher proportion of weathered material near surface.

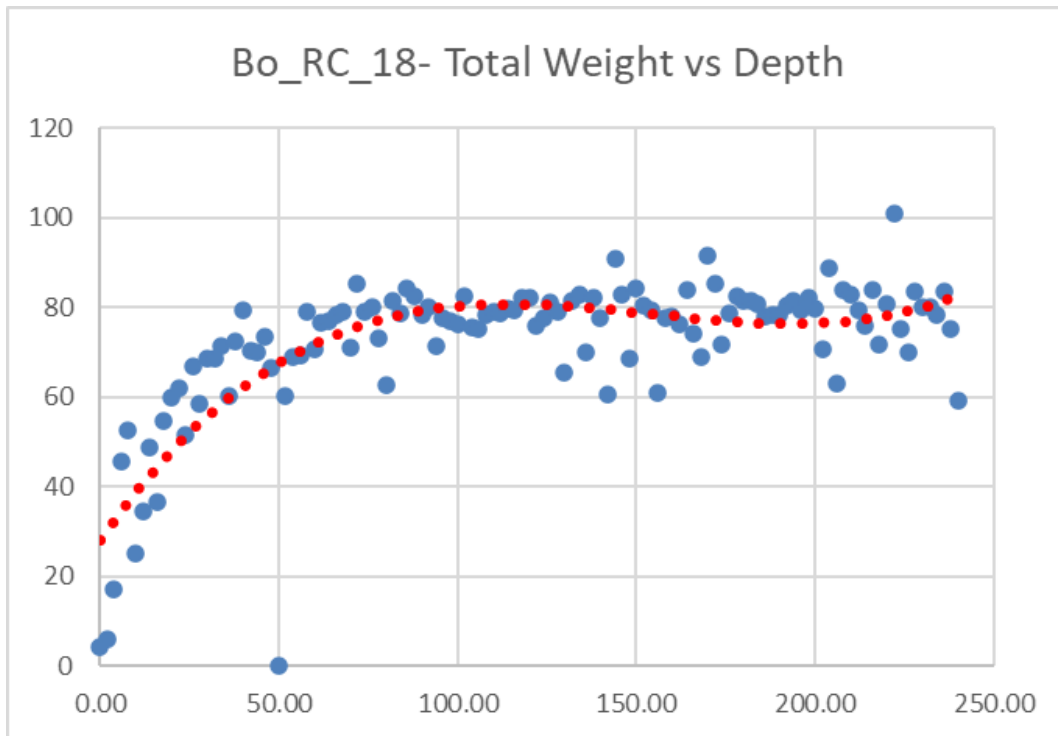


Figure 12-8: Example of drilling recovery QA/QC using sample weight (after Minerália. 2025).

It is the opinion of the QP's and based on his own verification procedures and those procedures reported by Minerália described above, the data used in this technical report is reasonably reliable and adequate for the purposes in this technical report.

13. Mineral Processing and Metallurgical Testing

The Santa Helena Breccia mineralization has received three series of metallurgical testing since 2019. All metallurgical testing was supervised by Minerália and managed by MINEPRO.

13.1. 2019 Metallurgical Testing by Grinding Solutions Ltd.

In 2019, a weathered bulk surface sample weighing approximately 150 kg and containing visible mineralization was collected from the southern portion of the Santa Helena Breccia (“SHB”). The sample was shipped to Grinding Solutions Ltd. (“GSL”), United Kingdom, for metallurgical test work. The objective of the program was to investigate the liberation characteristics of wolframite mineralization and to assess the potential to produce a marketable wolframite concentrate.

According to Minerália (2020), the principal results of the GSL test work are summarized as follows:

- The head grade of the bulk sample was 1.49% WO_3 and 0.02% Sn.
- Test work confirmed that tungsten mineralization exhibits a strongly “nuggety” distribution.
- Assay-by-size data indicated that tungsten is preferentially concentrated in the coarser size fractions, with grades ranging from approximately 2% to 3% WO_3 , while the –1 mm fractions contained grades between 1% and 2% WO_3 .
- Gravity release analysis demonstrated that the mineralization was well liberated across all size fractions tested.
- Jig test work conducted on several size fractions between 31.5 mm and 2 mm produced a jig concentrate containing 73.8% WO_3 , reporting to a mass pull of 39.1% at an average grade of 3.0% WO_3 .
- Tailings from the jig circuit contained approximately 5.5% of the WO_3 at a grade of 0.2% WO_3 .
- Although tungsten recovery to the jig concentrate was high, additional processing was required to further upgrade the concentrate, particularly through the fines circuit.
- The jig concentrate was crushed to –2 mm to align with the natural fines.
- The fines circuit produced several size-fraction concentrates which, when combined, yielded an overall tungsten recovery of 70.03% at a concentrate grade of 56.16% WO_3 .
- The fines circuit incorporated a desliming stage with a cut size of 45 μm .
- The slime fraction was processed using a Falcon L40 centrifugal concentrator, achieving a stage recovery of 34.8%. Low recovery was considered typical for gravity separation in this fine size range. While flotation was identified as a possible alternative, it would likely require further desliming, potentially resulting in tungsten losses to tailings.

- Magnetic separation testing conducted on gravity pre-concentrates was highly successful, achieving a tungsten recovery of 99.9% at a magnetic field strength of 1.5 T, producing a concentrate grading 61.84% WO₃. Further evaluation of the paramagnetic properties of wolframite was identified as a key focus for subsequent metallurgical test work.
- Tin recovery was consistently poor throughout the processing flowsheet.
- Overall tungsten recovery using gravity-based processing routes was approximately 69.96% at a final concentrate grade of 61.84% WO₃; this processing route was not optimized.

GSL provided the following recommendations in their metallurgical report (Minerália, 2020):

- Conduct bulk jigging test work to evaluate the potential to produce a high-grade coarse concentrate suitable for direct magnetic separation.
- Minimize the generation of fine material, particularly in view of the coarse-grained nature of the tungsten mineralization and the low recoveries observed below 45 µm, through a dedicated comminution study focused on fines reduction.
- Investigate jigging at coarser top sizes, including 40 mm, 50 mm, and 60 mm.
- Assess the use of larger size fractions in the gravity circuit to improve rejection of iron oxides.
- Undertake metallurgical test work on a larger bulk sample to simulate recirculating loads and enable production-scale gravity testing (e.g., spiral concentrators).
- Optimize Falcon concentrator operating conditions for the –45 µm fraction, including pre-desliming at 5 µm and splitting feed into ±20 µm size fractions prior to tabling.
- If magnetic separation is selected as the primary pre-concentration method, conduct further test work to achieve final concentrate specifications.
- Investigate flotation or alternative fine-particle recovery methods for tungsten in the slime fraction.

GSL also reported that a portion of the feed material ground to 1 mm was tested by Eriez using a Wet High-Intensity Magnetic Separator (“WHIMS”), achieving a tungsten recovery of approximately 95% at a mass pull of only 13%. This result is considered highly significant, as it suggests that early-stage magnetic separation could substantially reduce plant complexity and operating costs (Minerália, 2020).

In their 2020 technical report, Minerália provided the following additional observations and recommendations:

- Reconsider combining the approximately 60% WO₃ jig concentrate with natural fines grading approximately 20% WO₃, as dilution of the upgraded jig product may negatively affect downstream concentration efficiency.

- The WHIMS test work conducted by GSL would recover both wolframite and strongly magnetic iron-bearing minerals (e.g., magnetite); therefore, Minerália recommended an initial low-intensity magnetic separation stage to remove highly magnetic minerals prior to WHIMS treatment.
- Magnetic test work was conducted on relatively coarse particle sizes. Although wolframite appears coarse-grained, individual crystals may contain internal waste material, requiring additional grinding to achieve full liberation prior to final upgrading by gravity, magnetic separation, or a combination of both. Minerália recommended conducting QEMSCAN or MLA studies on concentrates to determine the optimal liberation size.

The 2019 metallurgical testing was conducted on weathered surface material which would conceivably represent a small component of any mine feed from any future operation. In the Figure 13-1 a flow sheet of the used test-work can be observed.

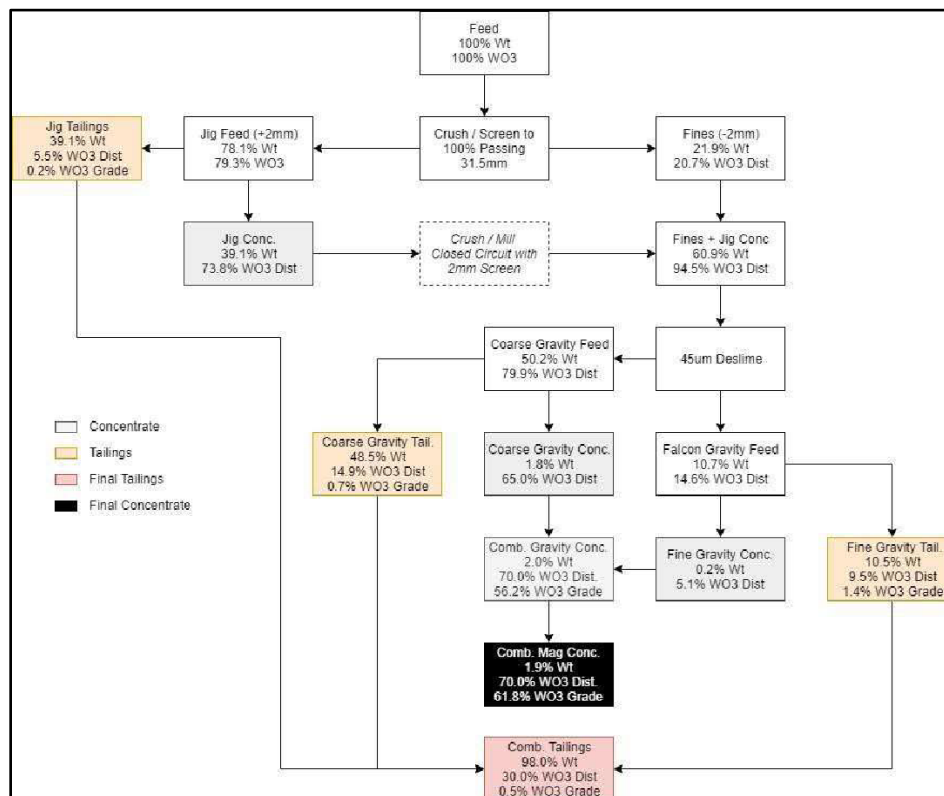


Figure 13-1: Mass Balance Block Flow sheet used in the Test Work (Minerália, 2022).

13.2. 2023-24 Metallurgical Testing by MINEPRO and Wardell Armstrong International Ltd.

In August 2023 Minerália commissioned Wardell Armstrong International Ltd. (“WAI”), part of Wardell Armstrong LLP, to undertake an initial phase of metallurgical test work on tungsten mineralization from the Borralha Tungsten Project, northern Portugal. The test work program was conducted between September 2023 and February 2024 and formed part of a broader technical evaluation of the Santa Helena Breccia mineralized system.

The primary objective of the metallurgical program was to generate representative samples of “barren” tailings material for geochemical and environmental characterization in support of a Mining Permit application. As the test program progressed, the scope was expanded to include scoping-level metallurgical investigations to evaluate the suitability of gravity and magnetic separation processes for tungsten recovery and to assess the deportment and recovery potential of associated metals, including copper, silver, tin, and molybdenum.

A total of approximately 210.9 kg of mineralized material was submitted to WAI for testing. The sample was derived from diamond drill core collected from the SHB during the 2023 drilling campaign and is considered representative of the mineralization style targeted by the Project.

Upon receipt, the bulk sample was logged, crushed to 100% passing 1 mm, homogenized, and split into representative sub-samples for head assays, mineralogical characterization, and metallurgical test work. Duplicate head samples were submitted for chemical analysis to confirm sample representativity and analytical repeatability.

Head assay results indicate average grades of approximately 0.16% W (0.20% WO_3) and 0.11% Cu. Arsenic values were consistently below detection limits ($<0.001\%$), indicating a favorable metallurgical and environmental profile. Iron grades ranged from 2.24% to 2.48% Fe, while total sulphur ranged from 0.97% to 1.02%. Silver values ranged between 4.6 g/t and 5.4 g/t Ag, and molybdenum averaged approximately 25.7 ppm Mo. These results confirm that the Borralha SHB material contains low levels of deleterious elements and includes potentially recoverable by-product metals. The head grades are consistent with historical and recent analytical data and support further metallurgical evaluation.

Particle size analysis of the crushed material confirmed a broadly distributed grain size population suitable for gravity and magnetic separation testing. Subsequent grind calibration work determined that a target grind size of $P_{80} = 250 \mu\text{m}$ was appropriate for liberation of tungsten minerals while minimizing the generation of excessive fines.

A quantitative mineralogical analysis was undertaken using automated mineralogy techniques to define bulk mineralogy, element deportment, liberation characteristics, and mineral associations. The principal tungsten-bearing minerals identified are wolframite, ferberite, and scheelite, with wolframite being the dominant species. Cassiterite was identified as a secondary economic mineral, occurring primarily in the finer size fractions.

Combined tungsten-bearing mineral species account for approximately 0.4 wt% of the reconstructed sample. Wolframite is preferentially concentrated in the coarser size fractions, confirming the coarse and “nuggety” nature of tungsten mineralization within the SHB. Scheelite tends to increase in abundance in finer size fractions, while ferberite shows variable distribution.

Gangue mineralogy is dominated by quartz, micas, and clay minerals, which together comprise approximately 85–88 wt% of the material across all size fractions. Plagioclase is a consistent minor component (6–8 wt%), while potassium feldspar contributes between 1.6% and 2.8 wt%.

Pyrite is the dominant sulphide mineral and is more abundant in the finer size fractions. Other sulphides, including chalcopyrite, sphalerite, bismuthinite, and molybdenite, are present in minor quantities and also show increasing abundance in finer fractions.

Liberation analysis indicates that wolframite exhibits variable liberation, with the highest degrees of liberation (approximately 80–86%) observed in the +180 µm and +53 µm fractions. Scheelite shows excellent liberation in similar size fractions (up to 99–100%), while cassiterite is largely locked in coarser fractions but displays excellent liberation (93–100%) in finer fractions between approximately 75 µm and 300 µm. These mineralogical characteristics strongly support the application of gravity-based and magnetic separation techniques as the primary processing routes for tungsten recovery.

The metallurgical program comprised a series of scoping-level tests, including grind calibration, desliming, shaking table gravity separation, sulphide flotation, and Wet High-Intensity Magnetic Separation (“WHIMS”).

Gravity separation test work demonstrated effective upgrading of tungsten into gravity concentrates, with substantial mass rejection achieved at an early processing stage. Desliming using hydrocyclone configurations successfully removed fine material while retaining the majority of tungsten in the underflow stream. Shaking table tests further upgraded tungsten concentrates, producing favorable grade-recovery relationships.

WHIMS testing proved to be a particularly effective method for tungsten recovery, reflecting the paramagnetic properties of wolframite. Magnetic separation achieved high tungsten recoveries with relatively low mass pulls, indicating strong potential for incorporating magnetic separation early in the processing flowsheet. Tungsten losses to non-magnetic tailings were minimal, and the non-magnetic tailings were shown to be suitable for classification as “barren” material for permitting purposes.

Sulphide flotation test work confirmed that copper is hosted exclusively by chalcopyrite and occurs at relatively low grades (approximately 0.1–0.2% Cu). While copper recovery was not the primary focus of this test phase, results indicate that production of a saleable copper concentrate may be technically feasible with further metallurgical optimization.

Overall, the combined gravity and magnetic separation results demonstrate that marketable tungsten concentrates can be produced from Borralha SHB material at a scoping level, with favorable recoveries and concentrate grades. The test work also confirms that associated metals such as copper, silver, and molybdenum may represent potential by-product opportunities.

The metallurgical test work completed by WAI confirms the technical viability of tungsten recovery from the Borralha Santa Helena Breccia mineralization. Key outcomes of the program include:

- Confirmation of favorable head grades and low deleterious element content.
- Identification of wolframite-dominated tungsten mineralization with coarse, gravity-recoverable characteristics.
- Demonstration that gravity and magnetic separation techniques are effective and complementary processing routes.
- Generation of representative barren tailings material suitable for environmental characterization and Mining Permit applications.
- Identification of potential by-product recovery opportunities, particularly copper and silver.
- While the results are encouraging, the metallurgical program remains at a scoping level. Further metallurgical optimization, including locked-cycle testing, flowsheet refinement, and variability testing, will be required to support future economic studies and environmental permitting submissions.

Based on the results of the 2019 and 2023–2024 metallurgical studies, it is the opinion of the author and Minerália that the Borralha Project has the potential to support the production of a high-quality tungsten concentrate and that the Project warrants continued technical advancement toward permitting and development.

A flow sheet of the metallurgical testing is shown below at Figure 13-2.

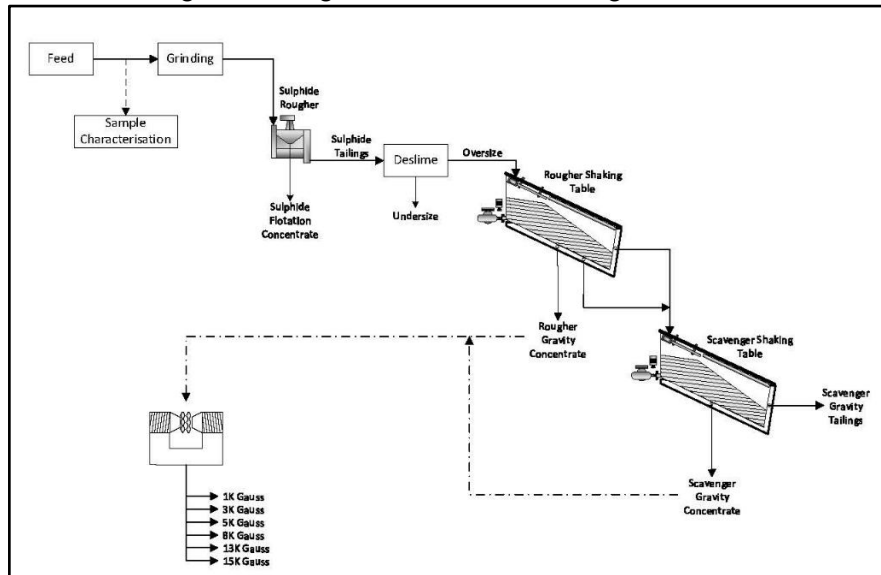


Figure 13-2: Flow Sheet of 2023 Metallurgical Test Work (Wardell Armstrong International, 2023).

13.3. 2024-2025 Metallurgical Testing by MINEPRO and SLR Consulting

13.3.1. 2024 Metallurgical testing by MINEPRO

In September 2024, MINEPRO was commissioned by Minerália to produce a high-purity tungsten concentrate from representative material collected from the Borralha deposit. The primary objective of this program was to simplify the previously evaluated processing routes and improve overall economic performance. To this end, a metallurgical test program incorporating gravimetric concentration, screening, and flotation was conducted at the metallurgical laboratory of the University of Oviedo, Spain.

Approximately 5 tonnes of mineralized material were collected by Minerália from the Borralha deposit and subjected to a series of concentration stages, including spiral concentration, screening, milling, shaking table separation, and sulphide flotation. These processing steps were designed to optimize tungsten recovery, reduce gangue and sulphide impurities, and produce a high-purity wolframite concentrate.

Prior to testing, the bulk sample was pre-crushed to a nominal top size of 2 mm and subsequently processed according to the conceptual flow scheme illustrated in Figure 13-3, resulting in the production of wolframite concentrate. Initial head grades ranged from approximately 0.25% to 0.30% WO₃. The spiral pre-concentration stage significantly reduced the mass of material while upgrading the tungsten content to approximately 6–8% WO₃. Regrinding of the spiral concentrate improved wolframite liberation, allowing shaking table separation to produce intermediate concentrates grading between approximately 20% and 35% WO₃. A subsequent sulphide flotation stage further enhanced concentrate quality by removing sulphide minerals, resulting in final tungsten concentrate grades exceeding 65% WO₃, with reported values ranging between approximately 60% and 70% WO₃.

These results demonstrate that high-grade tungsten concentrates can be produced from Borralha mineralization using simplified and cost-effective concentration techniques. The test work confirms that streamlined processing flowsheets based primarily on gravity separation, supplemented by flotation for impurity removal, are capable of achieving efficient tungsten recovery and concentrate quality comparable to that obtained using more complex and capital-intensive processing routes.

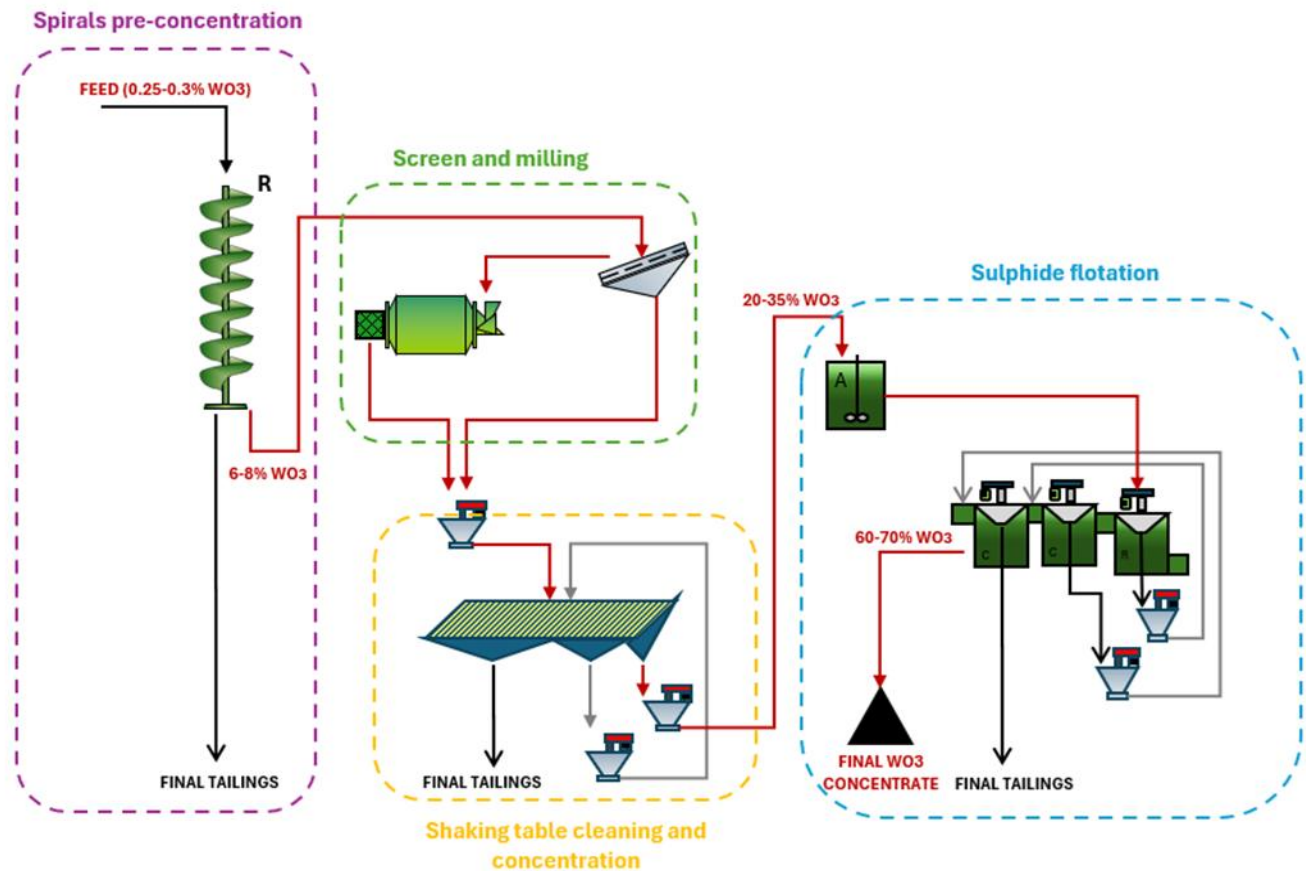


Figure 13-3: Conceptual flow diagram of the metallurgical testwork conducted (MINEPRO, 2024).

13.3.2. 2025 Metallurgical testing by SLR Consulting

In September 2025, SLR Consulting's metallurgical laboratory (formerly Wardell Armstrong International Ltd.) initiated a more advanced phase of the metallurgical test work program. This phase was designed to build upon the results of previous studies and to further define the optimal process plant design for the Borralha Project.

The principal goals of this test work program were to:

- Conduct a detailed mineralogical study focusing not only on tungsten-bearing minerals, but also on copper-bearing minerals, with the objective of assessing their potential as by-products;
- Evaluate pre-concentration options capable of significantly reducing both capital and operating costs of the proposed process plant;
- Assess the potential market value of coarse reject material generated during pre-concentration;
- Replicate, validate, and further refine the processing route developed by MINEPRO, incorporating gravimetric concentration and sulphide flotation to consistently achieve saleable WO₃ concentrate grades;
- Investigate strategies to minimize deleterious elements and potential penalty components in the final concentrates; and
- Assess the marketability and economic value of the final concentrate products.

13.3.2.1. Mineralogy

The mineralogical study was undertaken to characterize the mineral composition of the test material, with particular emphasis on mineral distribution, characteristic grain size, liberation behavior, and mineral associations as a function of particle size.

Given the objectives of the Project, tungsten and copper-bearing minerals were identified as the primary minerals of interest, and wolframite, scheelite, and chalcopyrite were selected as target minerals for detailed evaluation. In addition, pyrite and apatite were examined due to their potential to contribute to concentrate penalties, particularly through their association with sulphur and radioactive elements. Quartz and muscovite constitute the dominant gangue minerals, with albite, biotite, K-feldspar, clay minerals, and pyrite forming the remainder of the gangue assemblage. Table 13-1 and the Figure 13-4 show the mineral abundance of the different particle size ranges.

Table 13-1: Mineral abundance (PETROLAB, 2025).

Weight (%)	Sample	+800um	+355um	+180um	+100um	+53um	+20um	-20um
Wolframite	0,29	0,36	0,29	0,18	0,03	0,52	0,40	0,65
Chalcopyrite	0,30	0,02	0,03	0,26	1,02	0,45	0,34	0,83
Scheelite	0,04	0,01	0,02	0,04	0,00	0,08	0,18	0,09
Cassiterite	0,00	0,00	0,00	0,01	0,00	0,00	0,00	0,00

Quartz	48,87	55,09	54,98	52,09	44,12	39,30	34,40	29,63
Muscovite	30,90	27,46	26,79	28,48	35,35	38,21	40,75	35,70
Albite	6,39	6,01	6,56	6,47	6,54	6,63	5,47	6,50
Biotite	4,47	4,37	4,43	3,98	4,62	4,51	4,28	6,79
K-Feldspar	2,68	2,74	3,05	2,40	1,86	2,23	3,28	2,97
Clay Group	2,38	1,18	1,48	1,65	2,58	3,56	4,55	8,66
Pyrite	1,75	1,09	0,97	2,54	1,48	2,63	3,01	2,75
Fe Oxides	0,90	0,51	0,66	1,07	1,02	0,60	1,08	3,10
Apatite	0,75	0,61	0,48	0,66	1,07	0,99	1,49	0,91
Rutile	0,28	0,35	0,20	0,14	0,20	0,21	0,68	1,00
Acces.Phases	0,09	0,20	0,06	0,04	0,05	0,06	0,10	0,39
Bismuth	0,01	0,00	0,00	0,01	0,07	0,02	0,00	0,02

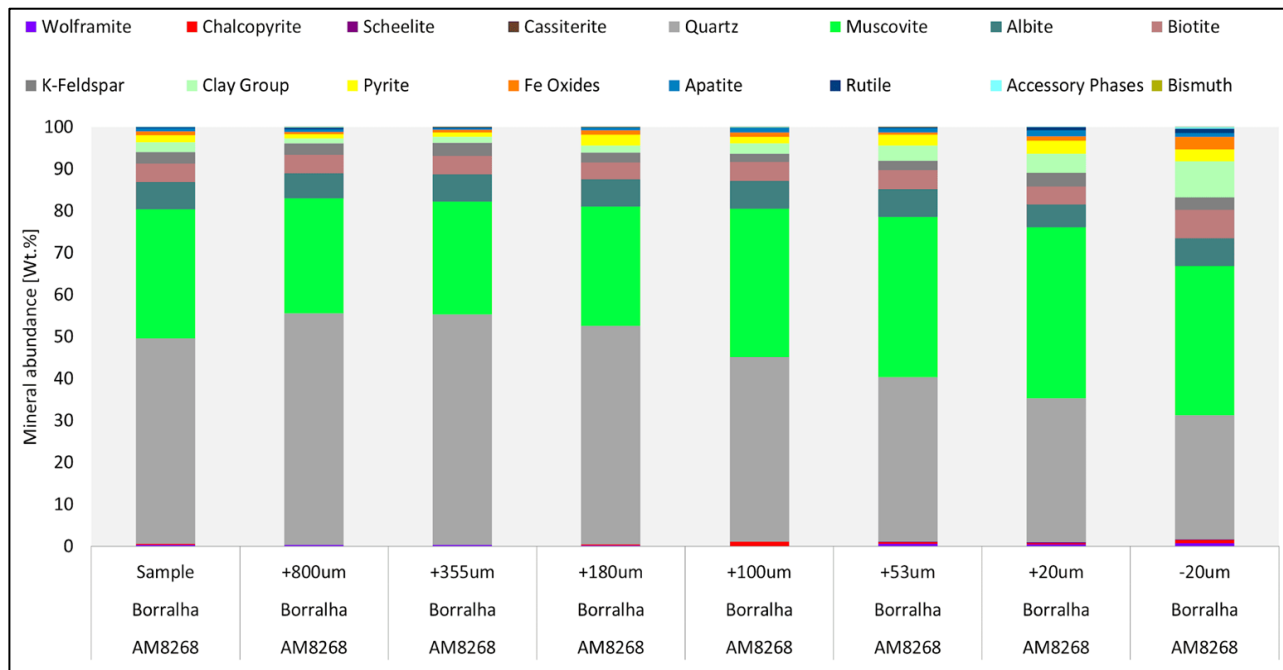


Figure 13-4: Mineral abundance (PETROLAB, 2025).

Grain size distribution analysis indicates that wolframite exhibits the coarsest grain size, followed by chalcopyrite, while scheelite displays the finest grain size distribution. The grain size characteristics of pyrite and apatite are broadly similar to those of chalcopyrite.

Emphasis was placed on identifying the particle size ranges at which the target minerals become liberated, as this information is critical for defining the optimal grind size and achieving efficient mineral separation with high recoveries. Pyrite exhibits moderate to good liberation, generally improving toward finer size fractions, although a slight decrease in liberation is observed in the finest fraction, likely attributable to slimming effects. Wolframite shows relatively poor liberation in the reconstructed bulk sample but demonstrates improved liberation in the +53 μm fraction and achieves high degrees of liberation in the finest size fractions. Chalcopyrite displays excellent liberation characteristics overall, with most grains occurring as free or liberated particles and only a minor proportion remaining locked in the coarser fractions (Figure 13-5).

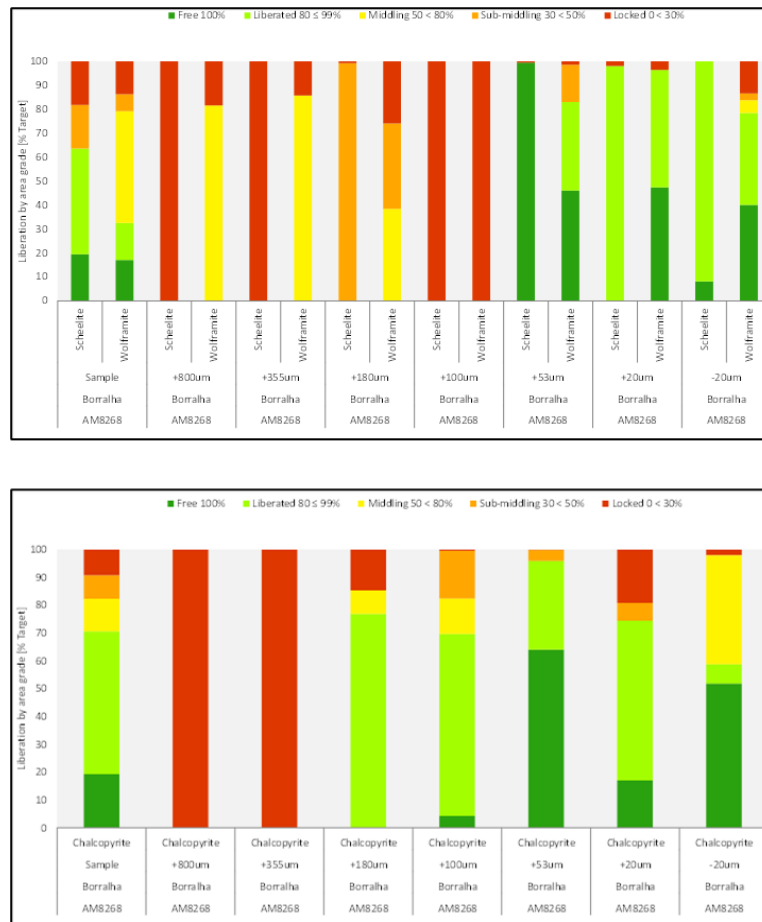


Figure 13-5: Mode of liberation for wolframite, scheelite and chalcopyrite (PETROLAB, 2025).

Mineral association analysis indicates that wolframite and scheelite are moderately to strongly associated with each other, while showing weak associations with sulphide minerals. In contrast, chalcopyrite exhibits a strong association with pyrite.

The results of the mineralogical study were incorporated into the subsequent phases of the metallurgical test program, both to inform gangue characterization and to define target particle sizes for processing. On the basis of these findings, an optimized processing strategy is envisaged that includes an initial pre-concentration stage to remove a significant proportion of the gangue, followed by gravimetric concentration and sulphide (copper) flotation. As tungsten minerals are liberated at coarser particle sizes than pyrite and chalcopyrite, early-stage gravity separation is considered appropriate. However, regrinding stages will be critical to achieve final concentration specifications, as complete liberation of the target minerals occurs only at very fine particle sizes.

13.3.2.2. Preconcentration process

Pre-concentration refers to the early-stage separation of valuable minerals from waste material prior to the main processing stages. The principal objective is to reduce the mass of material reporting to downstream processing, thereby lowering energy consumption, reagent usage, and overall capital and operating costs. Several pre-concentration techniques may be evaluated depending on ore characteristics, including density-based separation, magnetic separation, optical or X-ray sorting, and screening. As wolframite is a high-density and strongly paramagnetic mineral, and magnetic separation has historically been applied successfully to Borralha mineralization. However, magnetic separation is generally associated with relatively high capital and energy costs. Consequently, during the current phase of the Project, emphasis has been placed on evaluating gravity-based pre-concentration methods, such as jigging and dense media separation (“DMS”), which are widely applied in tungsten operations and represent more cost-effective alternatives.

13.3.2.2.1. Jigs

For the initial jigging tests, all material was crushed to below 10 mm and classified into three size fractions: 10–5 mm, 5–1.18 mm, and <1.18 mm. The two coarser fractions were processed using jigs, while the finest fraction was retained for subsequent concentration testing. Among the tested fractions, the best pre-concentration performance was achieved in the 5–1.18 mm size fraction. Based on these results, a second series of tests was conducted in which the entire sample was crushed to below 5 mm, producing only two size fractions: 5–1.18 mm and <1.18 mm. Under these conditions, pre-concentration performance was optimized. Approximately 47% of the total mass, consisting predominantly of quartz and iron- and aluminum-bearing gangue minerals, was rejected, while the WO_3 grade of the pre-concentrated product was approximately doubled. Tungsten losses were minor, and losses of copper and silver were also minimal, confirming the effectiveness of jigging as a pre-concentration technique for the Borralha material.

13.3.2.2.2. Dense Media Separation

The particle size fraction identified as optimal for jig pre-concentration was subsequently evaluated using dense media separation. A series of separation tests was conducted at progressively decreasing medium densities, starting at a specific gravity of 3.20 and reducing to 2.70. Below this density, separation efficiency declined significantly, as many of the gangue minerals targeted for rejection have densities in the range of approximately 2.65–2.70, resulting in poor discrimination between valuable and waste minerals. An optimal separation density of approximately 2.75 t/m^3 was determined. At this density, DMS achieved a level of mass rejection comparable to that obtained by jigging, while further minimizing losses of tungsten, copper, and silver. These results indicate that DMS represents a viable and efficient pre-concentration option for the Borralha Project.

The comparative results of both techniques are summarized in the following Table 13-2 and Table 13-3.

Table 13-2: Jigs test work mass balances assays results (WAI, 2025).

Fraction	Overall I	Cumulative Grade, % (*ppm)					Cumulative Overall Recovery, %			
(mm)	(%)	W	WO ₃	Cu	Ag *	STO T	W	Cu	Ag	S
-5 +1,18	14,5	0,66	0,83	0,18	11,55	1,61	46,1	23,5	27,2	31,2
-1,18	38,3	0,21	0,27	0,16	8,02	0,95	34,0	48,8	41,4	39,3
Total	52,8	0,33	0,42	0,17	8,99	1,13	80,1	72,3	68,6	70,5
Reject	47,2	0,09	0,12	0,01	2,33	0,29	19,9	27,7	31,4	29,5

Table 13-3: DMS test work at 2,75 g/cm3 mass balances assays results (WAI, 2025).

Product	Overall	Cumulative Grade, % (*ppm)					Cumulative Overall Recovery, %			
Sinks & -1,18mm	(%)	W	WO ₃	Cu	Ag *	STOT	W	Cu	Ag	S
2,8 Sinks	5,1	2,38	3,00	0,77	46,05	6,66	54,4	32,8	31,2	40,1
2,75 Sinks	16,5	0,06	0,08	0,07	6,02	0,54	7,49	10,5	19,3	16,8
-1,18	38,3	0,21	0,27	0,16	8,02	0,95	34,0	48,8	41,4	39,3
Total	59,8	0,36	0,45	0,19	10,7	1,32	95,9	92,1	87,7	92,9
Reject	40,2	0,01	0,01	0,02	1,44	0,08	4,1	7,9	12,3	7,1

By the analysis of the previous tables the results clearly demonstrate that although direct economic metrics were not generated at this stage, an early rejection of a substantial proportion of barren material would yield significant indirect economic benefits. By reducing the mass of material reporting to downstream processing, overall requirements for comminution equipment, energy consumption, and consumables, including grinding media and flotation reagents, can be materially reduced. The test results indicate that DMS outperformed jigging as a pre-concentration method. DMS achieved a comparable level of mass rejection while limiting tungsten losses to approximately 4.1%, with similarly low losses of other metals of interest. These outcomes confirm the effectiveness of DMS in concentrating the Borralha mineralization while maintaining high recoveries of valuable components. When the metallurgical results are considered together with operational factors, the advantages of DMS over alternative pre-concentration technologies become evident. Compared with magnetic separation, DMS offers a substantially simpler process configuration, requiring less specialized equipment and lower power consumption. While magnetic separation can provide good metallurgical performance, it is generally associated with higher capital and operating costs due to the need for high-intensity magnetic fields, specialized equipment, ongoing maintenance of magnetic components, and increased energy demand. In contrast, DMS circuits are relatively straightforward to operate and maintain, relying primarily on density differences and robust mechanical systems. Process control is simple and typically involves monitoring pulp density and adjusting the medium accordingly. This operational simplicity reduces downtime, minimizes spare parts requirements, and lowers maintenance intervention frequency, resulting in improved reliability and cost efficiency at an industrial scale. Relative to other gravity-based pre-concentration methods, such as jigging, while the jigs are effective in certain applications, they are more sensitive to feed variability and often require frequent operational adjustments to maintain stable performance. DMS, by comparison, provides a robust and scalable solution capable of accommodating variable feed conditions while consistently delivering high recoveries and concentrate quality.

13.3.2.3. Test work program with < 1,18 mm fraction

The fine fraction of the ore (<1.18 mm), which was not treated by the dense media separation circuit, was subjected to screening and desliming to remove ultrafine particles prior to gravity concentration. The -1.18 mm material was classified into two size fractions: -1.18 + 0.10 mm and -0.10 mm. The finest fraction (-0.10 mm) was further processed by hydrocyclone desliming to remove particles finer than 20 µm.

The desliming stage effectively removed ultrafine material while minimizing tungsten losses. Only approximately 0.6% of the fine fraction was discarded as -20 µm material, corresponding to approximately 0.5% of the contained tungsten, with negligible losses of other valuable metals. The deslimed coarse fraction (>20 µm) was retained for subsequent gravity concentration testing. Table 13 4 shows the deslime test work results.

Table 13-4: Deslime testwork results (WAI, 2025).

Product	Overall	Assay, % (* ppm)					Overall Recovery, %			
	Wt. (%)	W	WO3	Cu	Ag*	STOT	W	Cu	Ag	STOT
Hydrocyclone OF	0,6	0,21	0,26	0,21	20,5	0,74	0,5	1,1	1,6	0,6
Hydrocyclone UF	7,6	0,26	0,33	0,23	14,8	1,34	9,3	16,8	16,1	14,0
Feed (-0.10mm)	8,2	0,26	0,33	0,23	15,21	1,30	9,9	18,0	17,7	14,6

The combined deslimed material (+20 µm) was fed to a rougher spiral concentrator to exploit density contrasts between the heavy tungsten-bearing minerals and the gangue. Three products were generated: a concentrate, middlings, and tailings. The rougher concentrate achieved a sufficient grade to proceed to the next concentration stage. The middlings and tailings, which together contained a substantial proportion of the tungsten reporting to the feed, were reground and reprocessed by gravity concentration at finer particle sizes. These streams were reground separately due to their significantly different tungsten grades. The rougher spiral concentration stage upgraded tungsten from an average feed grade of approximately 0.23% W to 3.73% W, achieving an overall tungsten recovery of approximately 14.7% at this stage (Table 13-5).

Table 13-5: Grade and recoveries from the primary spiral product

Primary Spiral Product	Overall	Assay					Overall Stage Recovery, %			
	Wt. (%)	%W	%WO3	%Cu	Ag g/t	%STOT	W	Cu	Ag	STOT
Concentrate	1,0	3,73	4,70	1,20	59,6	10,80	14,7	11,3	8,3	14,4
Middlings	10,5	0,28	0,36	0,17	7,4	0,94	11,7	16,3	10,7	13,0
Tailings	24,4	0,057	0,07	0,09	6,5	0,47	5,4	21,0	21,6	15,1
Feed	36,0	0,23	0,29	0,15	8,23	0,90	31,8	48,6	40,6	42,5

13.3.3. Preliminary interpretation of results

The results presented represent the most recent outcomes of the ongoing test work program. Further work is required, particularly on gravity concentration, to achieve higher concentrate grades suitable for feeding the final process stages, which mainly include sulphide–copper flotation and final concentration stages as magnetic separation and electrostatic separation.

Based on the preliminary results and previous test work, the process plant is expected to produce not only a tungsten concentrate but also copper and tin concentrates. After sulphide removal from the tungsten concentrate and further grinding to achieve adequate chalcopyrite liberation, a copper concentrate could be produced through additional flotation stages. Tin is expected to follow tungsten through most of the concentration stages and to be effectively separated in the final steps using electrostatic separation.

Although the process design will require confirmation and optimization through additional testwork, the preliminary flowsheet is expected to include the following steps:

- Crushing in three stages to reduce the particle size to 6 mm.
- Preconcentration by dense media separation on the – 6 mm + 2 mm fraction, rejecting approximately 40% of the mass as coarse tailings.
- Grinding of the DMS product and the -2 mm stream to 1 mm, suitable for gravimetric concentration.
- Gravimetric concentration using spirals and shaking tables on the -1 mm + 20 µm fraction. Material finer than 20 µm will be treated using alternative gravity concentration equipment to recover tungsten from the ultrafines.
- Sulphide flotation of the gravimetric concentration concentrate to remove sulphides, incorporating multiple flotation stages to minimize tungsten losses and produce a saleable copper concentrate.
- Final tungsten concentrate purification, in which the non-sulphide stream will be treated by magnetic separation and, potentially, electrostatic separation to separate tungsten from tin and therefore upgrading the tungsten concentrate and producing a saleable tin concentrate.
- Tailings management, where fine tailings will be dewatered and potentially combined with a portion of the coarse tailings and cement in a paste plant for return to the mine.

13.3.3.1. Estimated metal recoveries

Based on the results obtained to date from the test work program and the current preliminary process design, all indications suggest that tungsten, copper, and tin concentrates could be produced at saleable grades. The results obtained so far also indicate that, in the final processing stages, metal recoveries appear to be significant, with only minor losses reporting to tailings; however, this will need to be confirmed as the test work program advances.

Considering the observed liberation characteristics of the metal-bearing minerals and the particle sizes required for effective separation, it appears likely that tungsten recovery would remain high, while copper recovery could be a little bit lower. Tin recovery is expected to be the most challenging, as its liberation requires very fine particle sizes, which may result in increased losses to the ultrafine fractions. These expectations will need to be validated through further test work.

Based on the results obtained to date, the preliminary recovery estimates are as follows:

- Tungsten recovery: 75% - 80%.
- Copper recovery: 60%.
- Tin recovery: 30% - 40%.

In addition, the copper concentrate may contain significant silver credits. Based on the current results, it is estimated that approximately 50% of the silver could be recovered in the copper concentrate, subject to confirmation through further test work.

13.3.3.2. Estimated concentrate grades

Although it is still too early to reliably predict final concentrate grades, the current results support the hypothesis that effective metal separation is achievable. Subject to confirmation through further test work, it appears possible to produce saleable concentrates at Borralha.

- Tungsten concentrate grade: 65% WO₃.
- Copper concentrate grade: 21% Cu.
- Tin concentrate grade: 50% Sn.

14. Mineral Resource Estimate

14.1. Introduction

This chapter describes the methodology, assumptions, and results of the updated Mineral Resource Estimate (“MRE”) for the Borralha Tungsten Project. The estimate has been prepared in accordance with the CIM Definition Standards (2023) and the disclosure requirements of NI 43-101.

The updated MRE incorporates additional drilling completed during the 2025 RC drilling campaign, together with refinements to the geological interpretation, domain modelling, and block model estimation ranges and parameters. The estimate applies exclusively to the Santa Helena Breccia (“SHB”) and supersedes the previous Mineral Resource Estimate for this zone.

Mineral Resources are reported as in situ and undiluted, and do not incorporate modifying factors such as mining dilution, mining recovery, metallurgical recovery, capital costs, operating costs, or economic analysis.

14.2. Exploratory Data Overview

The Mineral Resource Estimate for the Borralha Tungsten Project is based on drilling and trenching completed on the Santa Helena Breccia between 2013 and 2025. As of the effective date of this estimate, the SHB has been tested by nine surface trenches and a total of 41 drill holes, comprising both diamond drill and reverse circulation (“RC”) drill holes.

Drilling has been completed over an approximate 400 m strike length and to depths exceeding 350 m below surface. The analytical dataset used for the Mineral Resource Estimate includes certified assay results from all valid drill holes and trenches completed during this period, including data from the 2025 Phase 1 RC drilling campaign, which materially improved confidence in the continuity of mineralization within the breccia body and along its western and down-dip extensions.

Some drill holes were excluded from the estimation dataset for data quality or representativity reasons. Drill holes Bo_08 and Bo_11 were excluded due to their intersection with shallow historical artisanal workings, which resulted in poor core recovery and unreliable grade information. Drill hole Bo_04 was excluded as it was drilled sub-parallel to the southern contact of the SHB, resulting in consistently low recovery (approximately 70%) and unreliable sampling. Diamond drill hole Bo_Met_02 was terminated prematurely after intersecting historical underground workings and was subsequently redrilled as Bo_Met_02a. Only the valid redrilled data were retained for estimation.

Drill spacing within the SHB is variable, reflecting the staged nature of exploration. Spacing ranges from approximately 20 m in the most densely drilled central portions of the breccia to greater than 50 m toward the margins and down-dip extensions. This variability in data density is reflected in the current Mineral Resource classification.

All exploration data were validated prior to the Mineral Resource Estimate. Collar locations were surveyed, downhole deviation data were reviewed, and assay databases were checked for transcription errors, missing intervals and anomalous values. Coordinates are reported in the WGS84 datum, UTM Zone 29N.

The increase in drill hole count relative to previous Mineral Resource Estimates reflects the inclusion of the 2025 Phase 1 RC drilling campaign and re-drilled validation holes.

14.2.1. Exploratory Data Analysis and Grade Behavior

Exploratory Data Analysis (“EDA”) was undertaken to evaluate the statistical characteristics, variability, and spatial continuity of WO₃ grades within the Santa Helena Breccia domain.

Statistical review included analysis of raw assays and composited data, both globally and by geological domain. Histograms, cumulative frequency plots, and log-probability plots were used to assess grade distributions and identify high-grade outliers.

WO₃ grades exhibit a positively skewed distribution, typical of structurally controlled tungsten mineralization, with localized populations of high-grade values associated with coarse wolframite accumulations. These high-grade values are spatially clustered and geologically meaningful rather than isolated single-sample anomalies.

Based on statistical analysis and geological context, grade restriction techniques were applied to limit the influence of extreme values on estimation while preserving the overall grade tenor of the breccia-hosted mineralization.

14.3. Mineral Resource Estimation Procedures

Following validation of the exploration database, the updated Mineral Resource Estimate for the Santa Helena Breccia was completed using a structured and sequential estimation workflow consistent with the methodology applied in the previous Mineral Resource Estimate and in accordance with CIM Definition Standards and NI 43-101 requirements.

The Mineral Resource estimation procedures comprised the following principal steps:

1. Compilation and validation of exploration data, including collar locations, downhole surveys, geological logging, density determinations, and certified assay results;
2. Geological interpretation, incorporating lithological, structural, alteration, and mineralization data to define the geometry and continuity of the Santa Helena Breccia;

3. Determination and three-dimensional modelling of the breccia domain, reflecting geological boundaries and mineralized continuity supported by drilling and trenching;
4. Compositing of assay data to a uniform length appropriate for drill spacing and sample support, together with evaluation and application of grade restrictions to mitigate the influence of extreme values;
5. Statistical analysis of composited data within the breccia domain, including assessment of grade distributions, population characteristics, and spatial behaviour;
6. Variographic analysis, including calculation and interpretation of directional correlograms, were undertaken to quantify grade continuity and anisotropy consistent with the geometry of the breccia body;
7. Definition of block model parameters, including parent block size, sub-blocking strategy, model orientation, and domain coding;
8. Interpolation of WO_3 grades into the block model using ordinary kriging, applying search parameters informed by variography and geological interpretation;
9. Validation of the block model, including visual inspection, swath plot analysis, and comparison of block grades against input composite statistics; and
10. Classification of Mineral Resources as Measured, Indicated, or Inferred based on drill spacing, data quality, geological confidence, and estimation performance.

Each of these steps is described in greater detail in the following sections of this chapter

14.4. Geological Interpretation and Modelling

The Santa Helena Breccia is interpreted as a steeply dipping to sub-vertical collapse-style breccia characterized by angular to sub-rounded clasts supported by a mineralized matrix. Tungsten mineralization is dominated by wolframite $\pm$ ferberite, with accessory cassiterite and sulphide minerals.

Geological interpretation was carried out using Leapfrog Geo®, integrating lithological logging, structural data, alteration intensity, and grade continuity. The SHB was modelled as a single continuous mineralized domain reflecting its strong internal geological and grade continuity (Figure 14-1).

Data from the 2025 RC drilling campaign confirmed the continuity of the breccia geometry and mineralization toward the western flank and down-dip, areas which remain open and incompletely tested. No additional breccia bodies or satellite domains were included in the Mineral Resource Estimate (Figure 14-2).

While earlier drilling defined the Santa Helena Breccia as a steeply dipping, sub-vertical body with consistent breccia textures, additional drilling in the central and northern portions of the system indicates local geometric complexity, including eastward and down-dip extensions. Recent western step-out drilling intersected altered granitic host rocks containing mineralized corridors that remain spatially and genetically consistent with the established breccia model and exhibit strong geospatial correlation with upper-level mineralization.

The SHB is open for exploration both along strike and to depth. Domain wireframes were designed by semi-implicit modelling and explicit constraining using geological mining software Leapfrog Geo®.

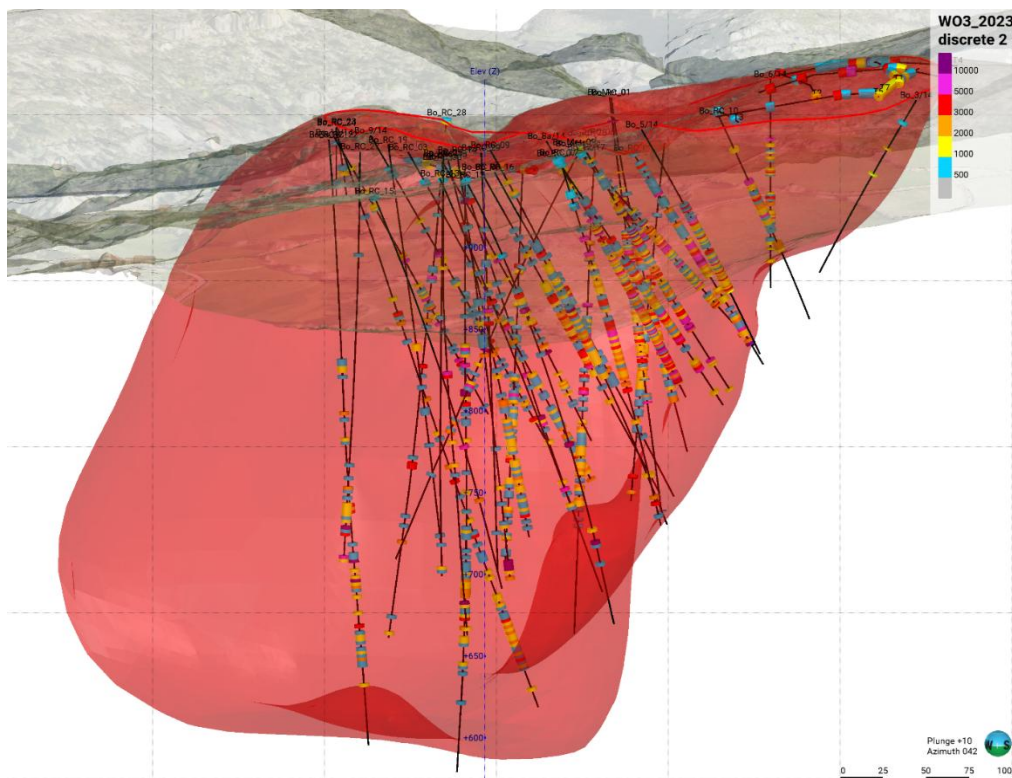


Figure 14-1: 2025 Three-Dimensional View of the SHB Body current wireframe looking Northeastwardly with assay data >500 ppm WO₃ (0.05 % WO₃) displayed.

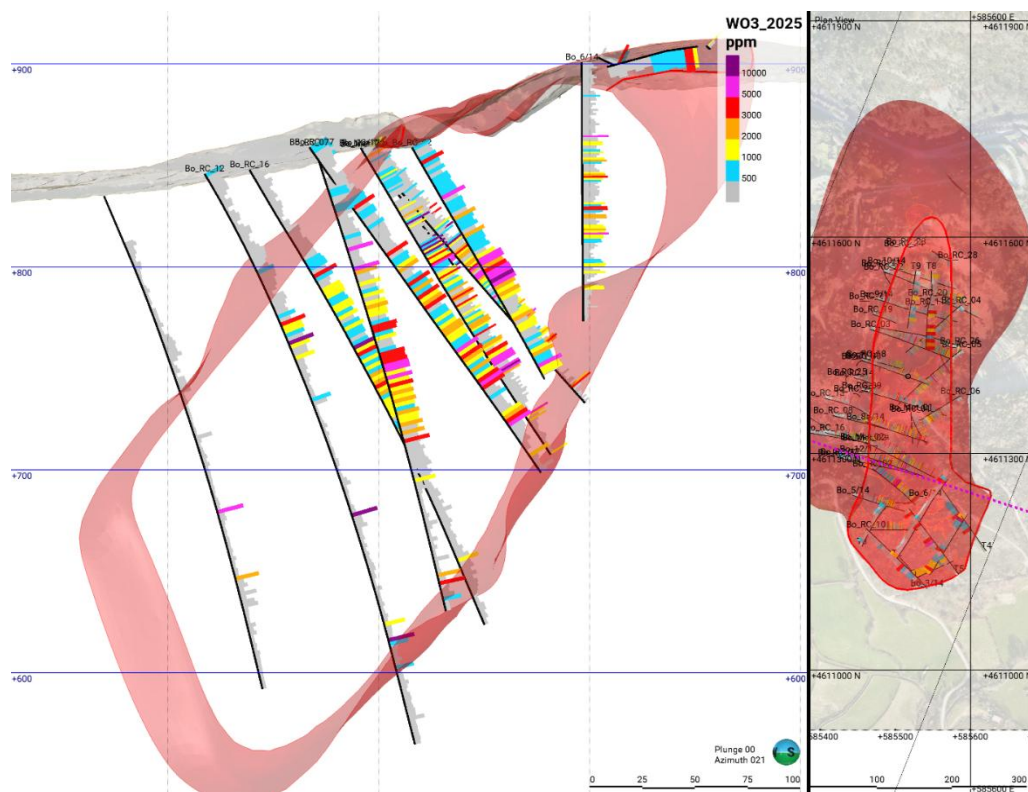


Figure 14-2: Cross-Section at central-south area of SHB looking Southwest, displaying the WO₃ grades against the defined mineralized wireframe.

14.5. Grade Restrictions, Compositing, Statistics and Variography

Assay data were composited to a uniform length consistent with the dominant sample support and drill hole spacing. Compositing was applied prior to statistical analysis and variography (Figure 14-3).

Exploratory statistical analysis was conducted on both raw and composited WO₃ grades within the breccia domain. WO₃ grades exhibit a positively skewed distribution, typical of structurally controlled tungsten mineralization with locally coarse wolframite accumulations (Figure 14-4 and Table 14-1).

High-grade values were assessed in the context of their spatial clustering and geological setting. Grade restrictions were applied where appropriate to limit the influence of extreme values while preserving geological realism and overall grade tenor. Restriction thresholds were determined using a combination of statistical breakpoints and geological judgement. While the methodological approach is consistent with the previous MRE, threshold values were updated to reflect the expanded dataset and improved statistical definition.

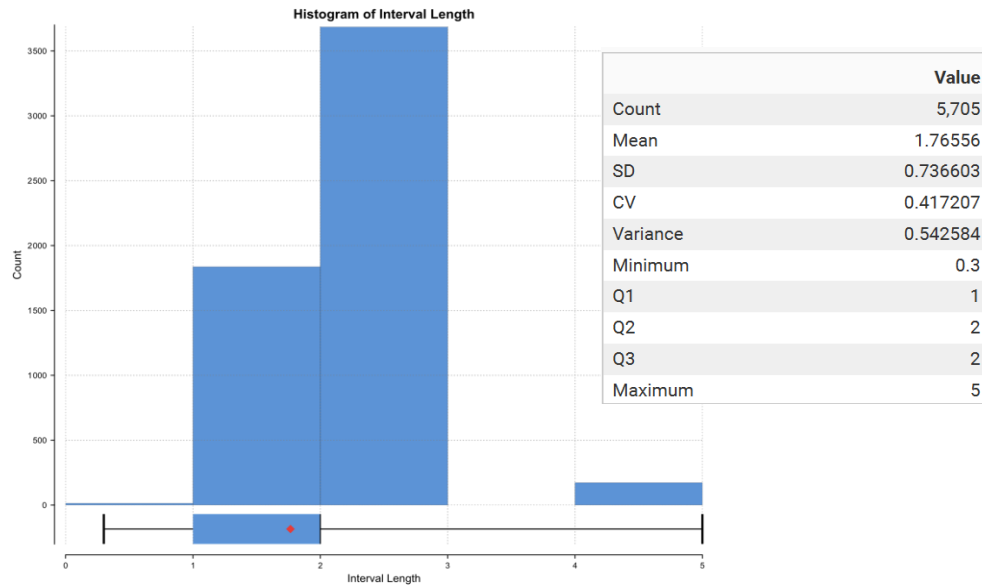


Figure 14-3: Histogram and statistics of Sample Interval Lengths

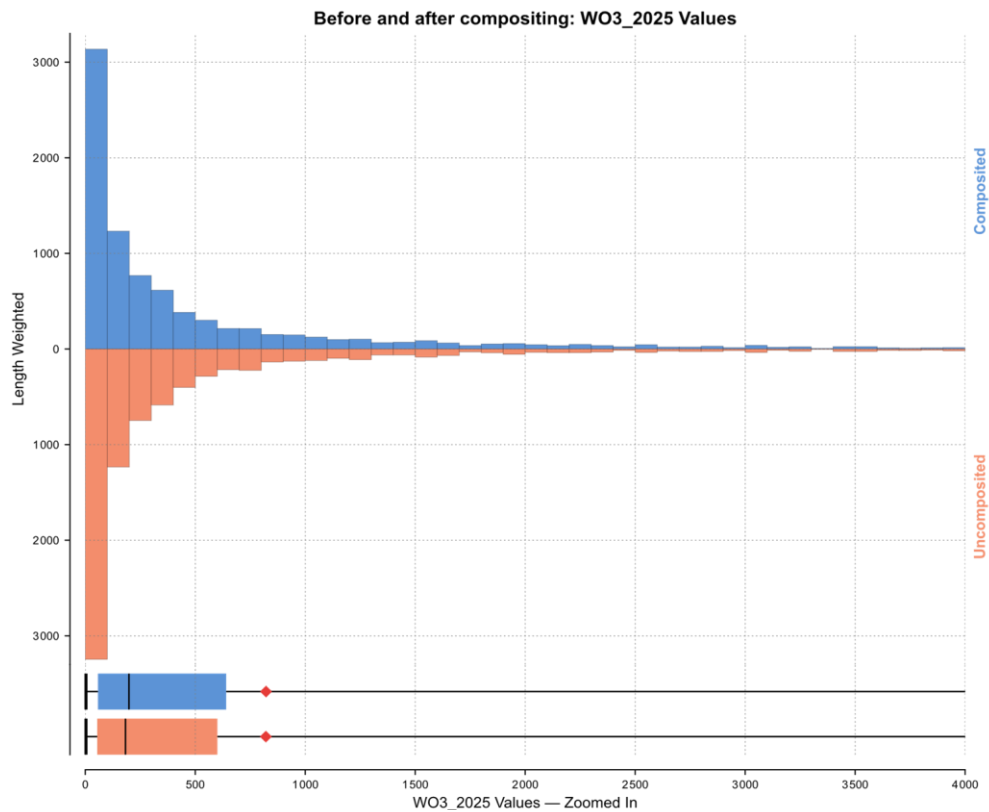


Figure 14-4: Histogram of Tungsten Values Before and After Compositing

Directional correlograms were calculated for WO_3 within the breccia domain. Variography identified anisotropic continuity consistent with the geometry and structural orientation of the SHB. Nested correlograms models were developed to represent short-range and longer-range continuity, and parameters were refined where supported by additional drilling data.

Table 14-1: Composited vs Uncomposited Tungsten Values at SHB domain.

	Composited	Uncomposited
Count	4338	4879
Length	8687.8	8664.3
Mean	821.8	821.1
SD	3991.3	4090.3
CV	4.9	5.0
Variance	15930508.1	16730455.3
Minimum	3.2786	3.2786
Q1	57.8799	54.4752
Q2	198.6075	182.845
Q3	640.588	600.236
Maximum	204000	204000

14.5.1. Grade Restrictions and Outlier Treatment

Due to the nuggety nature of wolframite mineralization within the Santa Helena Breccia, a targeted outlier treatment strategy was implemented to mitigate the undue influence of very high-grade WO_3 values on the estimation while preserving their local geological significance. Rather than applying a global hard grade cap, an outlier clamping approach was adopted. This method limits the spatial influence of extreme values while retaining original assay values in the immediate vicinity of the sample, thereby maintaining grade continuity and honoring local high-grade domains.

Based on statistical analysis, log-probability plots, and cumulative frequency distributions (Figure 14 5 and Figure 14 7), a clamp threshold of 3.9% WO_3 (39,000 ppm) was selected. This value corresponds to the upper inflection observed in the log-probability plot and represents the transition from the main grade population to a sparse population of extreme outliers. For samples exceeding 3.9% WO_3 , the following spatial clamping rules were applied:

- The original assay value was retained within a distance equivalent to 30% of the applicable search radius used for grade interpolation;
- Beyond 30% of the search radius, values exceeding 3.9% WO_3 were clamped to 3.9% WO_3 for estimation purposes.

This approach ensures that very high-grade samples contribute appropriately to nearby block estimates while preventing their influence from extending unrealistically over longer distances, which would not be supported by the geological understanding of the breccia-hosted mineralization.

14.5.2. Statistical Validation of Grade Restriction

Selected clamping threshold and spatial restriction parameters were validated through comparison of:

- unrestrained and restrained grade histograms.
- cumulative probability plots; and
- mean grade trends before and after restriction.

These comparisons demonstrate that the clamping strategy effectively reduces global grade bias while preserving local high-grade variability and maintaining a smooth and geologically reasonable grade distribution. The application of clamping results in minimal impact on the overall mean grade while significantly improving estimation stability.

14.5.3. Variography Methodology

Spatial continuity of WO₃ grades within the Santa Helena Breccia was evaluated using directional correlogram analysis, rather than traditional experimental semivariograms. Correlograms were selected as the primary spatial continuity tool due to the strong nugget effect and highly skewed grade distribution characteristic of breccia-hosted wolframite mineralization.

Correlograms provide a normalized measure of spatial correlation (ranging from 0 to 1) and are less sensitive to extreme values than classical semivariograms. This makes them particularly well suited for nuggety systems where localized high-grade values may otherwise dominate the variogram structure and obscure meaningful spatial trends.

The correlogram analysis was conducted using clamped composite data (as described in Section 14.5), ensuring that spatial continuity parameters were not distorted by extreme outliers while preserving the underlying geological variability.

14.5.4. Directional Continuity and Anisotropy

Directional correlograms were generated to evaluate spatial continuity along the principal geological orientations of the Santa Helena Breccia. A 2D correlogram map was used to identify the dominant direction of continuity, supported by directional correlograms along the major, semi-major, and minor axes (Figure 14-6).

The analysis indicates:

- A well-defined anisotropic spatial continuity, with the major axis aligned with the principal elongation of the breccia body, consistent with geological interpretation;
- A moderate to strong nugget effect, reflecting the coarse-grained and locally clustered nature of wolframite mineralization;
- Rapid decay of correlation along the minor axis, supporting the application of shorter ranges perpendicular to the main breccia fabric.

The correlogram sill was normalized to 1.0, and practical ranges were interpreted based on the distance at which correlation decays to near-zero values along each principal direction.

14.5.5. Application to Grade Interpolation

The interpreted correlogram ranges and anisotropy parameters were used to define the search ellipsoid geometry and orientation applied during grade interpolation. While correlograms were used for continuity analysis, the resulting parameters are directly equivalent to those derived from variogram modeling and are fully consistent with CIM-recognized geostatistical practice.

The use of correlograms does not alter the conceptual basis of kriging or distance-based interpolation methods but provides a more robust and stable framework for defining spatial continuity in deposits characterized by high nugget effects and non-Gaussian grade distributions.

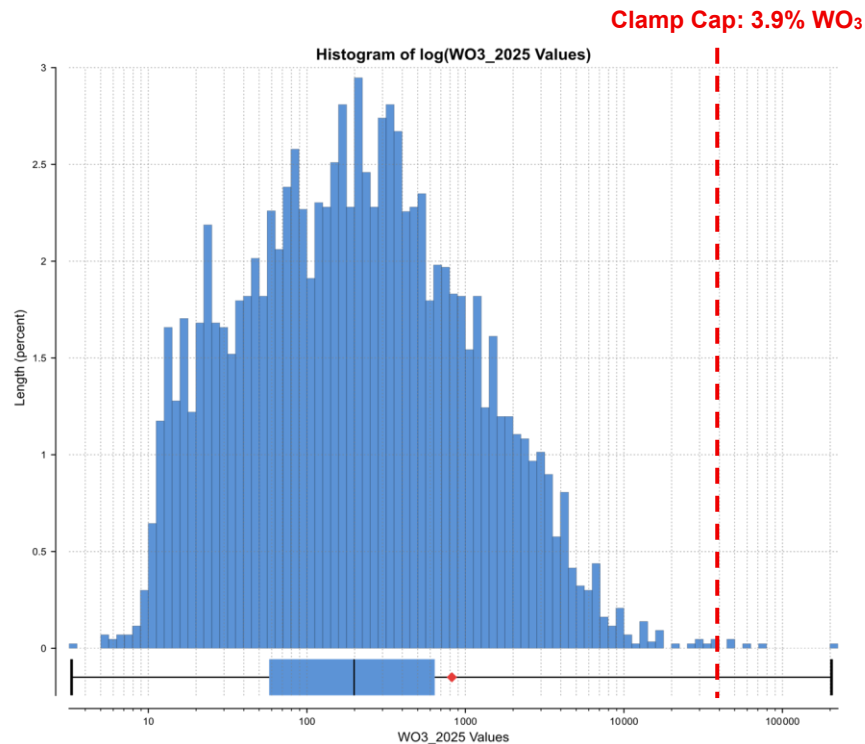


Figure 14-5: Log-scale histogram of WO_3 composite grades illustrating the selected clamping threshold at 3.9% WO_3 .

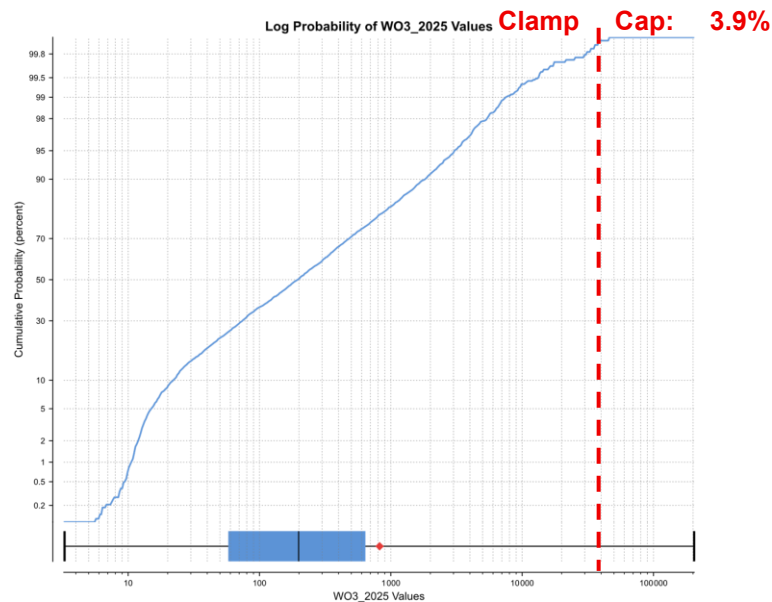


Figure 14-6: Log-probability plot of cumulative WO_3 grade distribution showing the inflection point supporting the 3.9% WO_3 clamping threshold.

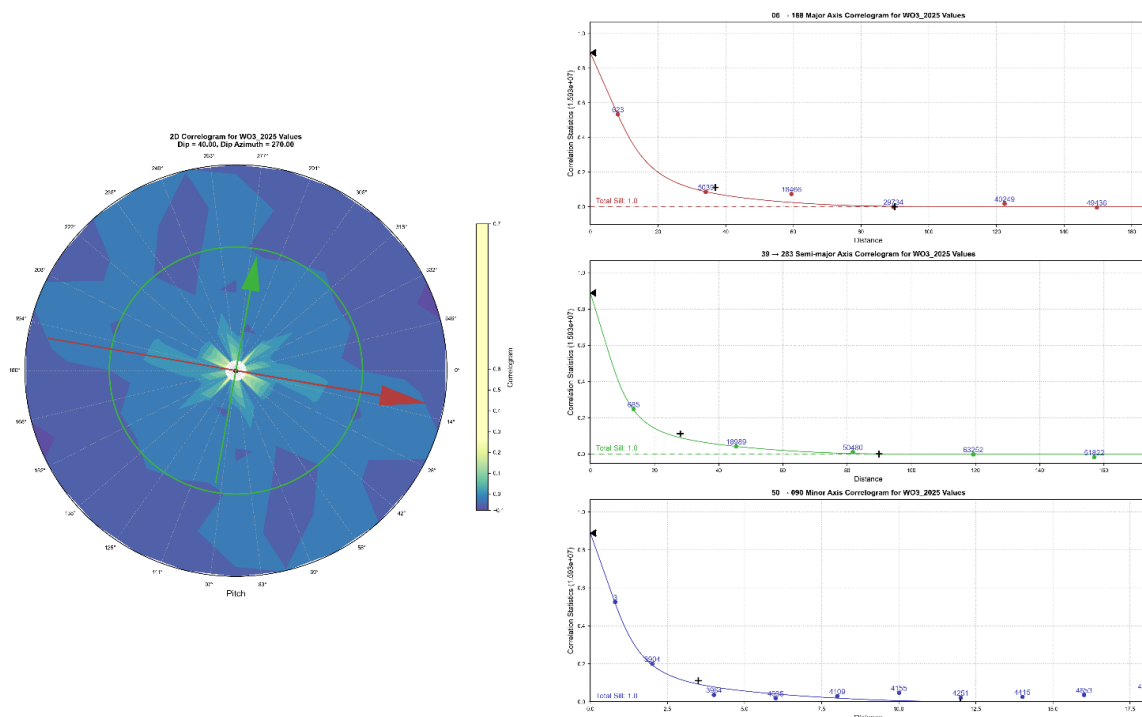


Figure 14-7: Two-dimensional correlogram and directional correlogram plots for WO_3 composite grades showing spatial continuity and anisotropy within the Santa Helena Breccia. The correlogram analysis supports the selection of anisotropic search parameters consistent with the geological interpretation and breccia geometry.

14.6. Block Model Definition

The Mineral Resource Estimate was prepared using a three-dimensional block model covering the extent of the Santa Helena Breccia. Parent block dimensions were selected based on drill spacing, geological complexity, and the expected scale of selective underground mining.

Sub-blocking was applied to accurately represent the irregular geometry of the breccia. Block orientation was aligned with the interpreted breccia geometry. The block model configuration is considered appropriate for the level of confidence in the data and the intended use of the Mineral Resource Estimate (Table 14-2).

Table 14-2: Mineral Resource Block Model Definition.

Number of parent blocks:	$74 \times 78 \times 93 = 536,796$
Sub-blocks per parent:	$2 \times 2 \times 2 = 8$
Base point:	585330, 4611000, 940
Parent block size:	5, 10, 5
Minimum sub-block size:	2.5, 5, 2.5
Leapfrog Rotation:	
Azimuth:	0°
Dip:	0°
Pitch:	0°
Boundary size:	370, 780, 465

The selected block dimensions and sub-blocking strategy are considered appropriate for Mineral Resource reporting purposes and are not intended to represent selective mining unit dimensions.

14.7. Bulk Density

Bulk density values were assigned based on measured density determinations collected from representative samples of the breccia and host lithologies. Density data were reviewed statistically and applied by geological domain (Figure 14-8).

Certified specific gravity measurements were collected by ALS Global Laboratories during their analytical work. An Inverse Distance Cubed (“ID³”) interpolation was used to populate blocks within the density model where sufficient measurements were available; blocks not informed by nearby measurements were assigned the domain mean density with known density measurements. The unpopulated blocks used the average calculated density value for the breccia domain of 2.77 ton/m³ (Table 14-3).



Length Weighted Values

Count	2118
Length	3867.7
Mean	2.77
SD	0.053
CV	0.019
Variance	0.003
Minimum	2.60
Q1	2.74
Q2	2.77
Q3	2.80
Maximum	3.37

14.8. Search Parameters, Grade Interpolation and Validation

WO₃ grades were interpolated into the block model using Ordinary Kriging (“OK”), selected based on drillhole spacing, geological continuity, and the spatial correlation characteristics defined through correlogram-based continuity analysis. Ordinary kriging was considered the most appropriate method to balance local grade variability with overall estimation stability within the nuggety, breccia-hosted tungsten system.

A multi-pass search strategy was employed to ensure appropriate grade support while controlling extrapolation and smoothing effects. Search ellipsoids were defined using ranges and anisotropy parameters interpreted from directional correlogram analysis and aligned with the geological orientation of the Santa Helena Breccia. Sample limits per block and per drillhole were applied in all estimation passes to prevent local clustering bias.

The multi-pass strategy comprised progressively expanding search criteria corresponding to increasing confidence categories, supporting Mineral Resource classification and ensuring that higher-confidence blocks are estimated using closer and better-supported data (Table 14-4).

Model validation included multiple qualitative and quantitative checks, including:

- visual comparison of estimated block grades against drillhole assay data on plans and sections;
- swath plot analysis comparing block model grades with input composite grades along principal geological orientations (Figure 14-9, Figure 14-10 and Figure 14-11); and
- comparison of global and domain-specific statistical distributions between input composites and interpolated block grades.

In addition, statistical comparisons were undertaken between Nearest Neighbour (“NN”), Inverse Distance Cubed (“ID”³), and Ordinary Kriging (“OK”) interpolation methods (Table 14-5). This analysis demonstrates that Ordinary Kriging produces mean grades consistent with alternative methods while achieving reduced variance and controlled smoothing relative to NN and ID³, consistent with expectations for kriged estimates in nuggety systems.

Validation confirms that the block model adequately reproduces the spatial distribution, grade continuity, and statistical characteristics of the input data without introducing material global bias or unrealistic grade propagation.

The estimation passes described at Table 14-4 form the basis for Mineral Resource classification, as described in Figure 14-12.

Table 14-4: : Summary of search ellipsoid parameters derived from correlogram analysis and applied during Ordinary Kriging estimation for Measured, Indicated, and Inferred Mineral Resources.

							P0.5 (Measured)							P1 (Indicated)							P2 (inferred)						
Variogram name	Major	Semi Major	Minor	Dip (°)	Dip Az (°)	Pitch (°)	40% Major	40% Semi	40% Minor	Min samp.	Max samp.	samp. DH	min DH	100% Major	100% Semi	100% Minor	Min samp.	Max samp.	samp. DH	min DH	200% Major	200% Semi	200% Minor	Min samp.	Max samp.	samp. DH	min DH
Kr, WO3	90	90	12	40	270	10	36	36	4.8	8	10	2	4	90	90	12	6	8	2	3	180	180	24	4	6	2	2
Kr, Sn	140	104	20	40	270	33	56	42	8	8	10	2	4	140	104	20	6	8	2	3	280	208	40	4	6	2	2
Kr, Cu	120	84	21	40	270	3	48	34	8.4	8	10	2	4	120	84	21	6	8	2	3	240	168	42	4	6	2	2
Kr, Ag	110	75	14	40	270	169	44	30	5.6	8	10	2	4	110	75	14	6	8	2	3	220	150	28	4	6	2	2

Table 14-5: Statistical comparison of Nearest Neighbour (NN), Inverse Distance Cubed (ID³), and Ordinary Kriging (OK) block model estimates illustrating smoothing behaviour and global grade consistency.

	NN	ID3	oK
Block Count	180 518	171 307	171 307
Volume (m3)	32 984 063	31 310 875	31 310 875
Mean (WO3 ppm)	740.9	746.9	741.8
SD	3 714	1 958	1 273
CV	5.0	2.6	1.7
Variance	13 791 345	3 834 498	1 620 241
Minimum	3.3	6.7	13.0
Q1	57.2	149.7	184.2
Q2	176.5	370.0	444.8
Q3	571.2	848.8	888.8
Maximum	204 000.0	156 557.3	75 457.1

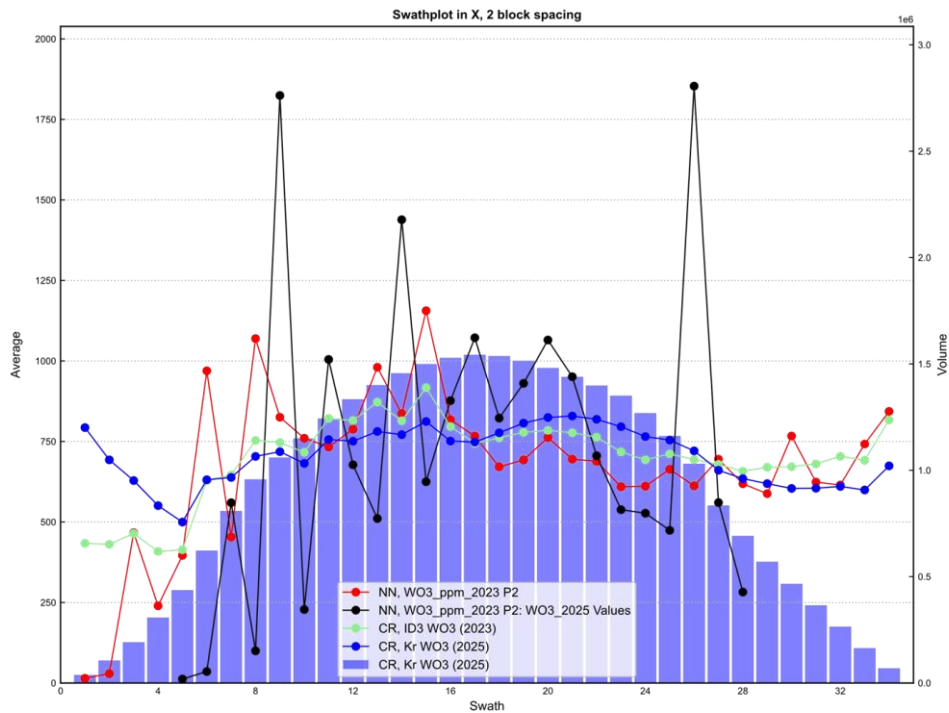


Figure 14-9: X-Axis WO3 Swath Plots.

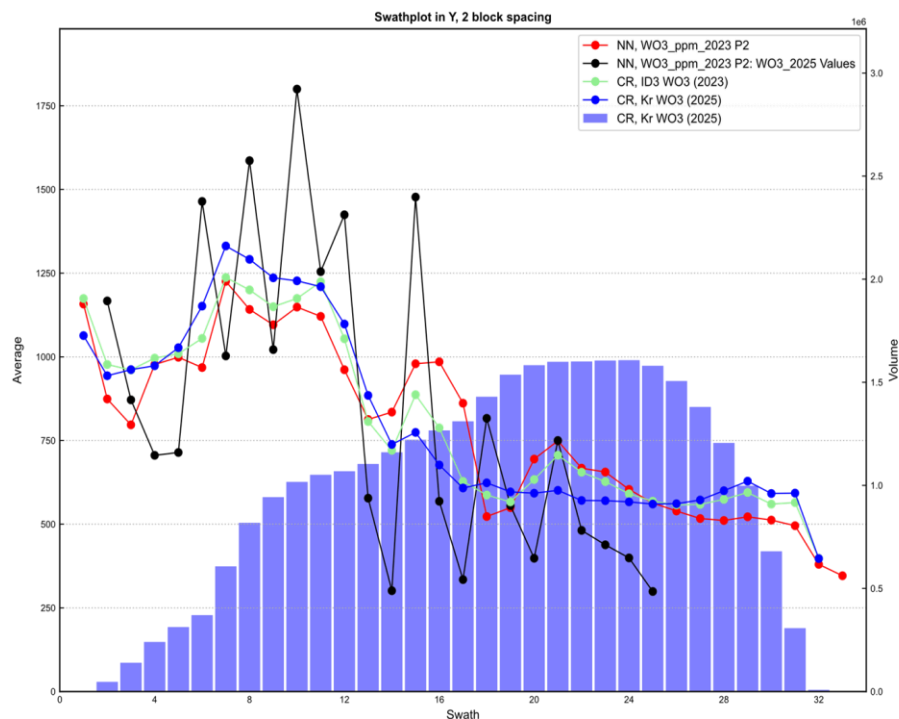


Figure 14-10: Y-Axis WO3 Swath Plots.

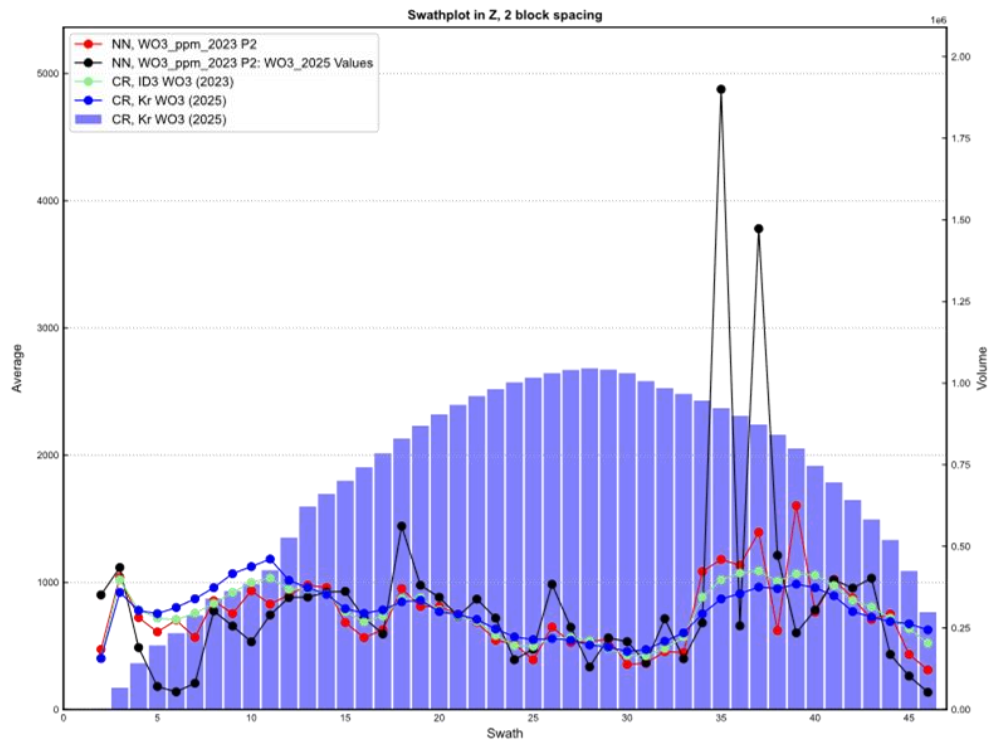


Figure 14-12: Z-Axis WO3 Swath Plots.

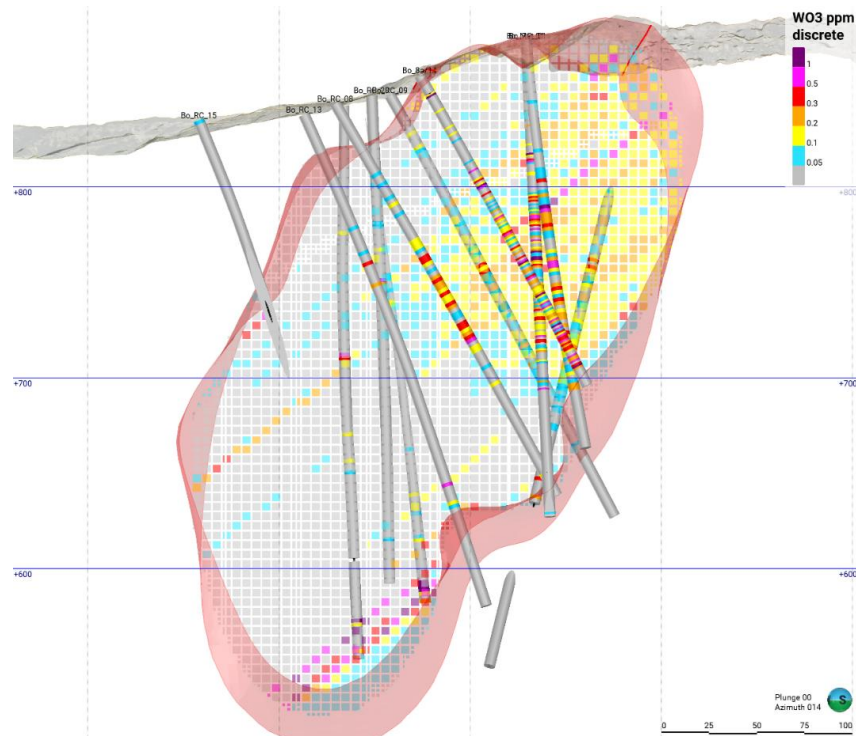


Figure 14-11: Cross-Section Looking Northward Comparing WO3 % at Blocks and assays.

14.9. Mineral Resource Classification

Mineral Resources were classified as Measured, Indicated, or Inferred in accordance with the CIM Definition Standards (2014, updated 2023), based on a combination of geological confidence, data density, spatial continuity, and the quality of the grade estimation.

Classification was guided by the results of the multi-pass Ordinary Kriging estimation strategy described in Section 14.8, with each estimation pass representing progressively decreasing levels of confidence.

The classification framework is summarized as follows:

- Measured Mineral Resources are supported by blocks estimated in the first estimation pass (P0.5), characterized by short search distances, strong spatial support, and a minimum number of informing composites. These blocks are located in areas of dense drilling where geological continuity and grade distribution are well constrained.
- Indicated Mineral Resources are defined by blocks estimated in the second estimation pass (P1), using expanded search distances relative to P0.5. These blocks retain reasonable confidence in geological and grade continuity but are supported by a lower density of informing data.
- Inferred Mineral Resources are assigned to blocks estimated in the third estimation pass (P2), characterized by the largest search distances and reduced data support. In these areas, geological continuity is interpreted but remains less certain, and grade estimates are considered to be of lower confidence.

Blocks estimated beyond the defined P2 search parameters, or those failing to meet minimum data requirements, were not classified as Mineral Resources.

The classification is spatially coherent, reflects the geological interpretation of the Santa Helena Breccia, and is consistent with the observed distribution of drilling, spatial continuity derived from correlogram analysis, and estimation performance.

14.10. Cut-off Grade and Reasonable Prospects for Eventual Economic Extraction

Mineral Resources have been reported above a cut-off grade of 0.09% WO₃. The cut-off grade reflects reasonable assumptions regarding:

- A conceptual underground mining method, including long-hole open stoping;
- A gravity-dominant processing route supported by metallurgical testwork;
- A tungsten price of US\$500 per metric tonne unit (“mtu”) of WO₃;
- Conceptual operating costs of US\$35–40 per tonne; and

- An assumed overall WO_3 recovery of approximately 80%, used solely to support the assessment of reasonable prospects for eventual economic extraction.

The resource was constrained using an implicit grade shell generated from the block model using a numeric iso-value of 0.6. Isolated volumes smaller than 5,000 m³ were excluded to ensure geological continuity and compliance with CIM requirements for reasonable prospects for eventual economic extraction.

No by-product credits, capital costs, or economic analysis have been applied.

A grade–tonnage sensitivity analysis was prepared to support cut-off grade selection and demonstrate the robustness of the Mineral Resource to variations in WO_3 cut-off.

Figure 14 13 illustrates the cumulative tonnes above cut-off and the corresponding average WO_3 grade for a range of cut-off grades between 0.00% and 0.50% WO_3 . The analysis demonstrates a smooth and continuous grade–tonnage relationship, reflecting the strong geological continuity of mineralization within the breccia domain.

The grade–tonnage curve shows a progressive increase in average WO_3 grade with increasing cut-off, accompanied by a corresponding and predictable reduction in tonnage. No abrupt inflections or discontinuities are observed, indicating a well-behaved grade distribution and limited sensitivity to cut-off selection.

The selected reporting cut-off grade of 0.09% WO_3 lies within a region of the curve where a substantial proportion of the contained metal is retained while maintaining grades consistent with conceptual underground mining and gravity-dominant processing assumptions.

This grade–tonnage analysis is presented for sensitivity and reporting support purposes only and does not represent an economic evaluation. No modifying factors have been applied, and Mineral Resources do not have demonstrated economic viability.

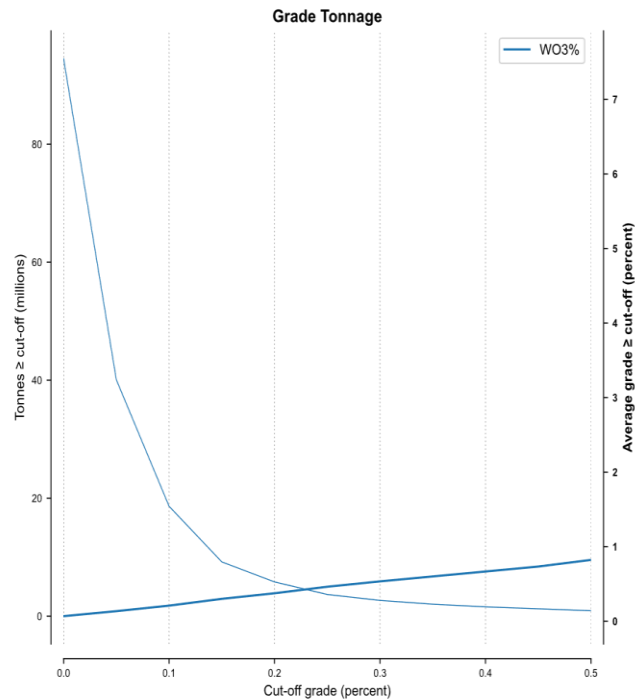


Figure 14-13: Grade-tonnage curve for the Santa Helena Breccia Mineral Resource showing cumulative tonnes above cut-off and corresponding average WO₃ grade for a range of WO₃ cut-off grades. The curve supports the selection of a 0.09% WO₃ reporting cut-off and demonstrates the robustness of the Mineral Resource to cut-off variation.

14.11. Mineral Resource Statement

The updated Mineral Resource Estimate for the Borralha Tungsten Project, effective 16 November 2025, is presented in Table 14-1. The estimate is reported at a 0.09% WO₃ cut-off grade, is undiluted and in situ, and is classified in accordance with CIM Definition Standards.

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

Table 14-6: Mineral Resource Statement

TOX	Category	Density g/cm ³	Mass Mt	WO ₃ % %	Average Value			Material Content			
					Cu ppm ppm	Ag ppm ppm	Sn ppm ppm	WO ₃ % t	Cu ppm t	Ag ppm Mt. oz	Sn ppm t
oxSHB	Measured	2.76	0.1	0.14	412	2.2	77	97	28	0.00	5
	Indicated	2.78	1.5	0.17	450	2.3	82	2 574	675	0.11	124
	Measured + Indicated	2.78	1.6	0.17	448	2.3	82	2 671	703	0.12	129
	Inferred	2.79	0.3	0.20	570	3.1	97	601	169	0.03	29
noxSHB	Measured	2.81	0.9	0.22	826	5.5	106	1 991	740	0.16	95
	Indicated	2.80	10.5	0.21	654	4.2	86	22 399	6 890	1.41	903
	Measured + Indicated	2.80	11.4	0.21	667	4.3	87	24 391	7 630	1.57	998
	Inferred	2.78	7.5	0.18	355	3.2	65	13 277	2 646	0.78	482
Total	Measured	2.81	1.0	0.22	796	5.2	104	2 088	769	0.16	100
	Indicated	2.79	12.0	0.21	628	3.9	85	24 974	7 565	1.52	1 027
	Measured + Indicated	2.79	13.0	0.21	641	4.0	87	27 062	8 333	1.68	1 127
	Inferred	2.78	7.7	0.18	363	3.2	66	13 878	2 815	0.80	511

Differences may occur in totals due to rounding.

The Mineral Resource estimate may be materially affected by environmental, permitting, legal, social, market and other relevant factors that could influence the timing, cost, or feasibility of future development. These factors are discussed in more detail elsewhere in this Technical Report, including Sections 19 (Market Studies and Contracts), 20 (Environmental Studies, Permitting and Social or Community Impact), and 22 (Economic Analysis).

15. Mineral Reserve Estimates

No Mineral Reserves have been estimated for the Borralha Project. This Technical Report is based on a Preliminary Economic Assessment and does not constitute a pre-feasibility study or feasibility study supporting the declaration of Mineral Reserves. The mine design, mine plan and economic analysis discussed in this report are based on Mineral Resources and other technical assumptions at a conceptual study level.

In accordance with NI 43-101, the economic analysis presented in this report is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that the results of the Preliminary Economic Assessment will be realized.

Accordingly, no Proven or Probable Mineral Reserves are declared, and no attempt has been made in this report to convert Mineral Resources to Mineral Reserves. The work required to support a future reserve estimate would include, at a minimum, additional geological confidence, mine engineering, geotechnical, hydrogeological, metallurgical, infrastructure, environmental, permitting, marketing and cost definition work at pre-feasibility or feasibility level.

16. Mining Methods

16.1. Old Mining Infrastructure

The Borralha mine operated until 1980. Historical mining developments were constructed at levels 90, 51, 46, 26, 12, -60, and -110, with the river height designated as Level 0. These galleries extend approximately 500 meters in a north-south direction and around 200 meters east-west. The gallery widths range from 2 to 2.5 meters, and they currently function as drainage infrastructure.

A spatial perspective of the locations of the old galleries, indicated in white, can be reviewed in Figure 16-1 alongside the layout of the new mine design shown in various colors.

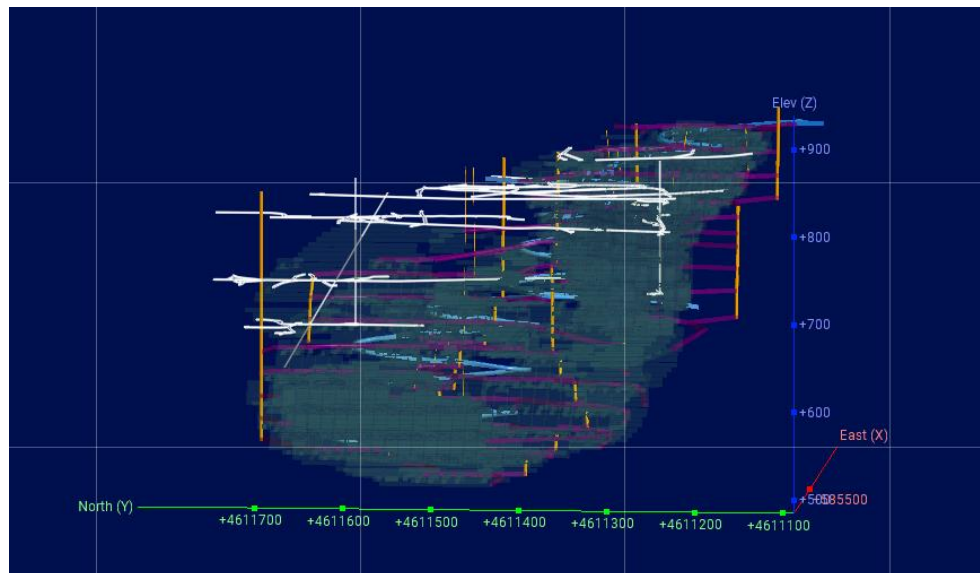


Figure 16-1: Spatial perspective of the locations of the old galleries alongside the layout of the new mine design.

16.2. Geotechnical

This chapter focuses on the structural and geotechnical characterization of the Borralha Mine rock mass, with particular emphasis on the influence of discontinuities, stress conditions, and geomechanical properties on the stability of underground excavations. The analysis is based on geological mapping, structural profiles, and existing previous studies.

16.2.1. Geological-Structural Framework

The Borralha area presents a geological framework marked by high structural complexity, resulting from an intense tectonic history associated with the Variscan orogeny. The rock mass is composed of Paleozoic metasediments, predominantly schists, intruded by granitic bodies and affected by hydrothermal processes that generated breccia zones and mineralized veinlets.

From a structural perspective, the presence of a well-developed schistosity stands out, constituting the main plane of mechanical anisotropy of the rock mass. This structure, often associated with weakness planes, strongly controls failure mechanisms, especially in schistose lithologies. In addition to schistosity, a complex network of fractures and faults is observed, with different orientations and persistence levels, which fragment the rock mass and reduce its overall strength.

Structural data indicate:

- Preferred vein orientations: approximately N10°E to N15°E.
- Variable dips, often steep in vertical veins.
- Presence of conjugate fracture systems.

This structural organization reveals strong tectonic control over mineralization emplacement. Discontinuities control the overall strength of the rock mass, excavation stability, and permeability.

The relative orientation of these discontinuities with respect to excavation surfaces is a critical factor, as it directly controls the potential for planar, wedge, or sliding failures. In particular, when discontinuities have dips subparallel to free surfaces, there is a significant increase in instability probability.

16.2.2. Geotechnical Characterization of the Rock Mass

The geotechnical characterization is based on the distinction of three main lithologies: breccia, schist, and granite, which exhibit significantly different mechanical behaviors on Table 16-1.

Granite represents the most competent unit, with high uniaxial compressive strength, although its behavior is often controlled by fracture density and orientation. Schist, in contrast, has low strength and strong anisotropy, being particularly susceptible to failure along schistosity planes. Breccias show intermediate but highly variable behavior, depending on the degree of cementation and internal heterogeneity.

Table 16-1: Lithology and Strength Characteristics of Tested Rock Samples

Lithology	Strength (UCS)	Behavior
Breccia	~59 MPa	Heterogeneous, weak to moderate competence
Schist	~18 MPa	Anisotropic, weak competence
Granite	~132 MPa	High competence

Mechanical parameters obtained from laboratory tests highlight this variability, with different strength and deformability values among lithologies. Cohesion values range between 0.32 and 0.80 MPa, and friction angles between 42° and 57°. This heterogeneity results in a global rock mass behavior that cannot be described solely by average properties, requiring consideration of discontinuities and geological structure.

Geomechanical classification using the Barton Q index yielded a representative value of $Q' = 16$, corresponding to a rock mass of fair to good quality. However, the dispersion of observed values indicates the presence of locally very weak zones, especially in faulted or highly fractured areas, where geotechnical behavior may significantly deteriorate.

16.2.3. Stress State

In the development of any stability study of a mining project, it is important to know the quality of the rock, both through laboratory tests and through geomechanical classifications and the empirical calculations that can be derived from them, as well as it is necessary to know the system of stresses that affect the environment of the deposit.

At the moment, no stress tests have been carried out, which will be recommended in the following phases of the study. Therefore, in this analysis we refer to the "World Stress Map Program" (<https://www.world-stress-map.org>) where the state of tensions around the planet can be consulted. the General Map of Mediterranean and Central European tensions produced in 2016 in Figure 16-2.

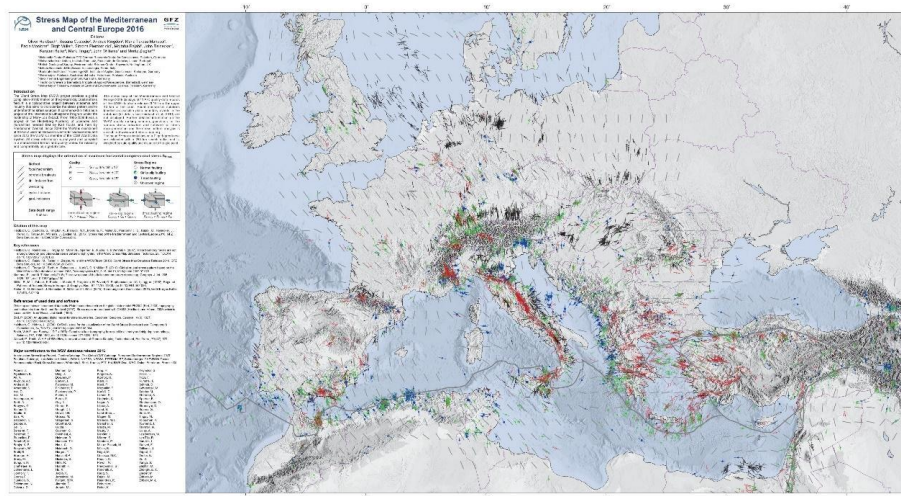


Figure 16-2: S Stress Map of the Mediterranean and Central Europe, 2016.

Vertical stress is caused by the weight of the overlying rock column. The coefficient represents the ratio of horizontal stress to vertical stress in situ, and is defined as: K , and the value is selected for a rock mass with $E_h = 10$ GPa, as shown in the Figure 16-3.

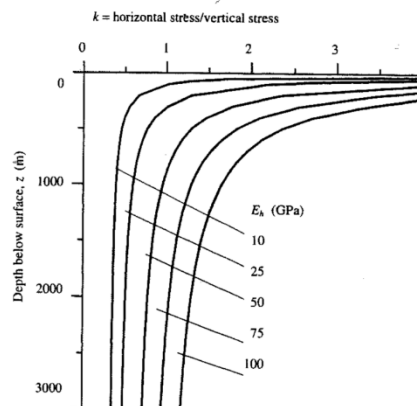


Figure 16-3: S.- Relationship between horizontal and vertical stress for different modules, based on Sheorey's equation. According to Sheorey (1994).

So for a general operation of 300 m depth, stress state parameters are shown at Table 16-2

Table 16-2: Stress state parameters for the general of 300 m

Depth	300 m
Vertical Stress	8.1 MPa
K	0.55
Horizontal stress	4.5 MPa

16.2.4. Structural Influence – N method

The stress state in the rock mass results from the combination of natural stresses and those induced by excavations. Given the relatively shallow depth of the mine, in situ stresses are moderate, and intense compressive failure phenomena are not expected. However, the opening of stopes and galleries causes significant stress redistribution, leading to localized concentrations, particularly in the roof and around excavation boundaries.

The stress factor analysis ($A = 1.0$) indicates that the relationship between intact rock strength and induced stresses is balanced, suggesting a globally stable regime. However, local stability is strongly influenced by the presence and orientation of discontinuities, whose effect is incorporated through factor B.

The adopted values for factor B (0.6 for the roof and 0.4 for the walls) reflect a situation where discontinuities are unfavorably oriented relative to the roof, promoting failure mechanisms such as sliding or block detachment. This condition is further aggravated by gravity effects, represented by factor C, which highlights the lower stability of horizontal surfaces compared to vertical ones.

Thus, the stress state cannot be analyzed in isolation and must be interpreted together with the rock mass structure, since discontinuities control the dominant failure mechanisms.

16.2.5. Stability Analysis of Stopes

The stability of stopes was evaluated using the Mathews method, which integrates rock mass characteristics with excavation geometry. The stability number N' , derived from the Q' index and adjustment factors A, B, and C, varies between the roof and the walls, reflecting the different influence of structural conditions.

For the roof, the N' value (19.2) indicates moderate resistance capacity, which, when combined with the hydraulic radius corresponding to stope dimensions, places this surface in a transition zone between stability and instability. This corresponds to a semi-stable condition, where localized falls may occur in the absence of support.

For the walls, the higher N' value (28.8) and more favorable geometry result in a generally more stable condition, although still subject to local variations associated with unfavorable discontinuities.

The adopted stope dimensions (15 m width, 25 m height, and 50 m length) are consistent with standard practices in similar operations but require appropriate support measures, particularly at the roof level.

The analysis shows that stope stability is mainly controlled by the interaction between excavation geometry and rock mass structure, with the roof being the most critical element from a geotechnical standpoint.

16.2.6. Support Design and Structural Behavior

Given the identified conditions, support design plays a fundamental role in ensuring excavation stability. In addition to primary support, the use of cable bolts in stope roofs helps reinforce the rock mass, with lengths between 6 and 9 meters and spacing of approximately 2 meters, increasing strength capacity and limiting the fall of unstable blocks along discontinuities.

This type of support is particularly effective in fractured rock masses, where stability depends on block interlocking. By anchoring these blocks to deeper and more competent zones, cable bolts contribute to a behavior closer to that of a continuous medium, reducing failure risk.

In other infrastructures, such as ramps and galleries, support is designed according to rock mass quality and excavation size, being more intensive in lower-quality zones. The combination of rock bolts (2.4 meters), shotcrete, and, in specific cases, wire mesh allows control of different instability mechanisms, including sliding along discontinuities, block detachment, and progressive degradation of the rock mass.

16.2.7. Influence of the Mining Method on Geotechnical Behavior

The adopted mining method significantly influences stress conditions and rock mass stability. The use of sublevel stoping with backfill helps limit the extent of open voids and reduce stress redistribution, contributing to the overall stability of the mine.

Paste backfill acts as a passive support element, providing confinement to stope walls and reducing rock mass deformation. This effect is particularly important in heterogeneous and fractured rock masses, such as that of the Borralha Mine, where stability largely depends on discontinuity control.

However, during the interval between excavation and backfilling, the rock mass is subjected to a more unfavorable stress state, making it essential to ensure that installed support is sufficient to maintain stability during this critical period.

16.2.8. Recommendations

Considering the identified limitations, a set of measures is recommended to reduce uncertainty and improve safety and operational efficiency.

First, strengthening the geotechnical investigation campaign is essential, through additional boreholes and detailed structural mapping. Systematic characterization of discontinuities—including orientation, spacing, persistence, and infill conditions—will significantly improve the geomechanically model.

In parallel, the development of a continuous geotechnical monitoring program is recommended, including appropriate instrumentation such as extensometers, convergence measurements, and possibly load cells in support systems. This monitoring will help validate design assumptions and detect instabilities early.

From a stress analysis perspective, numerical modeling using finite element or finite difference methods would be beneficial to simulate stress redistribution associated with mining sequences. This approach would help identify critical zones and optimize stope sequencing and backfill placement.

Regarding stope design, a flexible approach is recommended, allowing adjustment of dimensions based on actual conditions encountered. In lower-quality zones, reducing stope length or height may be necessary to maintain the hydraulic radius within more conservative limits.

Concerning support, proper installation and quality control of cable bolts must be ensured, along with adaptation of support type and density to local conditions. In fault zones or very weak rock masses, additional solutions such as reinforced shotcrete, wire mesh, or special support systems may be required.

Finally, a detailed study of paste backfill is recommended, not only for proper sizing of plant equipment but also for optimizing mix designs to meet technical requirements at the lowest cost. Coordination between excavation, support, and backfilling operations is essential to minimize stope exposure time. A trade of study on different fills models should be carried out to choose the most adequate solution.

16.3. Hydrogeology

The Borralha Project area is hosted within a rock mass dominated by granites, shales and Silurian metasedimentary rocks. Primary porosity and primary permeability in these lithologies are very low to negligible. Groundwater flow is therefore controlled predominantly by secondary permeability associated with fracturing, jointing, faulting, and zones of weathering and alteration. On this basis, the hydrogeological system is interpreted as a heterogeneous and anisotropic fractured-rock aquifer with rapid response to seasonal recharge and flow behaviour strongly influenced by the legacy underground workings and drainage galleries.

The existing mine workings have materially modified the natural groundwater regime. In particular, the historical galleries now act as preferential drainage pathways, locally lowering hydraulic heads, redistributing groundwater flow, and creating a direct hydraulic connection between structurally controlled inflow zones and mine voids. As a result, groundwater behaviour at the Project should be considered mine-influenced rather than representative of an undisturbed fractured-rock massif.

16.3.1. Observed Mine Water Conditions

Available observations indicate marked variability in inflow between mine levels and strong seasonality in the upper parts of the system. Measured or estimated flows reported in the source material are summarized in Table 16-3.

The total baseflow above river level is estimated at greater than 27 L/s, with materially higher flows during wet periods. The drainage gallery at the –60 m level is identified as the principal control point in the current mine water system and represents the most important observed discharge horizon for future mine planning.

Table 16-3: Summary of reported mine water inflows

Level / gallery	Dry season flow	Rainy season / peak flow	Comments
Gallery B +12	~1.8 L/s	No significant variation reported	Low pressure; piezometric level only slightly above discharge elevation; supplies Bairro Novo.
Gallery C (similar elevation)	<0.5 L/s	Not specified	Near-residual flow.
Group E gallery	~5 L/s	Increases during heavy rainfall	Measured by timed filling of 10 L bucket.
Group F gallery	~20 L/s	Increases during heavy rainfall	Same field method.
Drainage gallery –60 m	~50 L/s estimated in Oct 2023; ~100 L/s average measured in Mar 2024	Up to ~1,000 L/s peak in Jan 2024	Main drainage level of the old mine; complete saturation and pressurized discharge reported at portal.
Levels –60 m to –210 m	Flooded	Flooded	Historical workings below –60 m reported permanently flooded.

16.3.2. Conceptual Hydrogeological Model

The current conceptual model is that groundwater inflow to the Borralha mine is controlled by the interaction of three principal factors: (i) fracture- and fault-controlled flow within a low-matrix-permeability rock mass, (ii) seasonal recharge, which produces a rapid hydrological response in the shallow fractured system, and (iii) the legacy mine workings, which act as interconnected drainage conduits and storage voids.

Below the –60 m level, the mine is understood to remain flooded down to at least the historical closure depth of –210 m, implying a substantial volume of stored water within the old workings. This condition is material to mine re-entry, rehabilitation sequencing, pumping requirements, and geotechnical risk.

The Amiar stream is considered a potential recharge source to the mine through an interpreted east-west regional fault zone, including the interval between –60 m and –210 m. This recharge pathway may persist even where stream-bed sealing or cementation has been undertaken locally and therefore remains a material uncertainty for deeper dewatering design.

The hydrogeological response is further complicated by the presence of hydraulically distinct drainage blocks, identified as Groups A to F. This suggests that groundwater contributions are not uniform throughout the mine and that individual sectors may respond differently to recharge events, dewatering, and mine reopening. At the current level of study, these local contributions cannot yet be reliably apportioned to the –60 m drainage level.

16.3.3. Implications for Mine Design and Dewatering Strategy

The hydrogeological regime is considered a primary design constraint for underground mine development at Borralha. Based on the available information, a phased dewatering strategy is appropriate.

Phase I: Mine re-entry and operations to the –60 m level. For the upper part of the mine, drainage is expected to be achieved predominantly by gravity using the existing drainage galleries at approximately +12 m and –60 m, both of which discharge toward the Amiar stream. Under this operating concept, only a limited pumping installation would be required to manage industrial water and to control groundwater below the –60 m level in preparation for deeper mine access. A preliminary dry-season reference flow of 50 L/s, equivalent to approximately 180 m³/h, is considered appropriate for conservative pump sizing at this stage.

From a mine design perspective, this implies that mining above –60 m may be feasible with passive drainage and comparatively moderate hydrogeological risk, provided that portal, access, and water-management infrastructure are designed to accommodate seasonal increases in discharge and localized short-duration inflow events.

Phase II: Dewatering and mining below the –60 m level. Below the –60 m level, active pumping will be required. A staged pumping arrangement is envisaged from –60 m to –120 m and then from –120 m to –210 m, with the possibility of extending to –260 m if the Santa Helena mineralized zone continues below the current assumed lower mining limit. The deeper portion of the old main shaft should be evaluated for use as part of the permanent pumping infrastructure.

At this stage, pumping flows below –60 m cannot be defined with confidence and should be calibrated using data obtained during Phase I dewatering and mine re-entry. This remains an important limitation of the current hydrogeological understanding and should be reflected accordingly in any PEA-level mine design and cost estimate.

16.3.4. Key Hydrogeological Risks and Uncertainties

The available information indicates several material hydrogeological risks. Recharge from the Amiar stream may materially increase pumping demand below –60 m and could produce deeper inflow rates that are not predictable from shallow observations alone. The system also exhibits strong seasonal variability, with inflow at the –60 m drainage gallery reportedly increasing from approximately 50 L/s under low-flow conditions to greater than 1,000 L/s during extreme winter events. This magnitude of variability is material to pump duty, standby capacity, emergency storage, water handling, and portal protection design.

Hydraulic compartmentalization of the rock mass indicates that dewatering response may be highly non-uniform and locally abrupt, thereby increasing uncertainty in forecasting total inflow and in sequencing safe re-entry into flooded workings. Permanent flooding below –60 m creates operational and safety risks, including restricted access, potential damage to equipment, uncertain void conditions, and hazards to personnel during re-entry.

The spring at Bairro Novo, associated with the +12 m level, may be adversely affected or potentially lost as mining of the Santa Helena zone progresses. The Project should therefore provide an alternative water supply for this population. This issue is also material to environmental and social permitting.

16.3.5. Geotechnical Implications of Groundwater

Groundwater is also a material geotechnical factor at Borralha. Elevated pore pressure, strength reduction in fractured zones, and increased likelihood of instability are identified as the principal water-related geotechnical risks. In practical terms, groundwater inflows may adversely affect the stability of historical workings, mine development headings, and stoping areas through softening, reduced effective stress, localized erosion, and deterioration of already weakened ground associated with old mining voids.

For this reason, hydrogeological and geotechnical investigations should not be treated independently. Pumping design, re-entry sequencing, and rehabilitation of old workings should be integrated with ground support design, inspection protocols, and a formal geotechnical risk assessment.

16.3.6. Operational Conclusions

Based on the current level of information, groundwater should be regarded as one of the principal technical constraints on underground development at Borralha. Mining above the –60 m level appears feasible using gravity drainage through the existing galleries, with moderate risk relative to deeper development. In contrast, mining below –60 m will depend on the successful implementation of continuous high-capacity pumping, redundant storm-resilient pumping and power infrastructure, permanent hydrological monitoring, and structural assessment of flooded historical workings prior to re-entry.

The mine therefore presents two clearly different hydrogeological operating regimes: (i) a gravity-drained regime above –60 m, which is operationally and economically favourable, and (ii) an actively pumped regime below –60 m, which will involve materially higher cost, complexity and risk. The conservative low-water design value for preliminary pumping is 180 m³/h, while substantially higher winter peak flows may occur and must be accommodated in the final design basis.

16.4. Mining Design

Based on the analysis of the plan views and cross-sections of the deposit in zones with WO_3 grades above the cut-off grade, the Sublevel Open Stope method remains the most suitable option, as defined in the Mine Plan. This method maximizes productivity, minimizes costs for an underground mining method, and, through the use of backfill, reduces rock mass displacement and therefore minimizes subsidence.

16.4.1. Sublevel Open Stope (SLOS)

Based on the preliminary geotechnical studies, the maximum stope dimensions defined in the Mine Plan were maintained: Height – 25 metres and Width – 15 metres.

This underground mining method is executed following a sequence of eight phases:

- Phase 1 – Development of the lower drift on the 1st level and the 2nd level.** For each stope, only one drift is developed on the lower level. The drifts are supported in accordance with the requirements defined by the rock mechanics study; typically, the upper drift is supported with rock bolts and cable bolts (Figure 16-4).

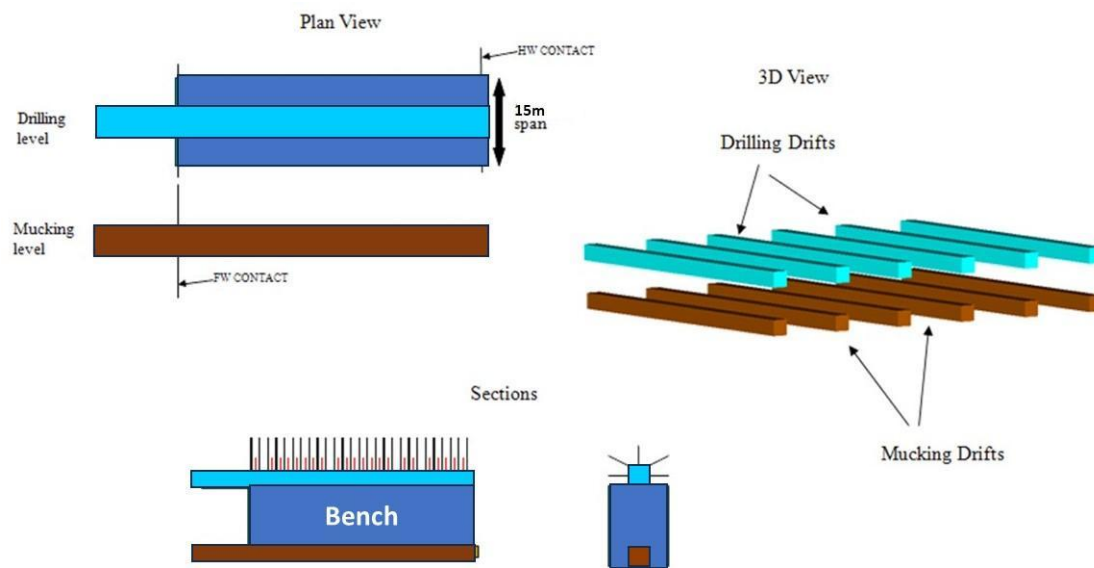


Figure 16-4: Phase 1 of the SLOS Method

- Phase 2 – Slot opening and widening of the drift.** The drifts are widened to 15 meters in width at the hanging wall extremity of the orebody and are connected by a raise developed by blasting (a drop raise slot). Once the slot has been created, it is further widened until a cavity is obtained with the full height of the stope and dimensions of 15 meters in width by 5 meters in length (Figure 16-5).



Figure 16-5: Phase 2 of the SLOS Method

- Phase 3 – Production blasting.** Once the slot has been completed, production blasting is carried out. Fan drilling is preferably performed from bottom to top (upward drilling), as this facilitates hole cleaning and helps avoid blockages caused by rock fragments falling into the holes (Figure 16-6). Drilling may also be carried out from the upper drift if operational advantages are identified. The holes are then charged with explosives and subsequently detonated. Typically, a blast includes three to four rows of holes. The broken ore is removed using 21-t bucket LHDs operating in remote control from the lower drift and loaded into 65-t dump trucks. The ore is then hauled via the ramp directly to the surface.

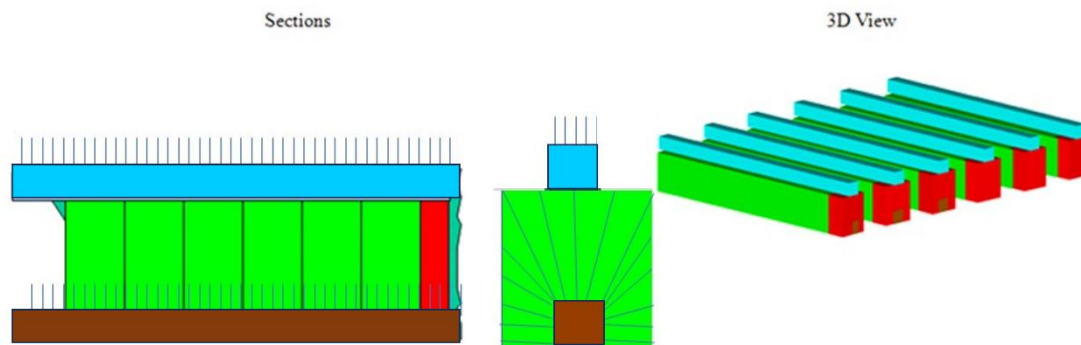


Figure 16-6: Phase 3 of the SLOS Method

- Phase 4 – Stope scanning and backfilling.** After blasting has been completed and all broken ore has been removed, the stope is scanned using a Cavity Monitoring System (CMS). Following the scan, the stope is prepared for backfilling by installing paste-fill piping in the upper drift and constructing a fill barricade in the lower drift. Once preparation is complete, the stope is filled with paste fill consisting of 92% tailings and 8% cement, as defined in the Mine Plan. This cement content is required to ensure that the paste fill can support a 25-metre vertical exposure when the secondary stopes are mined. The upper drift is not filled, as it will allow drilling and ore removal from the overlying stope (Figure 16-7).

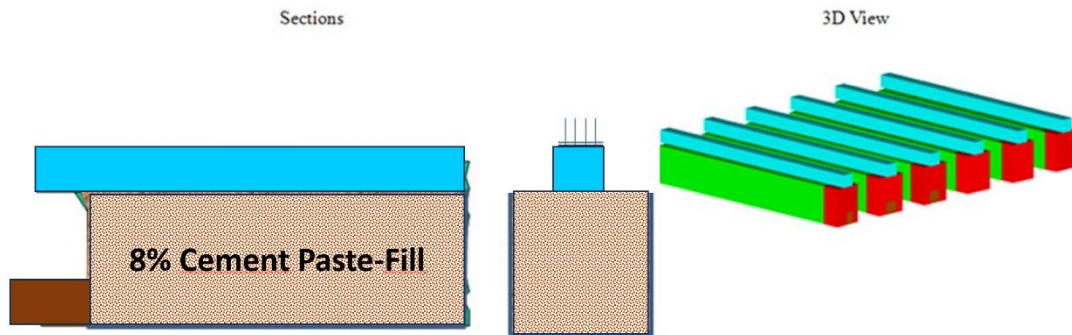


Figure 16-7: Phase 4 of the SLOS Method

- Phase 5 – Mining of the primary stopes on the second level.** These stopes are mined above the stopes of the first level, following the same cycle described in Phases 1 to 4, namely the development of the lower drift on the 3rd level, slot opening, slot widening, and production blasting (Figure 16-8).

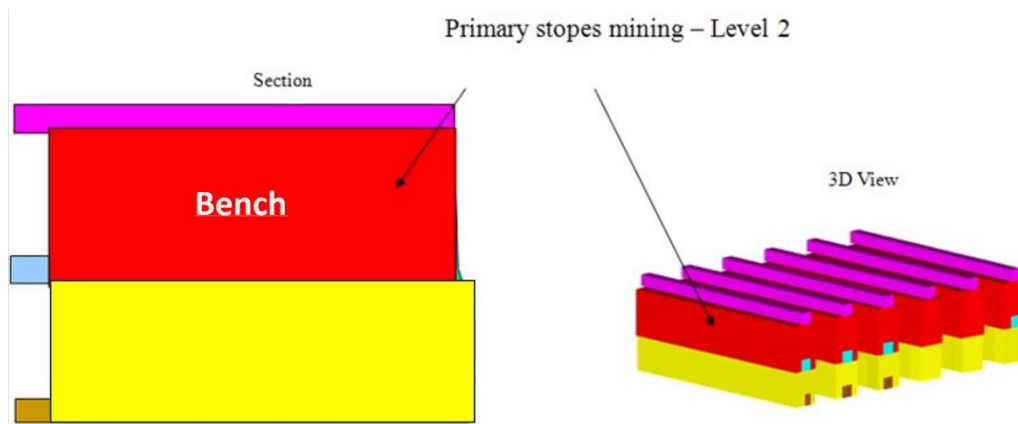


Figure 16-8: Phase 5 of the SLOS Method

- Phase 6 – Backfilling of the primary stopes on the second level.** These stopes are filled with paste fill using the same cement proportion as the primary stopes of the first level, ensuring a 50-metre-high column of backfill with a high cement content and high strength (Figure 16-9).

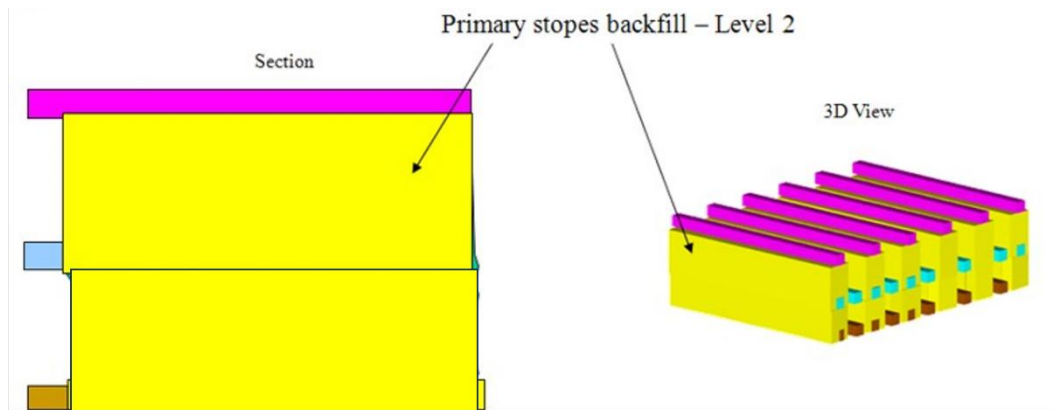


Figure 16-9: Phase 6 of the SLOS Method

- Phase 7 – Mining of the secondary stopes on the first level.** After the primary stopes of the second level have been filled with cemented paste fill, the secondary stopes of the first level are mined using the same sequence described in Phases 1 to 4. In this way, the secondary stopes are always located one level below the primary stopes, ensuring that the span of the secondary stope is contained between the primary stopes (Figure 16-10). Production drilling is preferably carried out upward, although downward drilling may be used if required. Ore removal is always conducted from the lower drift, with the ore loaded into 65-t dump trucks and hauled directly to the primary crusher located on surface. Adjacent secondary stopes cannot be mined simultaneously in order to avoid creating large cavities separated only by 15 meters of backfill. This constraint reduces the productivity of Phase 7, as the number of available stopes decreases.

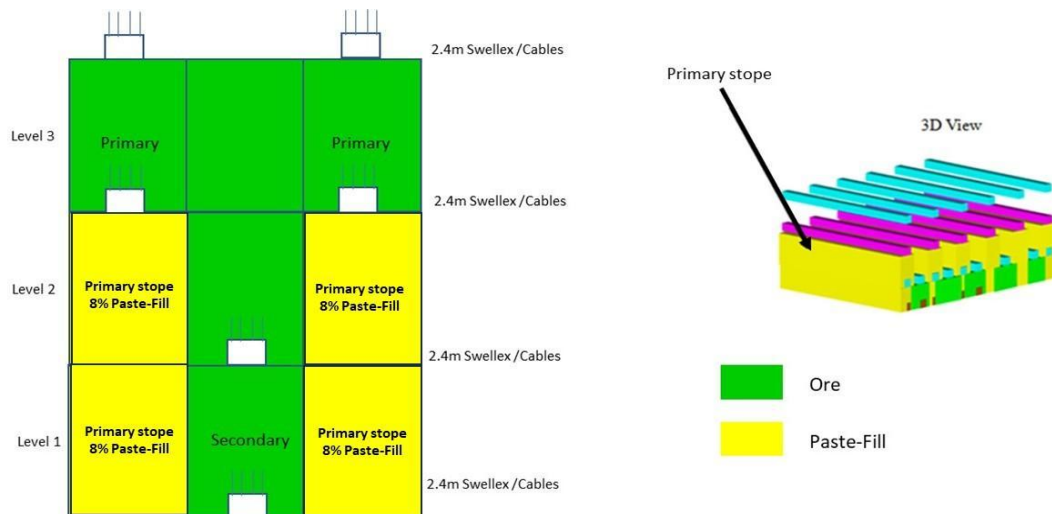


Figure 16-10: Phase 7 of the SLOS Method

- Phase 8 – Backfilling of the secondary stopes on the first level.** Once the mining of the secondary stope on the first level has been completed, backfilling is carried out, preferably using waste rock from development or paste fill with a lower cement content (Figure 16-11). After the secondary stopes have been filled, the mining of the primary stopes on Level 3 proceeds.

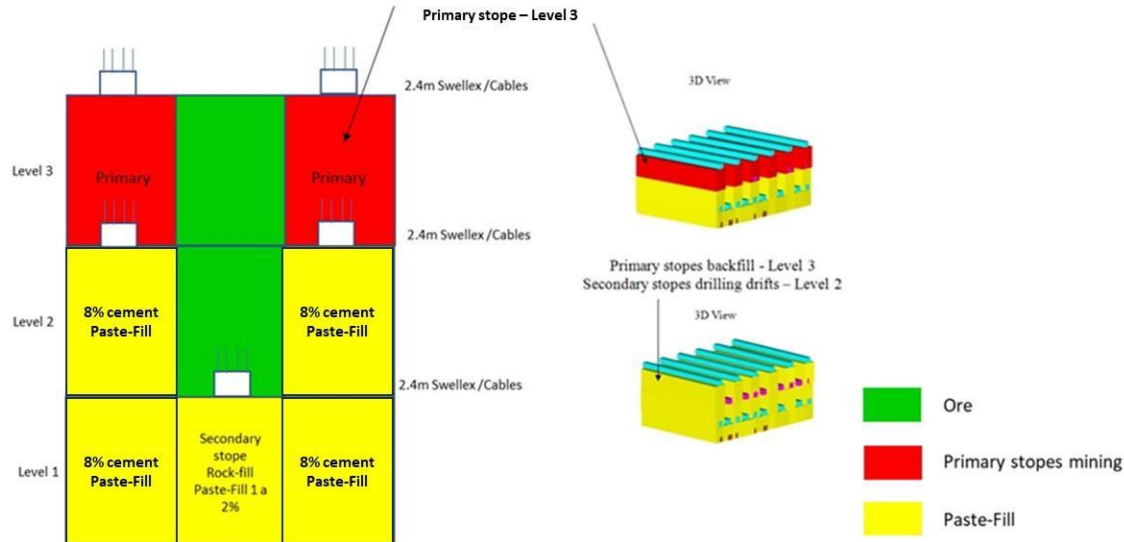


Figure 16-11: Phase 8 of the SLOS Method

It is observed that there are many areas with grades above the cut-off grade, but located in narrow zones that do not allow the use of this mining method. Whenever possible, upward blasts with a height of less than 25 meters were used to extract this ore, thereby maximizing recovery.

In cases where there is no connection between the upper drift and the lower drift, backfilling is carried out through a borehole drilled from an upper drift that intersects the highlighted zone, thus allowing the sequence of primary and secondary stopes to be maintained. A breathe hole should always be drilled to allow air to escape and enable the backfill to enter.

16.4.2. Drift & Fill (DF)

In very narrow zones with higher grades, or in areas where grade continuity does not allow the use of the Sublevel Open Stopping method, the Drift & Fill method was selected. This method consists of seven phases:

- Phase 1 – Access to the first level and first drift.** From the level drift developed for the SLOS stopes, an access ramp is driven downward with a maximum gradient of -18% (Figure 16-12).

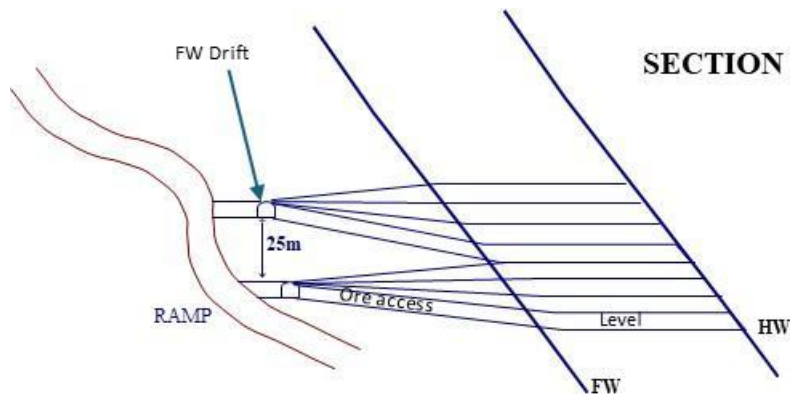


Figure 16-12: Schematic Section Showing Access to the Drift & Fill Mining Level

- Phase 2 – Development of the transverse drift between the footwall and the hanging wall of the mineralization.** This drift allows confirmation of the thickness of the mineralization and provides a main axis around which the individual Drift & Fill stops will be developed (Figure 16-13). This area should receive additional ground support, as it will remain open for a longer period and will experience greater widening due to the access to the individual stopes to the left and right.

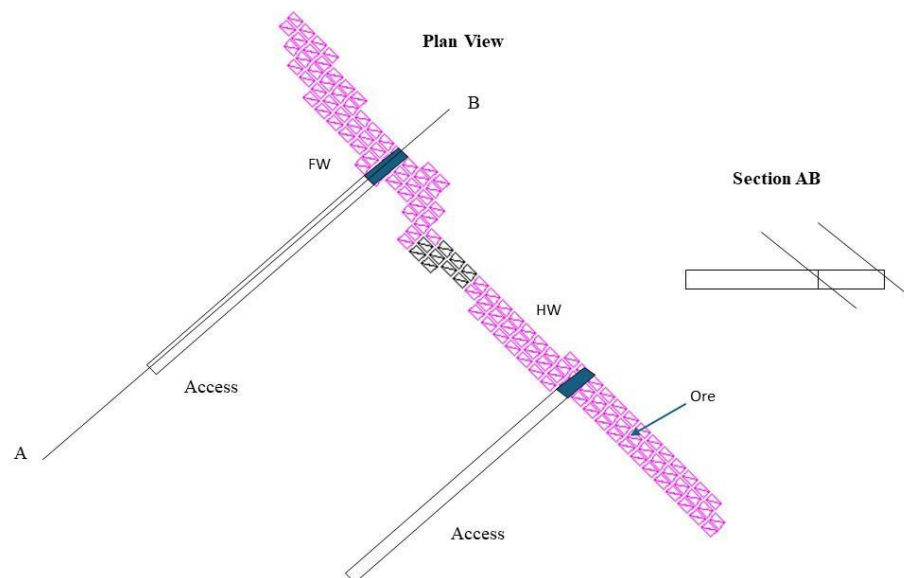


Figure 16-13: Development of the First Drift Between the Footwall and the Hanging Wall of the Mineralization

- Phase 3 – Development of drifts along the hanging wall of the orebody.** These stopes are developed with a width of **5 metres**, and may be widened if geotechnical conditions allow (Figure 16-14).

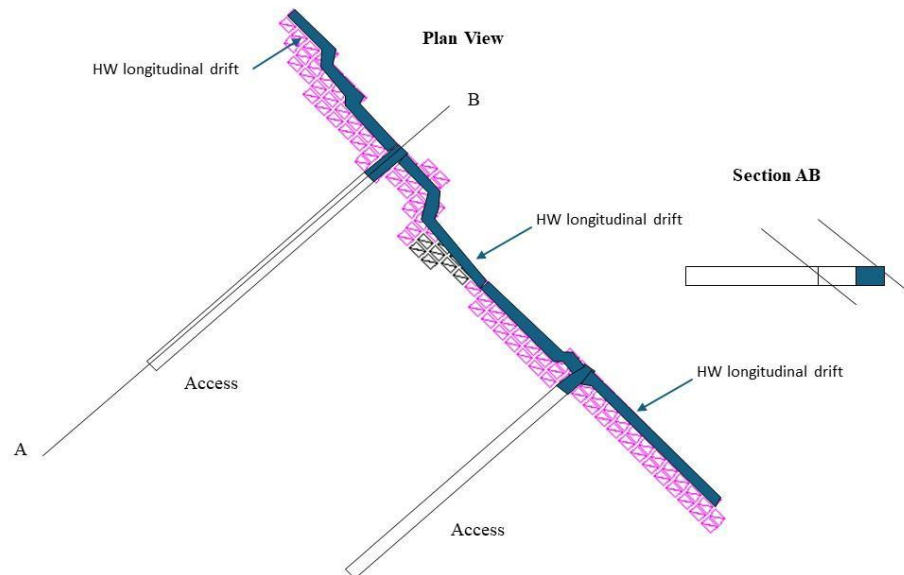


Figure 16-14: Development of the Stope Along the Hanging Wall of the Orebody

- Phase 4 – Backfilling of the first drifts on the first level.** The first stopes developed along the hanging wall of the mineralization are filled with paste fill containing 3.5% cement (Figure 16-15). This cement content was considered sufficient since it is only necessary to maintain the stability of the 5-metre-high stope wall. Cemented paste fill will only be required if adjacent stopes are mined on the same level.

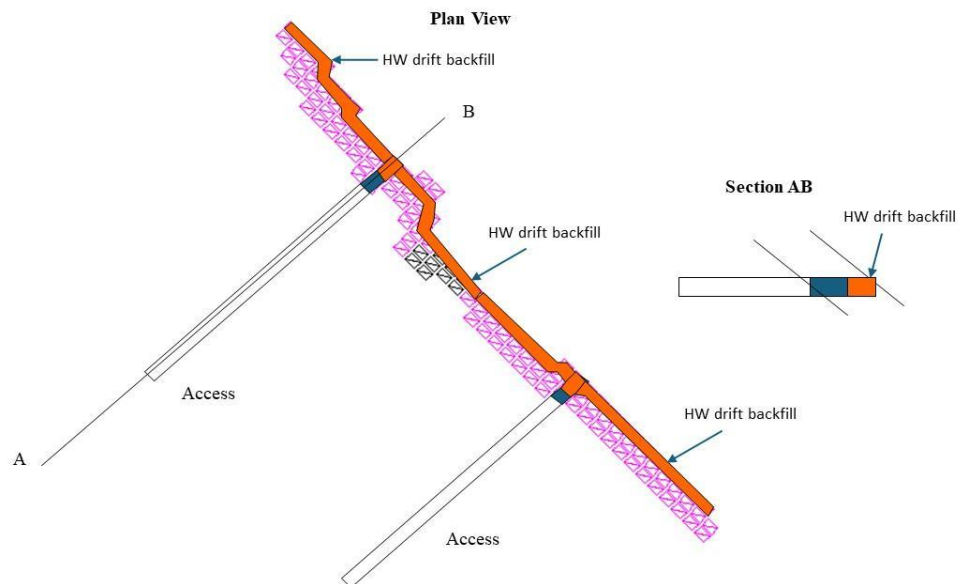


Figure 16-15: Backfilling of the Drift Stopes Along the Hanging Wall of the Orebody

- **Phase 5 – Mining of the second drifts on the first level.** If additional ore is present at this level, a 5 m × 5 m drift is developed adjacent to the first stopes (Figure 16-16). This drift, which constitutes the second set of stopes, has one wall against backfill and the other wall against rock.

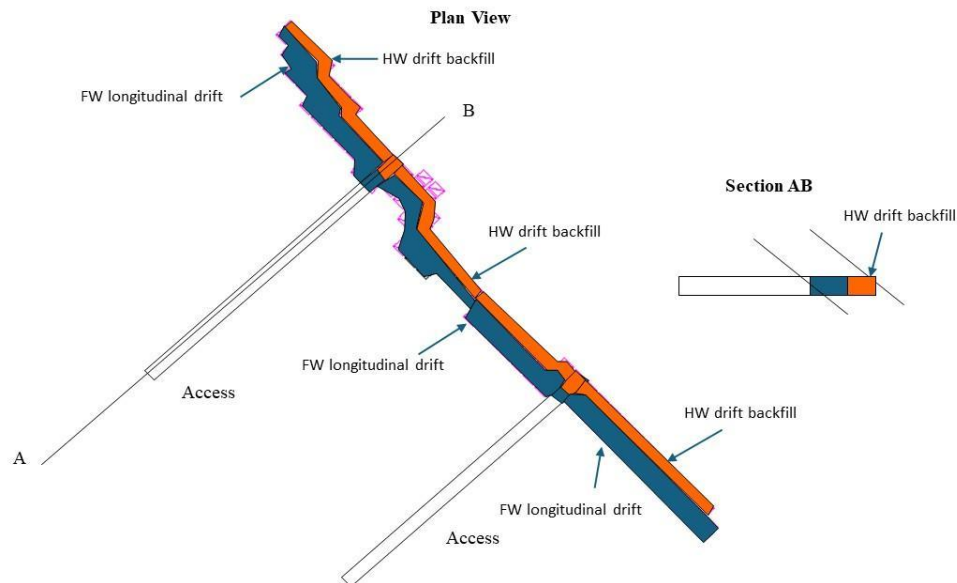


Figure 16-16: Development of the Second Stope with One Wall Against Backfill and the Other Against Rock.

- **Phase 6 – Backfilling of the second drifts on the first level.** Once completed, the drifts are backfilled, always placing fill against the hanging wall to ensure the stability of the adjacent stope and to minimize relaxation of the hanging wall of the orebody and of the upper level (Figure 16-17). At the Borralha Mine, the majority of the levels are mined

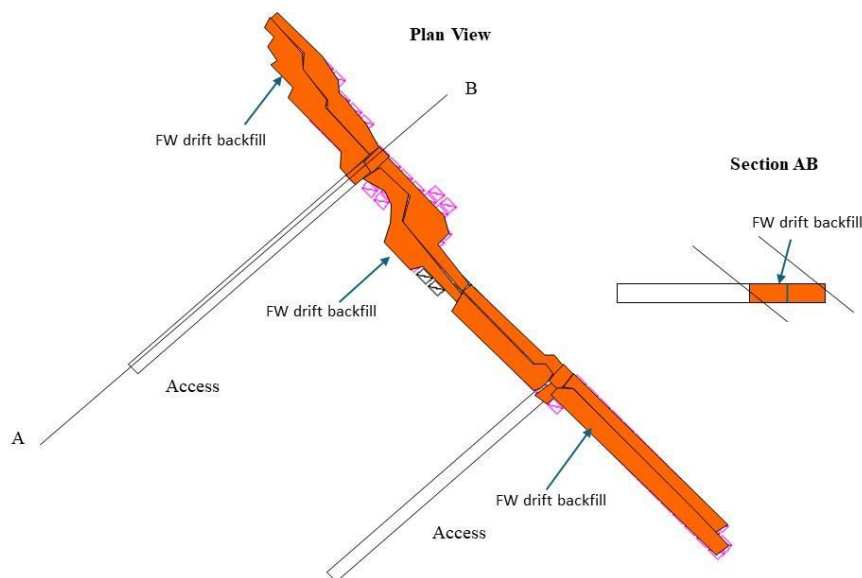


Figure 16-17: Backfilling of the Second Stope Along the Footwall of the Orebody with only one drift, and at most two.

- Phase 7 – Raising of the access to reach the upper level.** After the drifts of the first level have been completed and backfilled, the access drift is raised by blasting the hanging wall in order to reach the immediately overlying level (Figure 16-18). As the level drifts providing access to the SLOS stopes are spaced at a maximum of 25 metres, each access to the Drift & Fill stopes may be raised up to five times.

Section AB

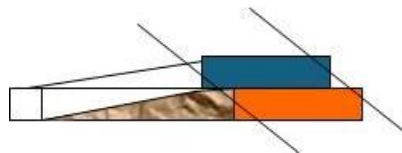


Figure 16-18: Raising of the Access to the Ore on the Upper Level

In this method, blasting is carried out in a similar manner to the development of a 25 m² drift, with the ore removed to the level drift and loaded directly into 65-t dump trucks, which haul it to the surface.

In both mining methods, waste rock (or low-grade mineralized material) is also loaded directly into 65-t dump trucks and transported either to the surface (temporary waste rock dump) or directly used for the backfilling of secondary stopes.

16.4.3. Stopes Design

The stope design was carried out using Vulcan software.

16.4.3.1. Sublevel Open Stope Levels

The Borralha area covered by the current project already contains several old mine workings developed during the previous phase of mine exploitation.

In order to minimize the impact of these old drifts, which have a small cross-section (approximately 6 m²), a detailed analysis of their location was carried out.

Old workings were identified at the 862, 823, 818, 798, 784, 712 and 662 levels. As previously mentioned, the geotechnical study indicates a maximum stope height of 25 meters. Therefore, where possible, some of the old levels were used as base levels for stopes so that the new workings intersect the old workings at the same elevation. When the elevation difference was significantly greater than 25 meters, the old workings were positioned approximately at the midpoint of the stopes so that the affected ore could be recovered using both downward and upward drilling.

Accordingly, the base levels selected for the Sublevel Open Stopping stopes were:

- >875 – Crown pillar ensuring a minimum of 15 meters to surface;

- 850 / 875 – Stopes 25 meters high between Level 850 (stope floor) and Level 875;
- 823 / 850 – Stopes 27 meters high between Level 823 (stope floor) and Level 850. Level 823 was used due to the presence of old workings;
- 798 / 823 – Stopes 25 meters high between Level 798 (stope floor) and Level 823. Level 798 also contains old workings;
- 784 / 798 – Stopes 14 meters high between Level 784 (stope floor) and Level 798. Level 784 was used because old workings exist at this level. As this is the production level with the smallest height and therefore lower tonnage, it was decided to place a sill pillar at this level in order to minimize tonnage loss while ensuring the presence of a production area close to surface with rapid access;
- 765 / 784 – Stopes 19 meters high between Level 765 (stope floor) and Level 784;
- 750 / 765 – Stopes 15 meters high between Level 750 (stope floor) and Level 765. This floor elevation was selected to allow the stopes below to maintain 25 meters height, thereby minimizing interference with the old workings at Levels 712 and 662;
- Below Level 750, all stopes are 25 meters high. The old working levels at elevations 712 and 662 occur approximately at the midpoint of the stopes (700–725 and 650–675).

Once the detailed geotechnical study has been completed, the stope levels may be adjusted in order to maximize productivity and minimize development.

Figure 16-19 shows a 3D view of the designed stopes together with the old mine workings.

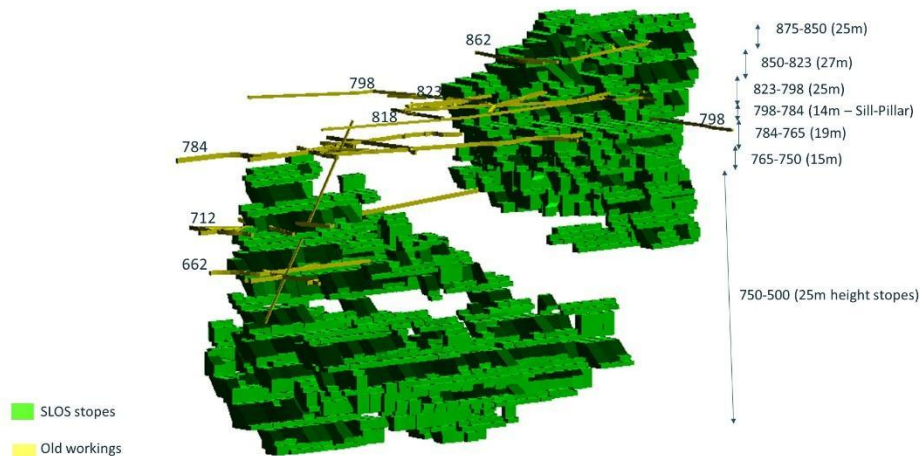


Figure 16-19: 3D View of the Borralha Stopes with the Old Mine Workings

16.4.3.2. Sublevel Open Stope

The design of the Sublevel Open Stoping (SLOS) stopes was carried out in section, using the WO_3 cut-off grade defined for this mining method. As this is the most productive method and has the lowest production cost, its use was maximized wherever possible.

In areas where a slope with the full height could not be achieved, slopes with upward blasting were designed, with backfilling carried out through boreholes drilled between the upper drift and the raised slope.

The design process was performed by generating a set of polygons between the sublevel elevations, spaced 15 meters apart, corresponding to the width of the stopes (Figure 16-20).

A layer was created for each level, representing the lower extraction elevation, and a number was assigned to each object (polygon). Vertically aligned stopes share the same number. The stope name is generated automatically and consists of the layer name and the object number.

Examples include:

- Layer BRR_600 contains all polygons for Level 600 (ore mined using the Sublevel Open Stopping method between elevations 600 and 625).
- Number 5026 – As the first section started at 5000 (in the southernmost area), section 5026 corresponds to the twenty-sixth section, located 390 metres from section 5000 (15 meters × 26 sections).
- If multiple stopes exist at the same level and in the same section, a letter is added to the number to distinguish the different polygons.

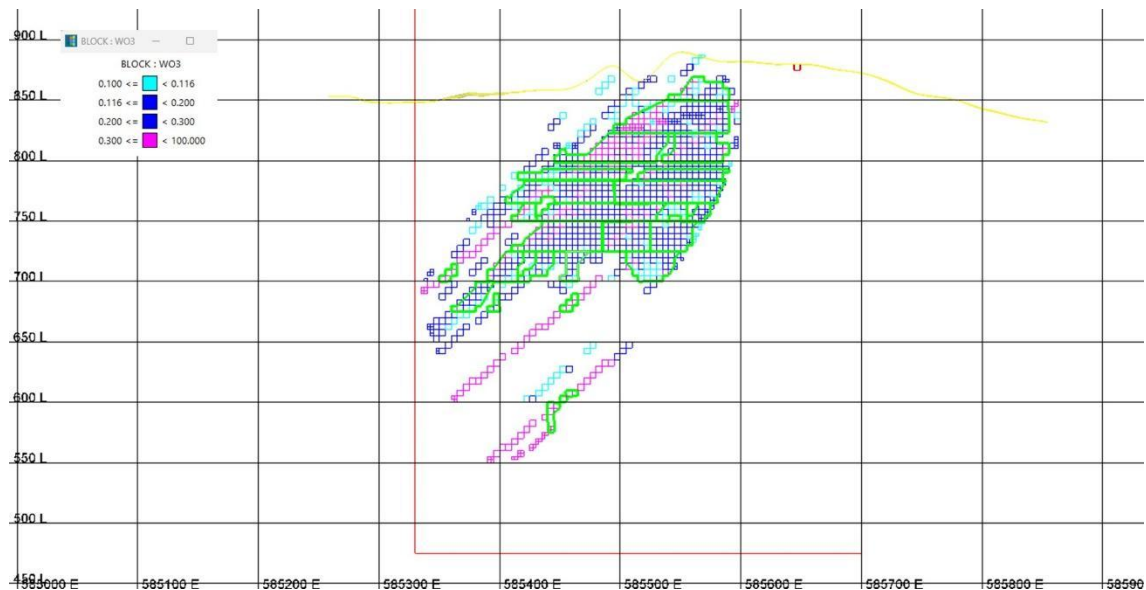


Figure 16-20: Stope Design Using Polygons Between the Upper and Lower Elevations of Each Stope

After all polygons were designed, solids were created by expanding each polygon by 7.5 meters on each side, resulting in stopes 15 meters wide (Figure 16-21). The name of each solid (stope) is automatically generated from the layer name and the object name (number).

For example, the stope BRR_600_5026 corresponds to the stope on Level 600 (ore between Level 600 and Level 625) in Section 5026. All stopes with the number 5026 are located in the same section of the deposit and are vertically aligned, differing only by their layer (extraction level).

This naming convention is very useful for mine operations, as it allows operators to easily orient themselves in three dimensions within the mine.

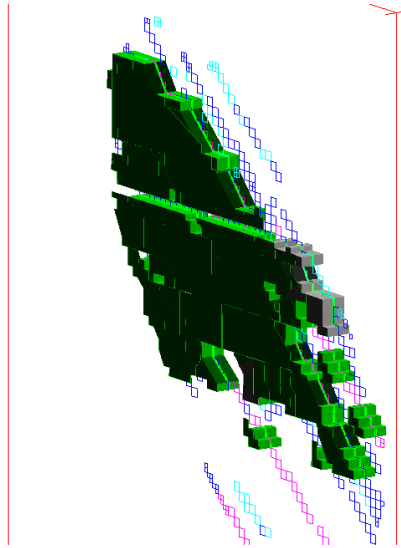


Figure 16-21: Creation of the 3D Solid with a Width of 15 Meters by Expanding the Designed Polygon

In order to allow faster estimation of the mining inventory for lower cut-off grades, polygons were also designed for zones with grades between 0.1% WO_3 and the base-case cut-off grade (0.116% WO_3). This made it possible to perform a sensitivity analysis of the mining inventory with respect to the WO_3 price and operating costs.

A total of 766 solids were generated, each corresponding to a stope or part of a stope (Figure 16-22).

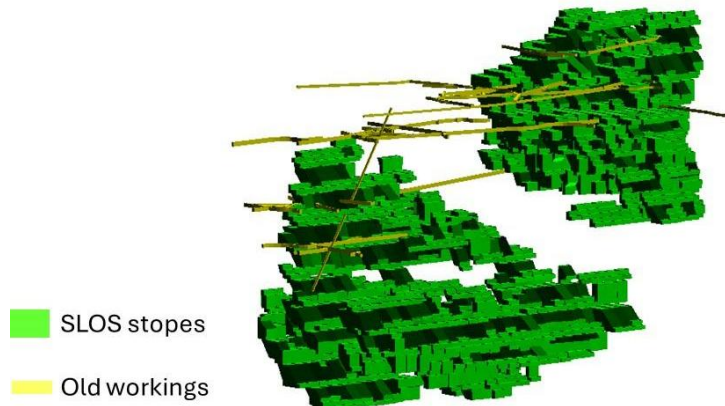


Figure 16-22: Northeast View of the SLOS Stopes Designed for the Borralha Project, Showing the Two Distinct Zones of the Deposit

16.4.3.3. Drift & Fill

After the Sublevel Open Stopping stopes were generated, a detailed analysis was carried out of the areas of the deposit not covered by this mining method but presenting grades above the Drift & Fill cut-off grade (0.141% WO_3).

As these stopes have a height of 5 meters, the polygons defining the various solids for each level were drawn at an intermediate elevation between the stope floor and the roof level.

For each stope level, a layer was created, and each polygon was assigned a name (number). Thus, the Drift & Fill polygons for elevation 625 (Layer BRD_0625) were drawn at elevation 627.5 (Figure 16-23).

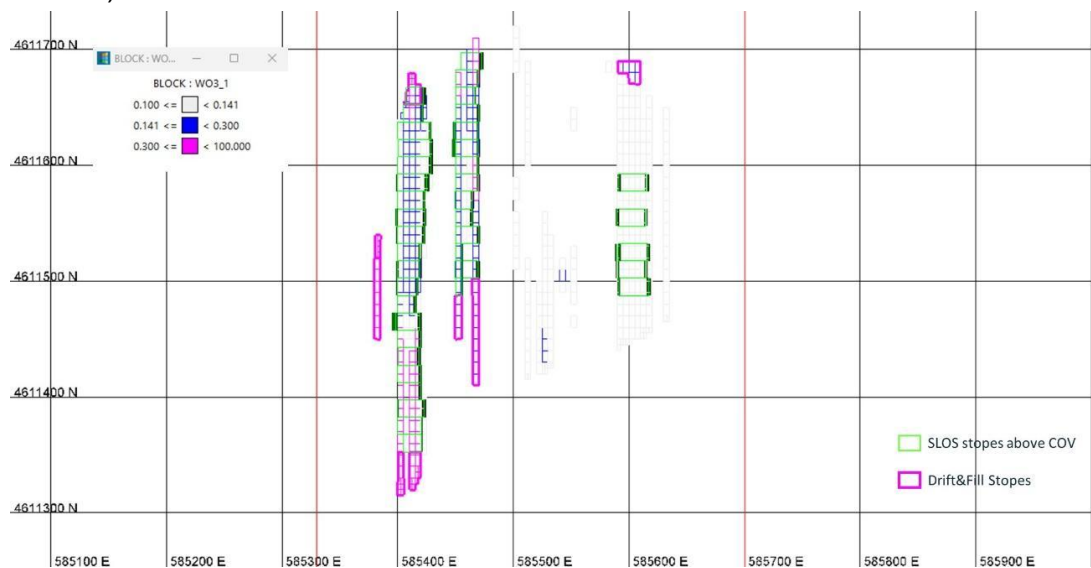


Figure 16-23: Design of Drift & Fill Stope Polygons in Areas with Grades Above the Cut-Off and Outside the SLOS Stopes

After all polygons were drawn, they were expanded by 2.5 meters upward and downward, generating a solid with a height of 5 meters (Figure 16-24). The minimum width considered was 4 meters.

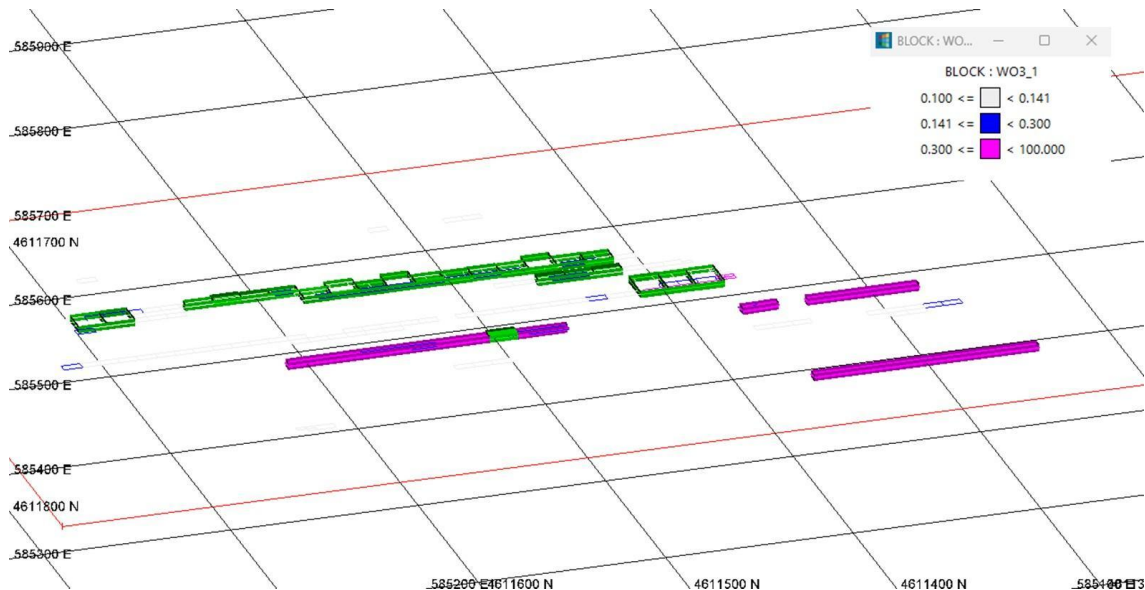


Figure 16-24: Creation of the Drift & Fill Stope Solids with a Height of 5 Meters

A total of 425 Drift & Fill stopes were created, modelling the zones with potential to be mined using this method.

In total, 1,191 stopes (Sublevel Open Stoping and Drift & Fill) were designed in the areas considered mineable using the previously defined cut-off grades. This does not necessarily mean that all the designed stopes have an average grade above the cut-off grade, as additional backfill dilution has not yet been included, and planned dilution (zones with grades below the cut-off that must be included in the stope to obtain a mineable shape with the selected mining equipment) has not yet been determined.

16.4.3.4. Modifying Factors

Once all stope solids had been created, they were evaluated by querying the block model in order to obtain tonnage and average grade values for each stope. This tonnage and average grade do not correspond to the estimated processing plant feed tonnage, as it is necessary to include backfill dilution and recovery of the broken ore.

For the Sublevel Open Stoping stopes, the typical stope dimensions (25 meters in height and 15 meters in width) were considered. It was assumed that in primary stopes, 0.8 m of backfill would be drawn from the floor, while in secondary stopes, 0.8 m from the floor and 0.5 m from each of the stope walls would be included. Recovery was assumed to be 90% for primary stopes and 88% for secondary stopes (Table 16-4).

Table 16-4: Modifying Factors for the Sublevel Open Stopping Method

Primary Stopes		
Dilution		
Floor Backfill	0.8	m
Density Backfill	1.6	t/m ³
Stope Width	15	m
Tonnes Backfill / stope meter	19.2	t
% Cement	8%	
Recovery	90%	

Secondary Stopes		
Dilution		
Floor Backfill	0.8	m
Sidewall Backfill	0.5	m
Density Backfill	1.6	t/m ³
Stope Width	15	m
Stope Height	25	m
Tonnes Backfill / stope meter	59.2	t
% Cement	2%	
Recovery	88%	

For the Drift & Fill method, a stope height of 5 meters, a backfill dilution of 7.5% by weight, and a recovery of 95% were assumed (Table 16-5).

Table 16-5: Modifying Factors for the Drift & Fill Method

Drift&Fill Stopes	
Dilution	7.5%
Recovery	95%
% Cement Backfill	3.5%

Based on these modifying factors, the diluted tonnage, recoverable tonnage, and average diluted grades for WO₃, copper, silver, and tin were estimated for each stope.

The dilution referred to above only corresponds to additional backfill dilution. The stope design already includes planned dilution, which is the dilution that must be incorporated in order to obtain a geometry that can be mined within the limitations of the selected mining method and mining equipment.

16.5. Mine Development and Underground Facilities

After the mining inventory has been determined, using an operational cut-off grade (the grade that covers all operational costs), it is necessary to determine the amount of capital development (CAPEX costs) and operational development (OPEX costs) required by the selected mining methods, in order to assess the effective profitability of the different mineralized zones.

To access the Borralha deposit and establish all the infrastructure required for mine production using the two selected mining methods, 19,141 metres of horizontal capital mine development (CAPEX investment costs) and 30,677 metres of operational development are required, of which 13,808 metres correspond to development within the stopes. Therefore, a total of 49,818 metres of ramps and galleries will be required to exploit the Borralha mining inventory (Table 16.6).

Table 16-6: Total Horizontal development

Horizontal Capital Development	Total (m)
Ramps	4,297
Levels	14,581
Pump Stations	262
Total	19,141

Horizontal Operat. Development	Total (m)
Outside stopes	16,870
Inside stopes	13,808
Total	30,677

Total Horizontal Development	49,818

The vertical development will allow the establishment of the ventilation infrastructure, ore passes, mine backfilling system, drainage boreholes, electrical power supply boreholes, industrial water supply boreholes, and mine drainage boreholes.

Since a simulation of the main ventilation system has not yet been carried out to determine the required diameter of the ventilation raises, these have been assumed to have a diameter of 4.1 meters, while the ore passes have been considered with a diameter of 2.1 meters. The backfill boreholes are enlarged to 1 meter in diameter to allow the installation of several pipelines supplying different areas of the mine. These boreholes are fully cemented, ensuring the integrity of the pipelines within the service holes.

The boreholes for electrical power supply, industrial water supply, and mine drainage were assumed to have the diameter of a raise borer pilot hole.

A total of 3,656 meters of vertical development is expected (Table 16-7)

Table 16-7: Vertical Underground Development

Vertical Capital Development	Total (m)
4.1m diameter raises	1,460
2.1m diameter raises	126
Drainage holes	26
1m diameter backfill raises	504
Electrical holes	504
Industrial water holes	504
Dewatering holes	533
Total	3,656

Based on the mining inventory of the Borralha Mine project, this document aims to present the capital development and operational development plan, as well as the conceptual design of the mine ventilation, the backfill supply, industrial water supply, electric power supply, communications, and mine drainage systems.

The following types of development were considered:

- **Horizontal Capital Development** – All development related to the excavation of drifts with a service life exceeding one year. This development includes ramps, equipment passing bays, level drifts, loading points along the ramps, niches for transformer stations (PTs), refuges, ore accesses allowing the extraction of primary and secondary stopes, accesses to ventilation raises, ore passes, service boreholes, pump chambers, and main refuges. Therefore, this represents the main infrastructure required for the mine to operate. The cost of this development is considered capital investment and is subject to depreciation. If this development intersects zones where the NSR (Net Smelter Return) covers processing and G&A costs, the material is processed at the processing plant. If the NSR generated by this development does not cover these costs, the material is considered waste.
- **Vertical Capital Development** – All development carried out using a raise borer, related to ventilation raises, ore passes, backfill boreholes, industrial water supply boreholes, electrical supply boreholes, main drainage boreholes, and mine drainage boreholes. This item therefore includes all vertical development with a service life greater than one year. The stope slots, which are planned to be developed by blasting (“drop raise”), are not included in this category. The cost of raise borer development is considered capital investment and is therefore subject to depreciation.
- **Horizontal Operational Development** – All mine development at the levels with a service life of less than one year. This development includes stope access drifts, both within and outside the ore zones, and may be divided into two types:
- **Development of drifts within the stopes** defined in the mining inventory. In this case, the developed meters are accounted for, but the tonnage is not considered, as it is already included in the mining inventory.

- **Development of drifts outside the stopes** defined in the mining inventory. In this case, both the developed meters and the produced tonnage are accounted for. The material generated by this development may be processed at the processing plant if the NSR covers the processing and G&A costs; otherwise, the material is considered waste if the grade does not generate an NSR sufficient to cover these costs.

16.5.1. Borralha Mine Infrastructure

All the planned mine development and the Sublevel Open Stoping and Drift & Fill stopes can be seen in the east view presented in Figure 16-25.

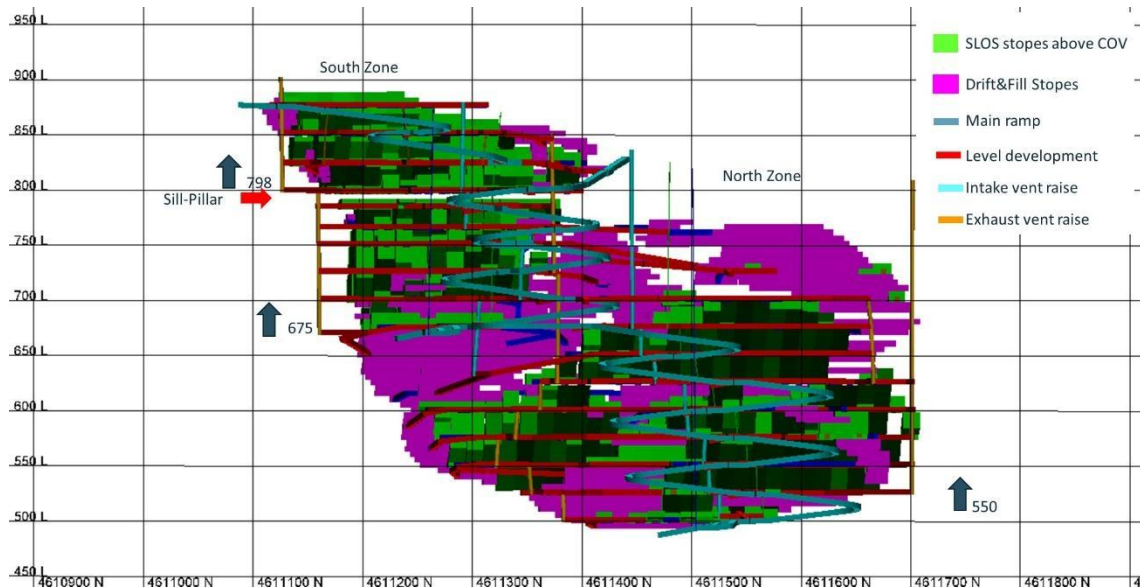


Figure 16-25: East View of the Borralha Mine Development Layout

A preliminary design on different mining have been carried out including:

- Backfill Infrastructures: pumping, pipes and related equipment
- Water pumping method
- Ventilation system

Although the design produced is quite detailed, some infrastructure elements are still missing:

- Underground explosives and detonator magazines (provided that suitable niches in the ramp cannot be used for this purpose);
- Diesel storage facilities (provided that suitable ramp niches cannot be used);
- Additional sumps that may be required along the ramp between production levels (one sump has been designed at each level);
- Underground workshops (provided that suitable ramp niches cannot be used);
- Intermediate passing bays between levels. One passing bay has been considered at each level, but intermediate ones between levels have not yet been designed.

It was assumed that the LHDs muck the stopes and load the dump trucks directly, which then haul the material to the surface. Therefore, ore stockpiles at the levels were not included in the design. The three-way split (trident) at each access and the intersections between the access drift and the level drift allow the maneuvering of both the LHD and the dump truck.

In the CAPEX, a 5% contingency of the mine investment was added to cover infrastructure not represented in the design and investment items not currently considered in this PEA, totaling USD 6.1 million.

Based on the total planned mine development, an evaluation was carried out, resulting in the totals presented in Table 16-8.

Based on the unit costs presented below, it was possible to estimate the capital costs required for the development of the Borralha mine infrastructure.

Table 16-8: Unit Costs Excluding Equipment Depreciation and Haulage Costs

Ramp unit Cost	3,000 €/m
Level Drift unit cost	2,750 €/m
Drift & Fill unit cost	2,000 €/m
\$USD/€	1.15 \$USD/€

Ventilation Raises 4.1m (k\$USD)	2,000 €/m
Ore Passes 2.1m (k\$USD)	1,200 €/m
Service holes backfill 1m (k\$USD)	1,000 €/m
Electric service holes (k\$USD)	750 €/m
Industrial water service holes (k\$USD)	750 €/m
Dewatering service holes (k\$USD)	750 €/m

The cost per meter of the development shown in the previous figure assumes that horizontal development is carried out using internal resources, with the mining equipment purchased for that purpose.

16.6. Mine Equipment

Mining equipment that will be required at least are listed below:

- Development jumbos: 2 – 3
- Bolting rigs: 1 – 2
- Long Hole Drill Machine: 2 – 3
- LHD (Load-Haul-Dump) ~21t: 3 – 5
- Dumpers 65t capacity: 4 – 6
- Main fans: 2 (1 operation + 1 standby)
- Auxiliary fans: 4 – 8
- Pump stations: 3 – 5 sets
- Backfill system: 1 complete set
- Service/maintenance vehicles: 3 – 6
- Personnel Transport Vehicles: 2 – 3

16.7. Mining Inventory

As defined on chapter 15, on a PEA no reserves are going to be reported on this stage. In this chapter a mining inventory is reported. Tonnes and grades are taken from the Resource report (Item14), which allows mining plans based on Inferred resources.

Therefore, it should be made clear that this inventory will not be classified as reserves or serve as a substitute for reserves.

Thus, the annual tonnage and grades of mill feed can be determined (Figures 6.34 and 6.35), as well as a first estimate of net revenue and net revenue per tones, based on the parameters used to determine the ore valuation in the mining inventory.

The mining inventory of the Borralha Project was obtained by applying the modifying factors of each mining method to the stope evaluations carried out using the Vulcan software. This made it possible to estimate a recoverable tonnage and a diluted grade for each stope. The diluted grade of each stope, once processed in the plant, will result in a certain metal recovery and produce a given tonnage of WO₃ concentrate, copper/silver concentrate, and tin concentrate.

Based on the estimated metal prices, commercial costs, and the quantity of concentrates produced by each stope, it was possible to estimate the Net Smelter Return (NSR) of each stope, i.e., the net revenue generated by its extraction. Using this value, the NSR per tonne (NSR/t) of each stope was calculated and compared with the estimated operating cost per tonne (COV).

If the NSR/t is higher than the operating cost per tonne of ore (COV), the stope is included in the mining inventory. If the NSR/t is lower than the estimated COV, the stope is rejected and not included in the mining inventory.

Figure 16-26 illustrates the decision process through which the various designed stopes are either included in or excluded from the mining inventory.

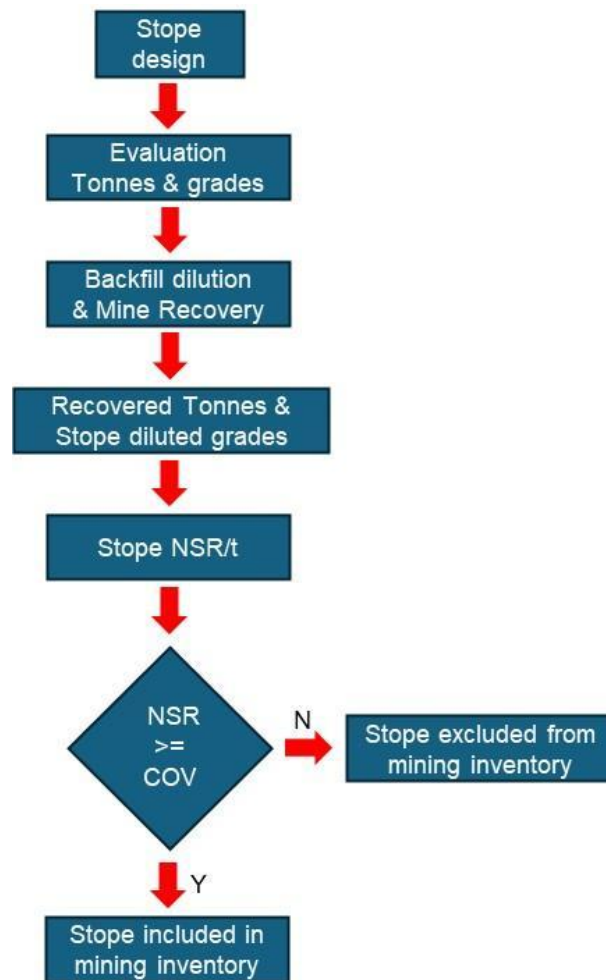


Figure 16-26: Decision Process for the Inclusion or Exclusion of Stopes from the Mining Inventory

Based on this inclusion/exclusion process, the stopes with an NSR/t greater than the COV (Cut-Off Value = operating cost per ton) were identified, thus generating a positive operating margin. These stopes are shown in green in the view presented in Figure 16-27. All stopes shown in grey were excluded, as they do not meet the cut-off criteria.

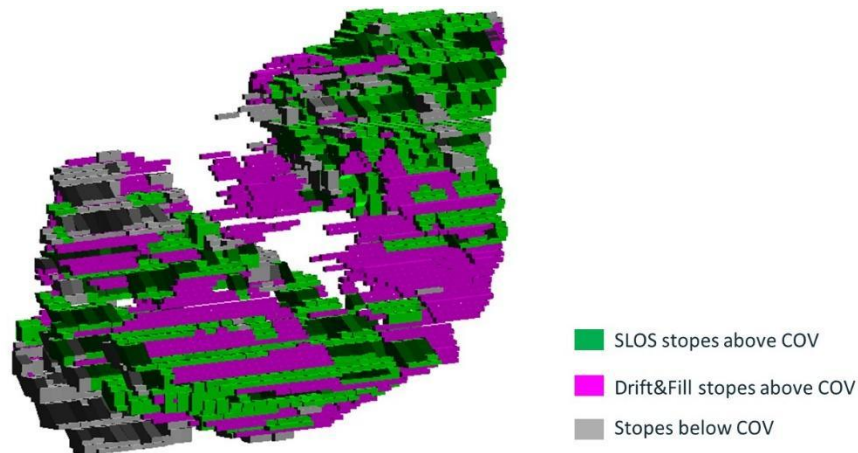


Figure 16-27: View of the SLOS and Drift & Fill Stopes Above and Below the COV

Once the stopes whose revenue per tonne (NSR/t) is higher than the operating cost per tonne (COV) were identified, the mining inventory by mining method was obtained (Table 16-9 and Table 16-10).

Table 16-9: Mining Inventory for the Sublevel Open Stopping Stopes

Lower Level	Upper Level	SLOS				
		Tonel.	WO3BR	CUPPMB	SNPPMB	AGPPMB
875	>875	112,256	0.20	571.24	92.70	2.43
850	875	546,268	0.17	642.19	98.67	2.88
823	850	1,069,522	0.18	742.93	95.26	3.41
798	823	1,134,469	0.20	837.05	93.08	4.08
784	798	394,377	0.20	842.97	93.72	4.59
765	784	936,052	0.19	846.28	97.18	5.06
750	765	748,610	0.21	854.90	102.83	5.61
725	750	1,175,949	0.19	808.76	103.15	5.57
700	725	657,161	0.17	725.52	95.15	5.22
675	700	377,129	0.22	264.88	55.95	2.73
650	675	344,166	0.21	184.85	54.99	1.94
625	650	286,443	0.15	267.62	59.24	2.18
600	625	350,851	0.25	321.76	54.79	2.31
575	600	760,022	0.30	242.40	52.88	1.94
550	575	943,447	0.24	209.09	51.29	1.66
525	550	735,665	0.20	242.83	55.56	2.15
500	525	119,378	0.14	282.55	60.67	2.68
475	500	0	0.00	0.00	0.00	0.00
TOTAL		10,691,764	0.20	589.10	81.69	3.64

Table 16-10: Mining Inventory for the Drift & Fill Stopes

Lower Level	Upper Level	Drift&Fill				
		Tonel.	WO3BR	CUPPMB	SNPPMB	AGPPMB
875	>875	2,796	0.19	526.55	69.89	2.19
850	875	56,070	0.19	385.61	76.49	2.01
823	850	34,916	0.18	354.42	72.20	1.78
798	823	36,903	0.17	621.84	76.24	2.91
784	798	4,157	0.18	593.57	79.34	3.16
765	784	23,988	0.22	545.51	71.01	3.19
750	765	73,771	0.21	460.86	61.44	3.44
725	750	142,912	0.25	542.92	62.55	3.32
700	725	190,854	0.24	488.22	63.90	3.35
675	700	179,476	0.25	409.12	59.71	3.19
650	675	186,872	0.36	265.82	47.27	2.00
625	650	147,847	0.32	283.19	50.07	1.94
600	625	146,299	0.38	261.23	45.85	1.76
575	600	113,920	0.33	237.89	47.48	1.74
550	575	137,850	0.24	165.94	35.65	1.83
525	550	85,790	0.43	285.09	69.06	2.81
500	525	106,724	0.23	187.72	52.29	1.76
475	500	9,527	0.17	134.50	39.55	0.98
TOTAL		1,680,674	0.28	343.72	55.57	2.45

Based on the tonnage and average grades of each stope, it was possible to determine the total tonnage and average grades (mining inventory), as well as the revenue generated by each mining method and the total value per tonne of ore (Table 16-11).

Table 16-11: Total Mining Inventory, NSR by Mining Method, and NSR/t

Lower Level	Upper Level	Tonel.	WO3BR	CUPPMB	SNPPMB	AGPPMB	NSR SLOS (\$US)	NSR D&F (\$US)	NSR Total/t (\$US)
875	>875	115,053	0.20	570.16	92.15	2.42	9,078,680	219,347	80.82
850	875	602,337	0.17	618.31	96.60	2.80	39,070,932	4,462,191	72.27
823	850	1,104,438	0.18	730.65	94.53	3.36	81,152,443	2,556,618	75.79
798	823	1,171,372	0.20	830.27	92.55	4.04	95,402,918	2,646,618	83.70
784	798	398,534	0.19	840.37	93.57	4.58	32,465,207	314,339	82.25
765	784	960,040	0.19	838.77	96.52	5.01	73,989,358	2,142,861	79.30
750	765	822,381	0.21	819.55	99.12	5.42	66,829,621	6,439,860	89.09
725	750	1,318,861	0.19	779.96	98.75	5.33	92,545,180	14,552,086	81.20
700	725	848,015	0.19	672.11	88.12	4.80	47,129,242	18,946,644	77.92
675	700	556,604	0.23	311.39	57.16	2.88	33,139,891	18,102,970	92.06
650	675	531,039	0.26	213.34	52.28	1.96	29,316,241	26,779,204	105.63
625	650	434,290	0.21	272.92	56.12	2.10	17,367,903	19,237,946	84.29
600	625	497,149	0.29	303.95	52.16	2.15	35,276,719	22,053,158	115.32
575	600	873,942	0.30	241.81	52.17	1.92	91,470,168	14,978,312	121.80
550	575	1,081,297	0.24	203.59	49.30	1.68	89,854,776	17,898,473	99.65

Lower Level	Upper Level	Tonel.	WO3BR	CUPPMB	SNPPMB	AGPPMB	NSR SLOS (\$US)	NSR D&F (\$US)	NSR Total/t (\$US)
525	550	821,455	0.22	247.25	56.97	2.22	58,590,912	9,950,212	83.44
500	525	226,102	0.18	237.79	56.72	2.25	6,813,734	10,061,685	74.64
475	500	9,527	0.17	134.50	39.55	0.98	0	640,629	67.24
TOTAL		12,372,438	0.21	555.77	78.14	3.48	899,493,926	191,983,154	88.22

It can be observed that the NSR/t (net revenue per tonne) is significantly higher than the operating cost (COV), indicating a comfortable operating margin.

The graphs presented in Figure 16-28 allow the analysis of the tonnage, total NSR (net revenue), and NSR/t for each production level.

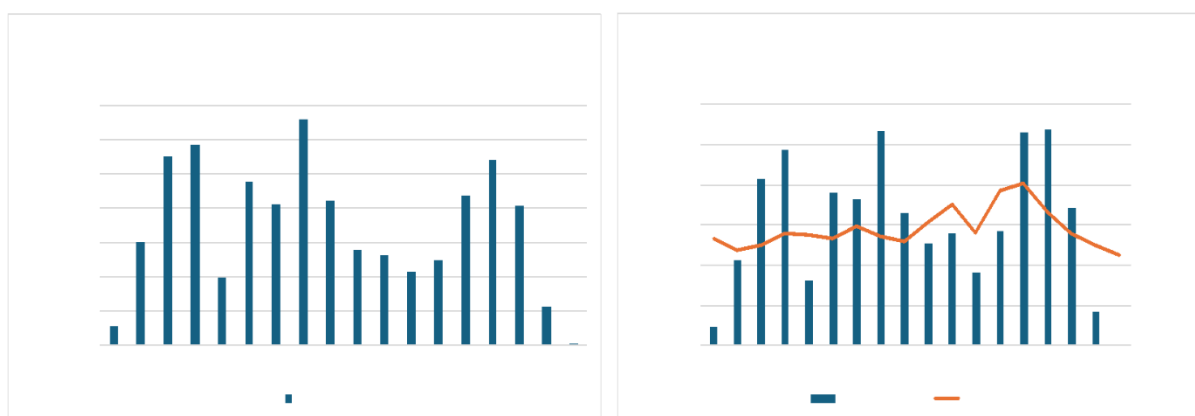


Figure 16-28: Tonnage, NSR, and NSR/t for Each Production Level

We can therefore conclude that there are significant tonnage values down to level 700 (with the exception of level 784, which has a lower mining height and, being a sill pillar, has lower recovery), as well as significant NSR values. Between levels 700 and 600, there is a decrease in both tonnage and NSR. Below level 600, an increase in both tonnage and NSR is observed again. This variation in tonnage and NSR is related to the two zones of the deposit (North and South).

16.8. Annual Mill Feed and Revenue Estimates

The annual tonnage and grades of mill feed are determined according to the parameters outlined in Figure 16.34 and Figure 16.35. These figures provide the basis for calculating both the total amount of material processed each year and its corresponding grade. Utilizing these parameters, a preliminary estimate of net revenue and net revenue per tonne is made. This estimation process follows the same criteria used in the ore valuation within the mining inventory, ensuring consistency throughout the assessment period.

It can therefore be concluded that production at the Borralha Mine begins in 2030, with a value close to 900 kt, increasing to 1 Mt in 2031. With the start of production from Area 3, it becomes possible to stabilize the mill feed at approximately 1.4 Mtpa.

16.9. Life of Mine Plan

In mining operations, it is essential to reach production as quickly as possible, minimizing the time spent on construction. This allows the project to generate a positive operating margin and significantly improve its economic parameters. Likewise, it is important to rapidly establish a stable production level.

To ensure these objectives are achieved, the Borralha Mine was designed to include three production areas:

- Area 1 – Above Level 798 (Levels 798, 823, 850, and 875);
- Area 2 – Between Level 675 and Level 784. The latter level acts as a sill pillar for the stopes at Level 798 (Area 1). A recovery of 50% of the ore from Level 784 is planned, i.e., 7 meters, with the remaining 7 meters left unmined;
- Area 3 – The entire northern zone of the Borralha deposit between Level 500 and Level 725.

To implement this plan, the following strategy was considered:

- Preparation of the earthworks to define the portal location of the ramp, excavation of the portal, and completion of the first 15 meters in the year prior to the start of mine development. These works are scheduled for 2028;
- The ramp begins at elevation 827, at the same location planned in the Mining Plan. This main descending ramp provides access to the levels below 823. Level 798 (stopes between 798 and 823) forms the base of the first production area (Area 1 between 798 and 875). All ventilation raises and service boreholes required to start production in this area are developed;
- From Level 823, an ascending ramp and development of Levels 850 and 875 are carried out following a “Just-in-Time” philosophy in order to continue production in the upper zone of Area 1. This ramp may be replaced by an external road if feasible and more economical, in which case portals would be created for Levels 850 and 875 (hillside access);
- Continuation of the development of the descending ramp to elevation 675 (lower level of the southern zone), development of Level 675 and Level 700, and construction of all ventilation raises and service boreholes required to initiate production in Area 2;
- Development of the pump chamber at Level 675 and the drainage borehole from this infrastructure directly to the surface;
- Development, following a “Just-in-Time” philosophy, of the remaining production levels in Area 2 (725, 750, 765, and 784);
- Continuation of the development of the descending ramp to elevation 500 (lower level of the northern zone), development of Level 500 and Level 525, and construction of all ventilation raises and service boreholes required to initiate production in Area 3;
- Development of the pump chamber at Level 500 and the drainage borehole from this infrastructure directly to the surface;

- Development, following a “Just-in-Time” philosophy, of the remaining production levels in Area 3 (550, 575, 600, 625, 650, 675 North, 700 North, and 725 North).

With this strategy, it is possible to have one year of pre-production development (2029) and start production in 2030.

16.9.1. Development plan

The main ramp designed for all the LOM has a total of 4559 m. and the schedule plan is listed on Table 16-12.

Table 16-12: LOM Mine Access schedule

Capex Hor. Development		2029	2030	2031	2032
MAIN RAMP	850_875		267		
	823_850	298			
	SURF_803	160			
	ALARG_823	9			
	803_798	134			
	798_784	192			
	784_765	203			
	765_750	172			
	750_725	222	20		
	725_700		261		
	700_675		463		
	675_PUMPS		131		
	675_650		283		
	650_625		251		
	625_600			261	
	600_575			261	
	575_550			251	
	550_525			271	
	525_500			302	20
	500_PUMPS				131
TOTAL		1,389	1,675	1,344	151

The ventilation raises were designed with a diameter of 4.1 m (see the ventilation chapter), ore passes with a diameter of 2.1 m, backfill boreholes with a diameter of 1 m (allowing multiple pipes and cementing around them), while the industrial water boreholes, electrical boreholes, and mine drainage boreholes were designed as pilot holes for a Raise Borer

C capital development consists of the network of drifts, (Table 16-13 and Table 16-14) raises, and service boreholes required for the mine to operate and which have a lifespan longer than one year. The associated costs are therefore classified as capital investment (CAPEX) and are subject to depreciation.

Table 16-13: Capital Horizontal Development Plan

		2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
LEVEL DEVELOP.	L 875		512												
	L 850	733													
	L 823	702			57										
	L 798	710													
	L 784	126						404							
	L 765	219					396			111					
	L 750	122			403				153						
	L 725		338		126							258	94		
	L 700		724								265				
	L 675		832								368				
	L 650		153							449		278			
	L 625			265					703						
	L 600			215		695	60			90					
	L 575			300	902				98						
	L 550			290	700			224							
	L 525				998										
	L 500				509										
TOTAL CAPEX HOR.DEV. (m)		7,419	7,938	5,789	6,029	7,287	2,490	2,662	2,990	2,688	2,671	2,575	2,134	2,041	2,042

Table 16-14: Capital Vertical Development Plan

	Vert. Devel. (m)	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Vert. Devel.	Exhaust South	101		123											
	Exhaust Central		121		71		24		24	94					
	Exhaust North				272					24	48				
	Intake South	124	48								24	41			
	Intake North			251	69										
	Ore Passes	78	48												
	Drainage Holes		26												
	Backfill Holes	117	98	192	74		23								
	Industrial Water	117	98	192	74		23								
	Electrical Holes	117	98	192	74		23								
	Dewatering Holes			205	328										
TOTAL VERTICAL DEVEL.(m)		653	537	1,155	962		93		24	118	72	41			

Once this infrastructure is in place, each production level is developed according to operational requirements. Since this development provides individual access to each stope and has a lifespan of less than one year, the associated cost is considered operational (OPEX).

The Operational Development Plan can be observed in Table 16-15.

Table 16-15: Operational Horizontal Development Plan

Opex Development	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
LEVEL DEVELOP.	L_875			97	110	189	248	292						
	L_850		757		485	62	92	13			144			
	L_823		905	560	370			22						
	L_798		1,063	529	295									
	L_784							705	895		74			
	L_765						101	824	901	142		40		
	L_750				574	347	148	675	140	16		5		
	L_725			318	464	38	659	189				433		
	L_700			711	686						237	476		
	L_675			593	451						1,043	273		
	L_650		78								1,238	102		
	L_625									568	525	233		
	L_600						1,032	114	280	783	86			
	L_575				557	501		582	763	150				
	L_550				787	648		909	396					
	L_525			567	744	87	92							
	L_500			203			260							
TOTAL OPEX HOR. DEV. (m)		2,803	2,808	3,631	2,952	2,583	2,149	3,809	3,374	1,804	3,204	1,562		
Blasts/shift		0.8	0.8	1.0	0.8	0.7	0.6	1.0	0.9	0.5	0.9	0.4		

Once horizontal development (Capital and Operational) and vertical development (Capital) have been completed to the point where production can begin, the mining of stopes can commence, following the sequence previously described and the estimated productivity for each stope sequence.

16.9.2. Production Plan

Production plan includes stopes operation and those develops made in ore, which will be included in the mine plan.

The Sublevel Open Stopping Production Plan can be observed in Table 16-16.

Table 16-16: Production Plan for the Sublevel Open Stopping Method

SLOS Stopes	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Sublevel Open Stopping	L_875					57,215	55,043							
	L_850			62,174	52,291	59,729	237,091	134,982						
	L_823		194,253	331,559	84,747	251,946	207,016							
	L_798		595,134	148,721	263,963	126,652								
	L_784									201,287	193,090			
	L_765							323,340	457,349	155,367				
	L_750						271,427	101,902	355,021	20,258				
	L_725					375,229	216,171	439,681	120,906			23,958		
	L_700			126,759	193,903		202,889	115,810				17,801		
	L_675			68,750	97,584						103,007	107,787		
Stope	L_650										344,166			
	L_625									147,603	138,840			
	L_600									162,315	188,535			
	L_575						326,589	48,560	123,706	261,169				
	L_550					248,266	241,766	284,908	168,507					
	L_525				333,378		81,873	320,415						
	L_500				36,638	82,740								
	TOTAL SLOS (t)		789,386	737,963	1,062,504	1,144,562	1,244,021	1,224,266	1,198,391	1,225,489	947,999	967,638	149,546	

The Drift & Fill mining method is used in the narrower zones of the deposit, typically at the extremities (lower, upper, and lateral areas). Therefore, the production from this method is conditioned by the Sublevel Open Stopping method, providing a complement to production with higher-grade ore.

At the lower extremities, the Drift & Fill stopes must be mined before the Sublevel Open Stopping stopes, whereas laterally and in the upper part of the deposit they must be mined after them.

Table 16-17 presents the Production Plan for the Drift & Fill method.

Table 16-17: Production Plan for the Drift & Fill Method

Drift&Fill Stopes		2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Drift & Fill	L >875											2,796	
	L_850-870										44,097	11,972	
	L_823-845							34,917					
	L_798-818					36,932							
	L_784-794										4,157		
	L_765-775										17,446		6,542
	L_750-760										42,952	23,013	7,807
	L_725-745									89,856		53,057	
	L_700-720					6,342			60,836		48,862		74,814
	L_675-695			25,515	54,521							39,028	60,412
	L_650-670		21,216	123,628								42,027	
	L_625-645		19,172	5,441									123,234
	L_600-620										31,168	115,131	
	L_575-595										113,920		
	L_550-570									43,917	57,945		
	L_525-545							54,553	67,226				
	L_495-520				11,244	42,756	62,252						
TOTAL Drift&Fill (t)			40,388	154,584	65,765	86,030	62,252	89,470	128,062	133,773	360,547	287,025	272,809

16.10. Ventilation

The currently developed PEA does not include any simulation of the main ventilation circuit, which would allow for the proper sizing of ventilation raises and main fans. However, it was considered important to address this topic in order to establish a basis for the future feasibility study.

Based on the main mining equipment and the number of operators, it is possible to estimate an airflow on the order of 417 m³/s for the Borralha mine, including 35 m³/s for dust suppression and a 20% contingency to account for leakages and smaller equipment (Figure 16-18).

Table 16-18: Preliminary estimate of the main ventilation airflow

Equipment	Number	CV	Q (m³/s)
Advance Jumbos	2	166.3	11.6
Support Jumbos	3	166.3	17.5
LH Jumbos	3	166.3	17.5
Cable Jumbos	1	166.3	5.8
LHD	3	472.0	49.6
Dumpers	4	757.7	106.1
Service Platforms	3	166.3	17.5
Concrete trucks	2	166.3	11.6
Shotcrete robot	1	166.3	5.8
Road grader	1	166.3	5.8
Bench emulsion charger	1	166.3	5.8
Backfill truck	1	166.3	5.8
Labour transport truck	2	166.3	11.6
Pickups	7	150	36.8
Total Equipment	34		308.8

Labour	Number		Q (m³/s)
Production / shift	33		1.6
Technical Services	26		1.3
Maintenance	12		0.6
Total Labour	71		3.5

Dust suppression			35.0

Contingency (20%)	20%		69.5

TOTAL BORRALHA			417

Air flow per exhaust ventilation raise		139
Objective Air flow per exhaust ventilation raise		150

Given that there are three main ventilation raises, an average flow rate of approximately 139 m³/s per exhaust raise will be required. Therefore, an exhaust flow rate of 150 m³/s per main exhaust raise has been assumed at this stage.

Air will enter through the two intake raises aligned with the southern and northern zones of the orebody, ensuring the supply of fresh air at the beginning of each production level, with a total of 150 m³/s in each raise, and also through the main ramp so that the haulage dumpers have access to fresh air (150 m³/s).

The fresh air entering through the intake raises is directed to the stopes by means of auxiliary fans, allowing operators in the stopes to receive fresh air directly from surface.

The exhaust raises are always located at the southern and northern ends of each level drift. Since there are two distinct production zones (North and South), three exhaust raises are required, each handling a flow of 150 m³/s of contaminated air.

The fans are installed on surface at the exhaust raises. Ideally, each raise should be equipped with two fans operating in parallel, each with lower individual power, but together delivering the full 150 m³/s, so that one fan can be stopped for maintenance while the other remains in operation, without interrupting ventilation in that raise. This minimizes downtime in the mining operation.

Proper regulation of the extraction airflow at each level will be extremely important to ensure that air reaches the deepest levels of the mine. Regulators will need to be installed in the crosscuts connecting the drifts to the exhaust raises.

The east wall view shown in Figure 16-29 provides a schematic representation of the proposed main ventilation circuit.

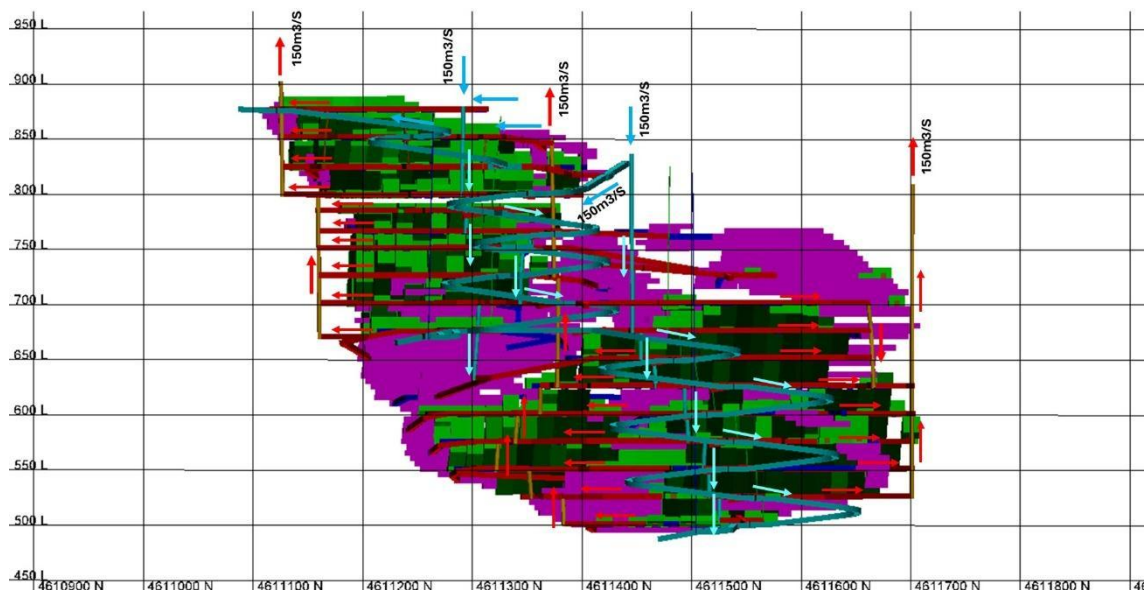


Figure 16-29: Main ventilation circuit and proposed airflow rates for fresh air intake and contaminated air exhaust.

The flow rate of 150 m³/s is compatible with the 4.1 m diameter of the main ventilation raises (air velocity of approximately 10 m/s), although the diameter could potentially be reduced to 3.1 m (air velocity of approximately 20 m/s). Reducing the raise diameter would increase the power consumption of the main fans due to the higher resistance, and for this reason the 4.1 m diameter has been retained. The main ramp, with a cross-sectional area of 30 m², would have a maximum air velocity of 5 m/s, which is within the limits established by legislation.

It is essential that this ventilation circuit be properly simulated using specialized software in order to size the ventilation raises correctly (as some main raises may potentially allow for a smaller diameter), select the corresponding main fans, and estimate their annual power consumption, which is a very important parameter for obtaining an accurate estimate of the mine's operating costs.

16.11. Mine Backfill

Any underground mining method that uses backfill is fully dependent on this process, and its productivity largely depends on the performance and quality of the backfill used. Although it is not a productive activity, backfilling allows the void created by mining to be filled, minimizing the displacement of the surrounding rock mass, reducing subsidence, and creating a working platform for equipment and personnel.

This process is also responsible for approximately 15% to 20% of the costs of an underground mine due to the cement required to provide strength to the backfill, the various materials needed (pipes for backfill supply, supports, materials for the construction of backfill barricades, etc.), and labor.

It is also very important to understand the tailings balance and the waste rock balance in order to properly size the temporary tailings storage facility and the temporary surface waste dump.

To estimate the backfill requirements, the annual volume opened by the SLOS and Drift & Fill stopes was considered, to which an additional 15% was added to account for the fact that dilution volumes are filled twice and that part of the access drifts to the stopes are always backfilled. A density of 1.6 t/m³ was assumed for paste fill, an apparent density of 1.56 t/m³ for waste rock (40% swell factor), with 50% primary stopes and 50% secondary stopes, and that 50% of the secondary stopes would be filled with uncemented waste rock.

The remaining 50% of the backfill in the secondary stopes would be carried out using paste fill composed of 98% tailings and 2% cement in order to prevent the potential for liquefaction.

Primary stopes would be filled with paste fill composed of 92% plant tailings and 8% cement to provide the necessary strength to ensure the stability of the walls of the secondary stopes with a height of 25 meters.

For the Drift & Fill method, it was assumed that the stopes would be filled with a mixture composed of 96.5% plant tailings and 3.5% cement, given that the stope height is only 5 meters.

Table 16-19 presents all the parameters used for the calculation of backfill requirements.

Table 16-19: Parameters for the Calculation of Backfill Requirements

Backfill parameters		
Tonnes / year	1,200,000	t
Paste-Fill density	1.6	t/m ³
% increase backfill Volume	15%	
Waste density	2.6	t/m ³
Swelling factor	40%	
Waste apparent density	1.56	t/m ³
% Primary stopes	50%	
% Secondary stopes	50%	
% Waste secondary stopes	50%	
% tailings primary stopes	92%	
% cement primary stopes	8%	
% tailings Secondary stopes	98%	
% cement secondary stopes	2%	
Paste-Fill tailings D&F	96.5%	
% cement Paste-Fill D&F	3.5%	

The paste-fill backfilling method uses the tailings from the processing plant which, after being thickened and filtered, are mixed with water and cement to ensure a homogeneous mixture forming a liquid paste in which no free water is present. Part of the water is consumed during cement curing, while the backfill maintains a moisture content of approximately 18%. This process is particularly advantageous when dealing with very fine tailings.

Hydraulic fill is commonly used when the tailings are coarser, requiring a higher cement consumption due to the presence of free water that drains out of the stopes. This type of backfill can also lead to stratification, creating zones with higher strength and others with lower strength.

For the Borralha project, a series of initial studies indicated the use of paste fill with 8% cement in the primary stopes. However, potential changes in the processing plant may result in coarser tailings, which could require the use of hydraulic fill instead.

It is therefore very important to define the final processing plant flowsheet and the characteristics of the tailings in order to carry out strength and flow tests and to select the appropriate type of backfill and its properties for the different stopes.

Based on the parameters described above, an estimate was made of the backfill volumes for primary, secondary, and Drift & Fill stopes, as well as the quantities of tailings, waste rock, and cement required for the operation of the Borralha Mine (Table 16.20).

Table 16-20: Backfill Estimation and Tailings and Waste Rock Balance

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	TOTAL
Backfill Volume Primary Stopes (m3)	0	316,751	242,010	243,317	288,919	252,952	273,200	194,597	55,922	209,959	108,750	9,269	0	0	2,195,646
Backfill Volume Secondary Stopes (m3)	0	7,461	61,082	193,069	181,169	257,985	229,624	297,599	447,404	179,398	288,673	52,151	0	0	2,195,615
Backfill Volume Drift & Fill (m3)	0	16,588	63,490	27,011	35,334	25,568	36,746	52,597	54,943	148,082	117,885	112,047	0	0	690,289
Total Volume (m3)	0	340,800	366,582	463,396	505,422	536,505	539,570	544,793	558,268	537,438	515,308	173,467	0	0	5,081,550
Paste-Fill Tonnes Primary stopes (t)	0	506,802	387,216	389,307	462,270	404,723	437,120	311,356	89,475	335,935	174,000	14,831	0	0	3,513,033
Paste-Fill Tonnes Secondary stopes (t)	0	5,969	48,865	154,455	144,935	206,388	183,699	238,079	357,923	143,518	230,938	41,721	0	0	1,756,492
Total Paste-Fill Tonnes (t)	0	512,771	436,082	543,762	607,205	611,111	620,819	549,435	447,398	479,453	404,938	56,552	0	0	5,269,525
SLOS Tonnage Backfill Tailings (t)	0	472,107	404,127	509,528	567,325	574,606	582,175	519,765	433,082	449,708	386,400	54,531	0	0	4,953,353
SLOS Tonnage Backfill cement (t)	0	40,664	31,955	34,234	39,880	36,506	38,644	29,670	14,316	29,745	18,539	2,021	0	0	316,172
Drift & Fill Paste-Fill Tonnes (t)	0	26,541	101,584	43,217	56,534	40,908	58,794	84,155	87,908	236,931	188,616	179,275	0	0	1,104,463
Drift & Fill Paste-Fill Tailings (t)	0	25,612	98,028	41,704	54,555	39,477	56,736	81,210	84,831	228,638	182,015	173,000	0	0	1,065,807
Drift & Fill cement (t)	0	929	3,555	1,513	1,979	1,432	2,058	2,945	3,077	8,293	6,602	6,275	0	0	38,656
Total Tailings Paste-Fill (t)	0	497,719	502,155	551,233	621,880	614,082	638,912	600,974	517,913	678,346	568,414	227,531	0	0	6,019,159
Total Cement Paste-Fill (t)	0	41,592	35,510	35,746	41,859	37,937	40,701	32,615	17,393	38,038	25,140	8,296	0	0	354,829
Plant tailings (t)	0	872,372	983,955	1,382,594	1,333,997	1,357,068	1,368,365	1,438,469	1,440,506	1,358,760	1,367,285	479,651	0	0	13,383,022
Available tailings to sell (t)	0	374,653	481,799	831,361	712,117	742,986	729,453	837,495	922,593	680,415	798,870	252,120	0	0	7,363,863
Total Waste produced (t)	303,178	470,267	298,984	275,713	145,742	157,150	133,418	214,829	197,208	117,140	145,142	56,807	0	0	2,515,578
Waste into secondary stopes (t)	0	5,820	47,644	150,594	141,312	201,228	179,107	232,127	348,975	139,930	225,165	40,678	0	0	1,712,580
Waste Balance (t)	303,178	464,447	251,341	125,119	4,429	-44,079	-45,689	-17,298	-151,767	-22,790	-80,023	16,129	0	0	802,998
Waste available to sell (t)	303,178	464,447	19,245									16,129	0		
Waste into temporary stockpile (t)	0	0	232,096	357,215	361,645	317,566	271,878	254,579	102,813	80,023	0	0	0	0	

S conclusion, out of the 13.3 million tonnes of tailings produced by the processing plant, approximately 6 million tonnes are used for backfilling, leaving 7.3 million tonnes available for potential sale. It is assumed that all tailings can be used for backfilling and that, as previously mentioned, any excess tailings are sold as inert material. Therefore, a site will be required for the installation of a temporary storage facility, where the tailings can be stored prior to sale.

Regarding the waste rock balance, Figure 58 allows for the determination of the annual tonnage of waste rock produced, the annual tonnage used for backfilling, the tonnage available for sale, and the maximum size of the temporary waste dump. It can be concluded that this reaches a maximum of 360,000 tonnes in 2033. The highest amount of waste rock available for sale occurs during the first three years (approximately 0.8 million tonnes).

For the Borralha mine to operate using this type of backfill, it will be necessary to acquire a pump to ensure the transport of backfill to the surface between the plant and the service raises. This will guarantee that the backfill reaches the uppermost stopes and remains in contact with the roof in Drift & Fill stopes, which is essential for the technical viability of this mining method.

16.12. Mine Dewatering

This chapter aims to present the consumption of fresh water and process water in the mineral processing plant of Minerália, within the Borralha Tungsten Project, providing an accurate and up-to-date overview of water consumption, losses, and treatment in the plant, allowing to:

- Plan water make-up requirements (including sealing and internal processes);

- Control losses due to evaporation and auxiliary flows;
- Ensure that effluents meet treatment requirements and environmental compliance standards;
- Support operational and sustainability decisions by optimizing the use of water resources.

The following estimates of water consumption and recovery from the reference project were maintained:

- Cooling water consumption;
- Dust suppression;
- Water for reagent preparation;
- Water consumption for slurry pump sealing;
- Water consumption and recovery in the DMS circuit;
- Water consumption and recovery in the ball mill circuit;
- Water consumption and recovery in the flotation circuit;
- Process water recovery.

For these flowsheets, new estimates of water consumption and losses were adopted for the following items:

- Water consumption for washing disc filters and filter presses;
- Sealing water consumption for pumps.

The water distribution flowsheet presents an estimate of consumption based on average flow rates. It should be noted that some of the indicated flow values may vary during the pump and piping sizing phase, when instantaneous flow rates at specific consumption points will be considered.

Raw Water Tank – 900-TKWT-01

An average make-up of 8.1 m³/h will be required. From the total pumped flow by pumps 900-WPMP-01A/B (108.1 m³/h), 100 m³/h returns to the tank.

Additionally:

- Dust suppression water does not return to the circuit;
- Water used for reagents is directed to the process water system.

Process Water Tank – 900-TKWT-02

This tank will receive an average make-up of 28.4 m³/h, in addition to filtered process water from tank 900-TKWT-03, ensuring a clean water supply for pump sealing (50 m³/h) via pumps 900-WPMP-02A/B.

Other discharge points include:

- 900-WPMP-04A/B → filter press washing (12 m³/h average; 240 m³/h instantaneous);
- 900-WPMP-05A/B → copper concentrate filter washing (4.8 m³/h average; 120 m³/h instantaneous).

17. Recovery Methods

This chapter presents a detailed description of the facilities of the mineral process plant, designed in accordance with the following principles:

Safety and regulatory compliance

All plant facilities are designed with the necessary safety measures to ensure industrial operation are carried out under the highest safety standards for workers, fully complying with current legislation. The plant will adhere to fire protection regulations, and all chemical storage areas will be designed according to safety standards. Emergency shutdown devices will be installed on all critical equipment to prevent accidents.

Sustainability and environmental considerations

The design incorporates the best available techniques (BAT) to ensure environmentally sustainable operations and minimize impacts on surrounding communities. Measures include energy efficiency systems, optimized electrical consumption, and environmentally secure containment of chemicals and process residues. Impermeable concrete containment basins of variable capacity, equipped with sump pumps, will be installed to safely collect and manage any potential spills.

Process control and instrumentation

The plant will be equipped with advanced instrumentation and control systems, enabling automated operation under the supervision of trained personnel. These systems will allow continuous monitoring and control of process variables, ensuring safe, efficient, and consistent operations.

17.1. Selection and justification of the treatment method

The selection of the treatment process for Borralha material is based on a combination of technical, environmental, economic, and operational factors. These include the mineralogical composition of the material, handling and storage conditions, environmental requirements, as well as safety, maintenance, and process efficiency criteria.

The process design is grounded in an extensive body of documentation and experimental data collected over recent years, while mineralogical studies and metallurgical tests have been carried out. These studies have enabled a thorough characterization of the material, an understanding of its behaviour under different treatment conditions, and the definition of the optimal processing route. All selected processing methods have been tested and validated during the metallurgical investigation phase.

Although the primary target metal in the project is tungsten, the material also contains other economically significant metals, such as tin and copper, at recoverable concentrations. For this reason, the process has been designed to produce saleable concentrates of tungsten, copper, and tin.

The target minerals correspond to wolframite and scheelite as the tungsten-bearing minerals, chalcopyrite as the copper-bearing mineral, and cassiterite as the tin-bearing mineral. The sequence in which these minerals are concentrated depends primarily on their characteristic liberation particle size and behaviour during each stage of the process. According to the mineralogical study, wolframite exhibits the coarsest grain size, followed by chalcopyrite, while scheelite and cassiterite show the finest grain sizes. Therefore, the process is designed to first concentrate wolframite, followed by chalcopyrite, and finally scheelite and cassiterite.

Wolframite is a dense and slightly magnetic mineral. Historically, magnetic separation has been successfully used to recover wolframite from Borralha samples. However, this method is relatively costly due to its high energy and equipment requirements. In the current process design, magnetic separation is applied only in the final concentration stage, while gravity concentration is used as the primary technique for wolframite recovery. The effectiveness of this method has been proven in numerous tungsten processing plants, and it provides a more cost-efficient alternative to magnetic separation.

Chalcopyrite is concentrated by flotation, which allows selective recovery of the copper-bearing mineral from the gangue minerals.

The final stages of the process include magnetic separation and electrostatic separation to produce the final tungsten and tin concentrates.

The process plant design includes the following stages:

- Crushing in three stages to reduce the particle size to 6 mm.
- Preconcentration by dense media separation on the 6 – 2 mm fraction, rejecting approximately 40% of the mass as coarse tailings.
- Grinding of the DMS product and the - 2 mm stream to 1 mm, suitable for gravimetric concentration.
- Gravimetric concentration using spirals and shaking tables on the -1 mm + 20 µm fraction. Material finer than 20 µm will be treated using alternative gravity concentration equipment to recover tungsten from the ultrafines.
- Sulphide flotation of the gravimetric concentration concentrate to remove sulphides, incorporating multiple flotation stages to minimize tungsten losses and produce a saleable copper concentrate.
- Final tungsten concentrate purification, in which the non-sulphide stream will be treated by magnetic separation and electrostatic separation to separate tungsten from tin and therefore upgrading the tungsten concentrate and producing a saleable tin concentrate.

- Tailings management, where fine tailings will be dewatered and potentially combined with a portion of the coarse tailings and cement in a paste plant for return to the mine.

17.2. Plant capacity and utilization rate

The process plant has been designed for a throughput of 1,400,000 tons per year, which served as the basis for the design of both the main equipment and the auxiliary infrastructure.

The crushing area is expected to operate with lower availability than the rest of the plant, running 14 hours per day in two shifts, whereas the remainder of the plant will operate continuously (24 hours per day) in three shifts (Table 17-1).

Table 17-1: Plant capacity and utilization rate (MINEPRO, 2026).

Description	Crushing	Downstream process
Throughput (tons/year)	1,400,000	1,400,000
Working days	360	360
Availability	87,5%	94,4%
Working hours/day	14	24
Working hours/year	4,410	8,160
Throughput (tons/hour)	226.8	147.1

The process plant is expected to produce saleable concentrates of tungsten, copper and tin with the following annual production:

- Tungsten concentrate: 4,452 tons/year.
- Copper concentrate: 3,618 tons/year.
- Tin concentrate: 146 tons/year.

17.3. Block flow diagram

The block flow diagram provides a simplified overview of the Borralha process plant, illustrating the main process units and their interconnections. The ore is initially fed to the crushing area, where particle size is reduced to approximately 6 mm. The crushed material is then directed to the preconcentration stage, in this case the dense media separation (DMS) area, where roughly 40% of the mass is rejected as coarse tailings.

As the process progresses, particle size is progressively reduced to optimize the separation of the valuable minerals. The material passes through grinding and gravimetric concentration stages, where equipment is specifically designed to process medium and fine particle fractions (< 1 mm). This produces a tungsten preconcentrate that requires further cleaning to achieve saleable quality.

The cleaning stages include sulphide flotation, where a copper concentrate is produced, followed by magnetic and electrostatic separation to recover tin and upgrade the tungsten concentrate.

The coarse tailings will be stockpiled for delivery to the final customer. If required, a portion of the coarse tailings will be combined with dewatered fine tailings and cement to produce a paste, which will be returned to the mine voids.

The process plant block diagram is shown below in Figure 17-1.

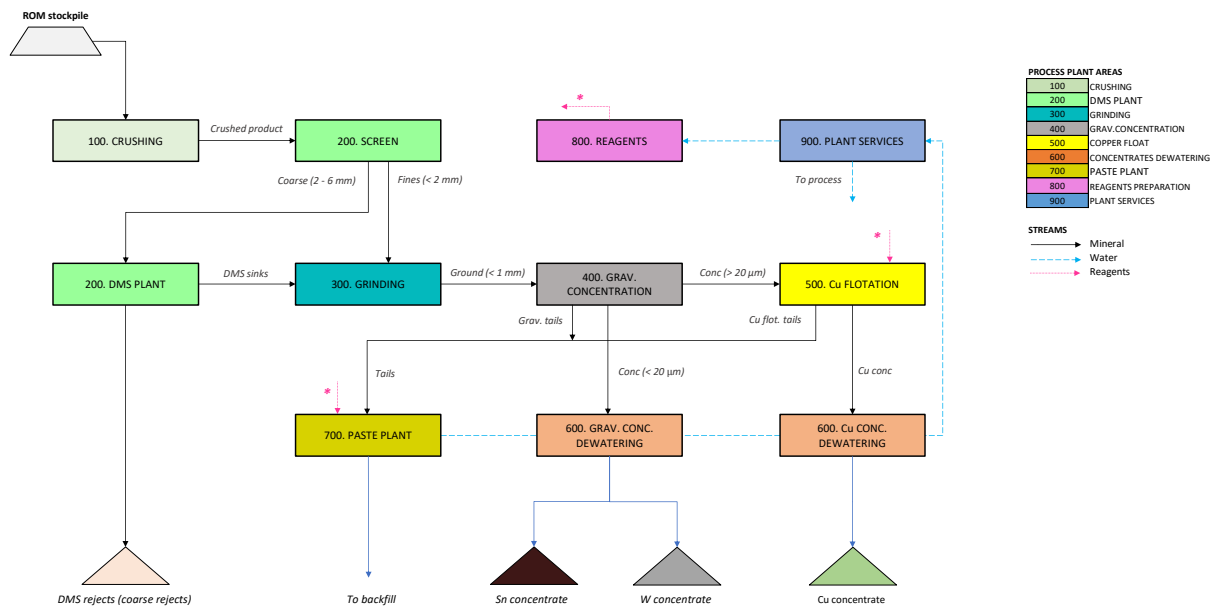


Figure 17-1: Block Diagram of the Mineral Process Plant. (MINEPRO, 2026).

17.4. Process description

The mineral process plant will be divided into the following processing areas:

- Area 100: Crushing.
- Area 200: Dense media separation.
- Area 300: Grinding.
- Area 400: Gravimetric concentration.
- Area 500: Copper flotation.
- Area 600: Concentrates dewatering.
- Area 700: Paste plant
- Area 800: Reagents preparation.
- Area 900: Plant services

17.4.1. Area 100: Crushing

Ore is discharged into a primary hopper fitted with a grizzly screen. This grizzly allows material finer than 100 mm to bypass the primary crusher, while the oversize fraction is directed to a primary jaw crusher. The run-of-mine (ROM) material, with a maximum particle size of approximately 500 mm, is reduced by the jaw crusher to a nominal size of 100 mm. This equipment is installed inside the mine.

The crushed product is conveyed by a conveyor system to a surface storage silo. From this silo, the material is transferred to a primary double-deck vibrating screen, which classifies the material into three size fractions: +35 mm, 35 - 6 mm, and - 6 mm.

The two coarse fractions are routed to the secondary and tertiary crushing stages, both consisting of cone crushers, where the particle size is further reduced. The crushed material is recirculated by conveyor back to the screening stage, forming a closed - circuit crushing system. This cycle is repeated until all material is reduced to a particle size below 6 mm, enabling it to pass through the screen.

The final –6 mm product is stockpiled prior to feeding the subsequent processing areas. Material is reclaimed from the bottom of the stockpile using vibrating feeders, which ensure a controlled and steady feed rate to the downstream circuits.

Dust control measures are implemented throughout the area, including enclosed conveyors and water spraying systems where required, to minimize dust emissions and improve working conditions. The flowsheet corresponding to Area 100 is presented in the following Figure 17-2, including the design mass balance for the main streams.

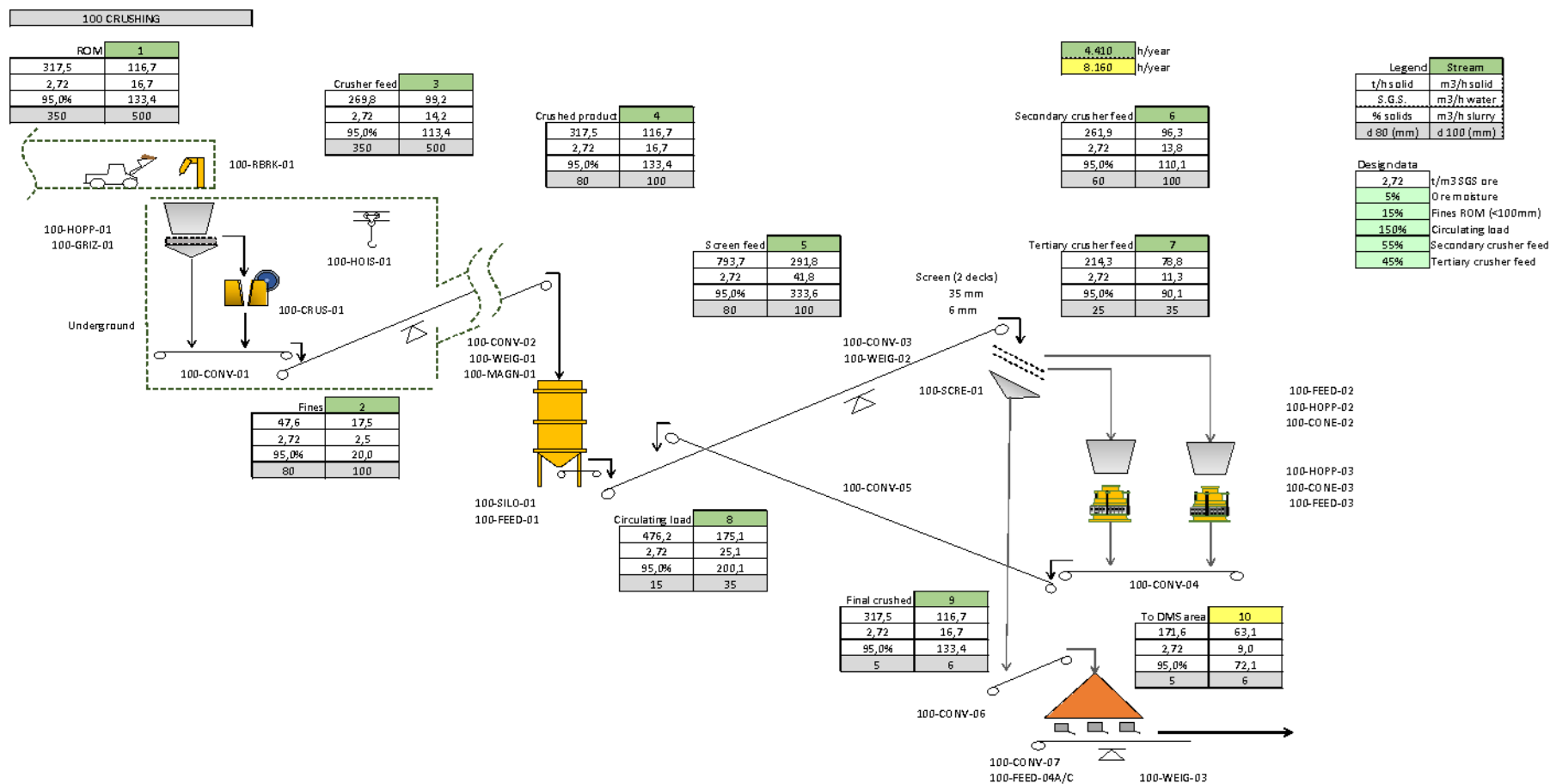


Figure 17-2: Area 100 mass balance, crushing (MINEPRO, 2026).

17.4.2. Area 200: Dense media separation

The final crushed product is conveyed to the secondary screen, which classifies the material into two streams: 6 - 2 mm and - 2 mm. The coarse fraction is fed to the Dense Media Separation (DMS) plant, while the fine fraction bypasses this process, as it is too fine for efficient DMS separation.

The DMS area constitutes the preconcentration stage, where approximately 40% of the material, containing very low metal grades, is rejected as coarse tailings. This reduces the mass flow to the downstream grinding and concentration stages, improving the overall performance and economics of the processing plant.

DMS is a well-established physical separation technique based on the difference in density between valuable minerals and gangue. Particles are separated in a dense medium of controlled density, allowing higher-density particles containing valuable minerals to be recovered as sinks, while lower-density waste material is rejected as floats.

Based on metallurgical test work, the DMS circuit is designed to process the - 6 mm + 2 mm size fraction. The sinks (denser product) are combined with the screen fines and pumped to the subsequent processing stages, whereas the float material is sent to a dewatering screen to recover water and prepare it for stockpiling. The DMS plant will be a package unit, also including systems to recover the dense medium (magnetite or ferrosilicon) for reuse in the circuit, preventing medium loss with the DMS product streams (Figure 17-3).

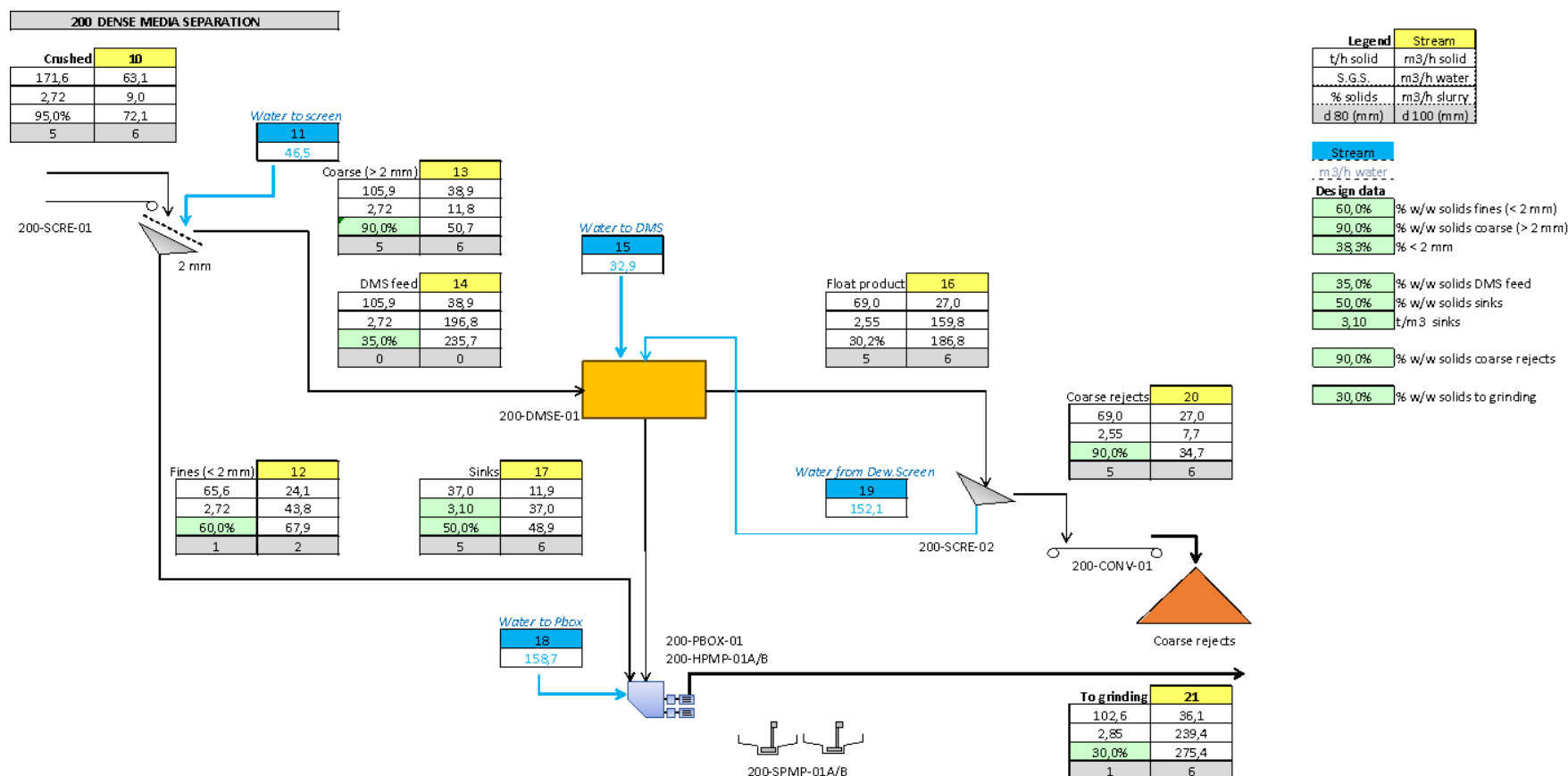


Figure 17-3: Area 200 mass balance, dense media separation (MINEPRO, 2026).

17.4.3. Area 300: Grinding

At the discharge of the DMS circuit, the material is fed to a single-deck screen, where particles finer than 1 mm pass directly to the downstream process. The oversize fraction is directed to a ball mill, which operates with water addition and in closed circuit with the screen, ensuring that all material is reduced to the required particle size before advancing to the next processing area (Figure 17-4).

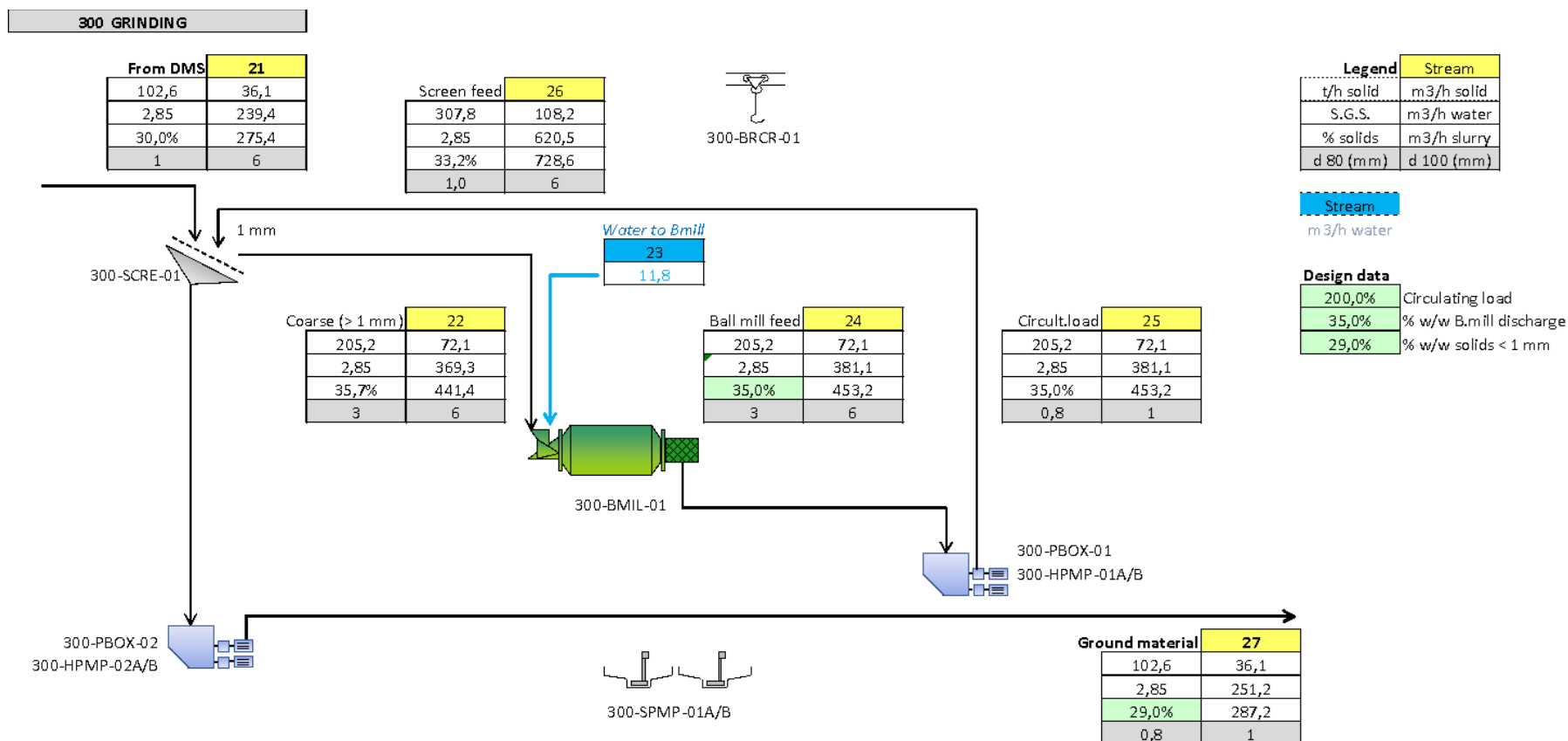


Figure 17-4: Area 300 mass balance, grinding (MINEPRO, 2026).

17.4.4. Gravimetric concentration

The ground material is fed to the gravimetric concentration area, which is designed to process medium, fine, and ultrafine particle sizes. The circuit includes equipment suitable for medium and fine particles, such as spirals and shaking tables, as well as specialized units for ultrafine particles, including Falcon concentrators and Multi-Gravity Separators (MGS).

The feed to the gravimetric concentration circuit is first classified using hydrocyclones into three size fractions: 1,000 - 300 µm, 300 - 20 µm, and - 20 µm. The two coarser fractions are directed to independent spiral circuits, while the finest fraction is treated in the ultrafine gravity concentration equipment.

The first spiral circuit, processing the 1,000 - 300 µm fraction, consists of a single rougher stage. The rougher concentrate is sent to the concentrate regrinding ball mill, while the rougher tailings are directed to the tailings regrinding ball mill.

The second spiral circuit processes the 300 - 20 µm fraction and the reground tailings from the first spiral circuit, once they have been reduced to the same size range. This circuit consists of rougher and scavenger spiral stages. The rougher concentrate is sent to the concentrate regrinding mill, while the rougher tailings are fed to the scavenger stage. The scavenger concentrate is also directed to the concentrate regrinding mill, whereas the scavenger tailings constitute one of the final tailings streams of the circuit.

The reground concentrates, reduced to a particle size below 150 µm, are fed to the final cleaning stage, which is carried out using shaking tables to upgrade the tungsten concentrate.

As a result, the first part of the gravimetric concentration circuit produces three main streams (Figure 17-5):

- Ultrafines (< 20 µm fraction): directed to the ultrafine gravity concentration equipment (Falcon and MGS units).
- Scavenger tailings from the 300 - 20 µm fraction: final tailings, sent to the waste management area.
- Reground concentrates (< 150 µm): fed to the shaking tables cleaning stage.
- The < 20 µm fraction is fed to a Falcon concentrator, specifically sized for the processing of ultrafine particles. The dense fraction (concentrate) from the Falcon concentrator is directed to the Multi-Gravity Separator (MGS) units, while the light fraction is discharged as tailings, constituting one of the final tailings streams of the gravimetric concentration circuit.
- Within the MGS units, two streams are produced. The tailings are recirculated back to the Falcon concentrator, while the concentrate, already presenting a high tungsten grade, constitutes one of the final tungsten concentrates produced in the gravimetric concentration area.

In parallel, coarser material is fed to the shaking table circuit by pumping from the concentrate regrinding mill. The shaking tables produces three streams: tailings, middlings, and concentrate. The tailings form an additional final tailings stream of the process, while the middlings are recirculated to the table feed for further upgrading. The concentrate represents the second tungsten concentrate produced within the gravimetric concentration area (Figure 17-6).

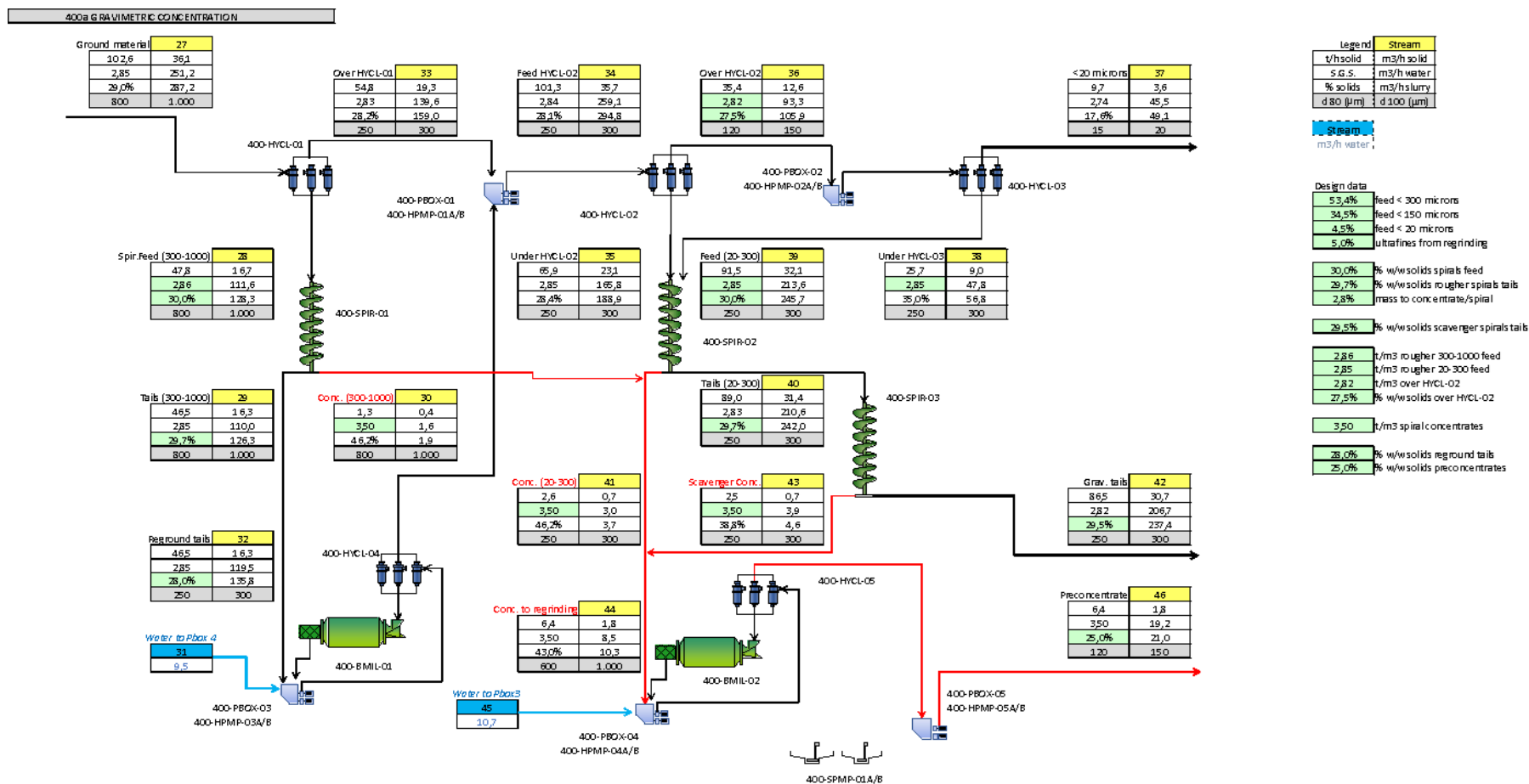


Figure 17-5: Area 400a mass balance, initial gravimetric concentration (MINEPRO, 2026).

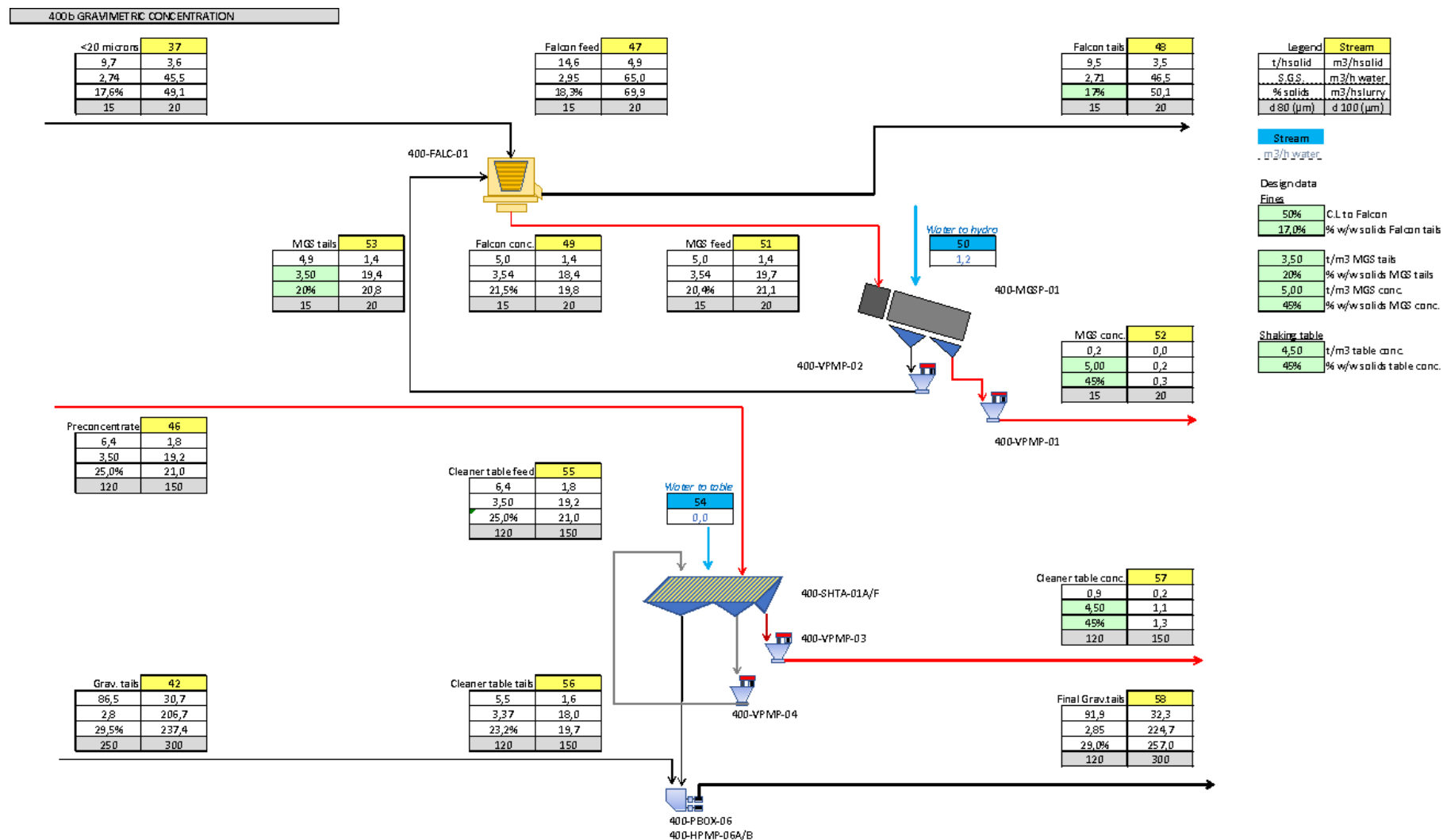


Figure 17-6: Area 400b mass balance, final gravimetric concentration (MINEPRO, 2026).

17.4.5. Copper flotation

The shaking table concentrate produced in the previous area contains not only a high-grade tungsten fraction, but also a significant amount of sulphides, which are recovered by gravity due to their relatively high density. In addition to improving the quality of the final tungsten concentrate, this area is designed to recover copper as a saleable copper concentrate. The predominant sulphide mineral in this stream is pyrite.

Based on these objectives, the flotation process is designed in two main stages. The first stage aims to clean the tungsten concentrate by removing as much sulphide content as possible. The second stage focuses on the selective separation of chalcopyrite (Cu-bearing mineral) from pyrite, once the sulphides have been removed.

Accordingly, the circuit includes a rougher flotation stage, in which the non-floated product constitutes the tungsten concentrate, while the floated product forms the sulphide-rich stream. A reagent scheme is applied to achieve this separation, including sulphuric acid (H_2SO_4) for pH control, methyl isobutyl carbinol (MIBC) as frother and AERO 238 as the sulphide collector.

The non-floated product, enriched in tungsten, advances to the final purification stage, while the floated sulphide product is directed to subsequent flotation stages designed to separate pyrite from chalcopyrite, allowing the production of a saleable copper concentrate.

The second flotation stage consists of three cleaner flotation stages and a scavenger stage associated with the first cleaner. The circuit configuration is designed so that the stream becomes progressively enriched in chalcopyrite as it advances from cleaner 1 to cleaner 2, and finally to cleaner 3, where a high-grade copper concentrate is produced.

On the other side, pyrite is directed in the opposite direction within the circuit, ultimately reporting to the scavenger stage. The objective of this stage is to selectively float pyrite, while the non-floated product is recirculated upstream and combined with the high-grade tungsten product obtained in the rougher flotation stage. This configuration allows optimization of tungsten recovery while maintaining effective separation of copper and other sulphides.

In this circuit, sulphuric acid (H_2SO_4) will be used again for pH adjustment, Sodium Metabisulphite (SMBS) to depress the pyrite and copper sulphide ($CuSO_4$) as chalcopyrite collector.

The flowsheet corresponding to Copper flotation area is presented in the following Figure 17-7, including the design mass balance for the main streams

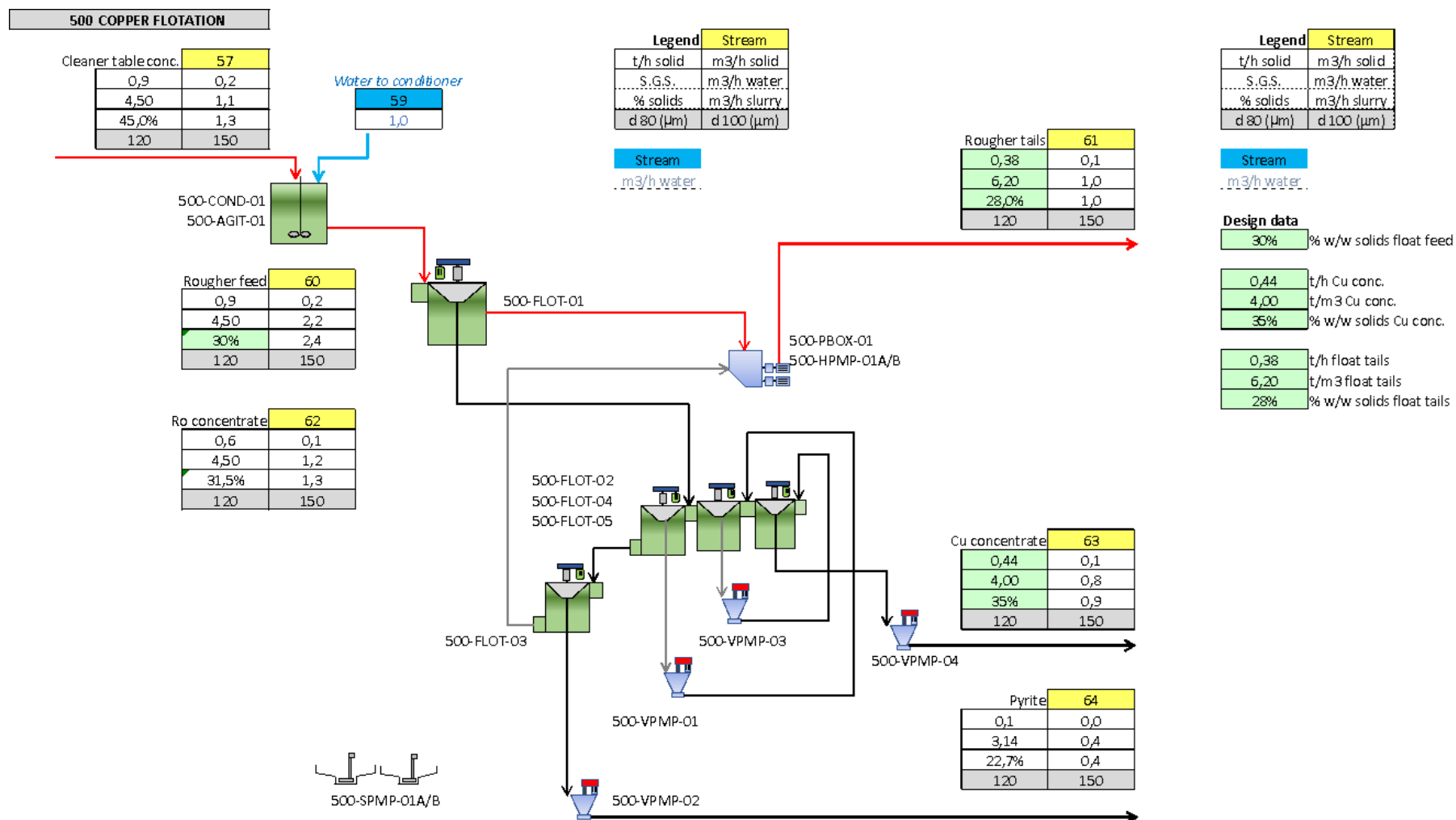


Figure 17-7: Area 500 mass balance, copper flotation (MINEPRO, 2026).

17.4.6. Concentrates dewatering

The high-grade tungsten products, including the ultrafine gravity concentrates and the non-floated product from the copper flotation stage, are pumped to the final dewatering and concentrate production area. The process begins with preliminary dewatering, using a filter press, followed by drying in a rotary dryer to achieve the required moisture content for further processing.

The dried material is then subjected to dry magnetic separation, which exploits the magnetic properties of wolframite. The magnetic fraction, containing mostly wolframite, constitutes the magnetic product. The non-magnetic fraction, consisting of cassiterite and scheelite, is directed to the electrostatic separation stage.

In the electrostatic separator, cassiterite is recovered as a saleable tin concentrate, while scheelite is returned to the tungsten stream. The scheelite is combined with the wolframite product to form the final tungsten concentrate, achieving the required grade and quality.

In parallel, the copper concentrate from the previous flotation area, already at a saleable grade, is pumped to this area, where it is dewatered using filtration to achieve the required moisture content for final handling and transport.

A flowsheet corresponding to concentrates dewatering area is presented in the following Figure 17-8, including the design mass balance for the main streams.

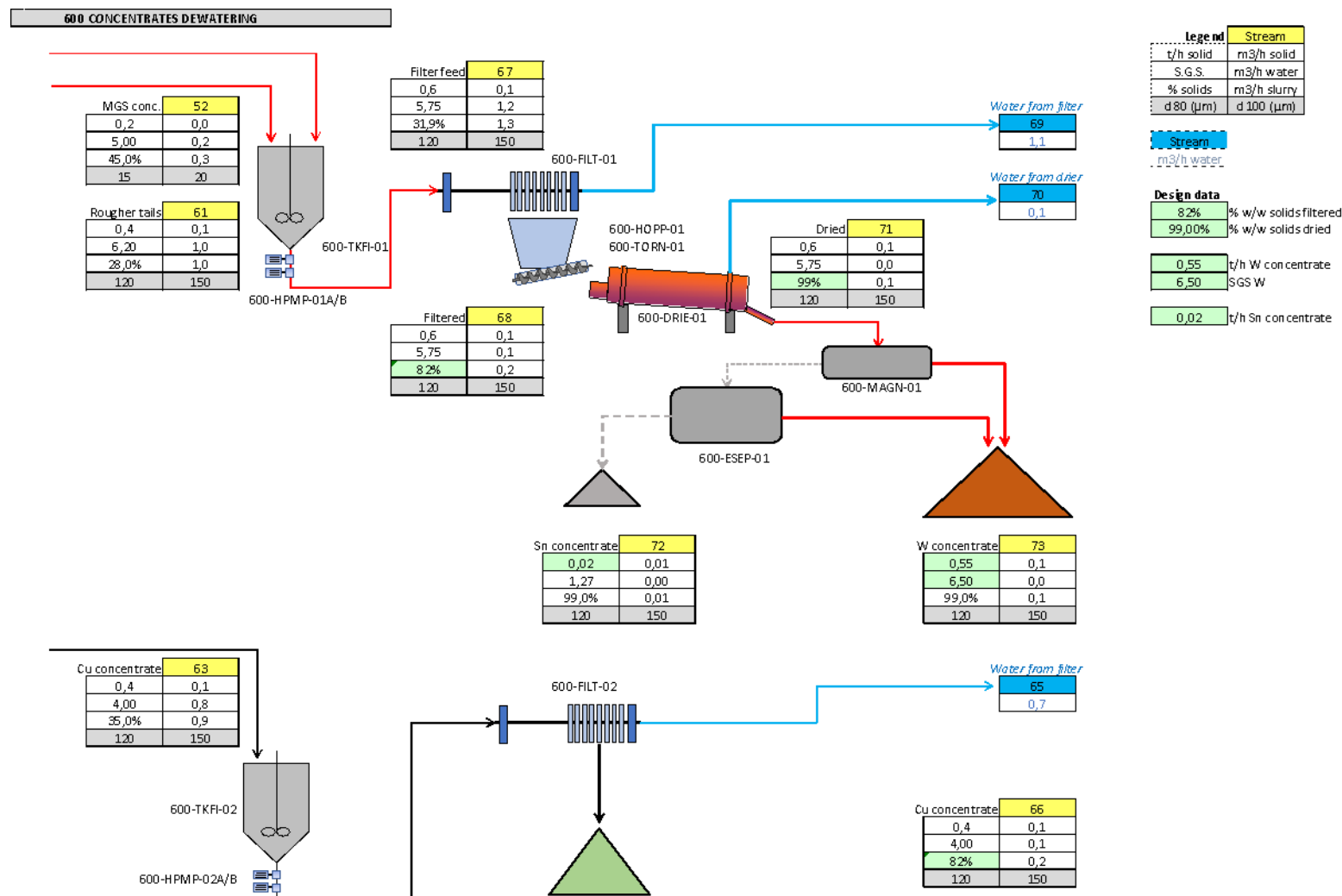


Figure 17-8: Area 600 mass balance, concentrates dewatering (MINEPRO, 2026).

17.4.7. Paste plant

The process tailings from the previous areas are directed to the paste plant, where they are processed for return to the mine voids as a stable paste. The three tailings streams are fed to a tailings thickener to recover most of the water and increase the solids concentration to approximately 70%.

Part of the thickened underflow is filtered before being pumped to the mixing tank, while the remaining portion is pumped directly to the tank without filtration. In the mixing tank, the thickened tailings are combined with cement in a specific proportion to produce the final paste.

The paste is then pumped to the mine voids under controlled conditions. This ensures the long-term stability of the backfilled areas, preventing surface subsidence and minimizing environmental and operational risks associated with mine closure.

The paste plant will be located in a separate building, close to the mine portal, facilitating direct transfer of the paste to the mine voids and optimizing operational efficiency.

A flowsheet corresponding to paste plant area is presented in the following Figure 17-9, including the design mass balance for the main streams.

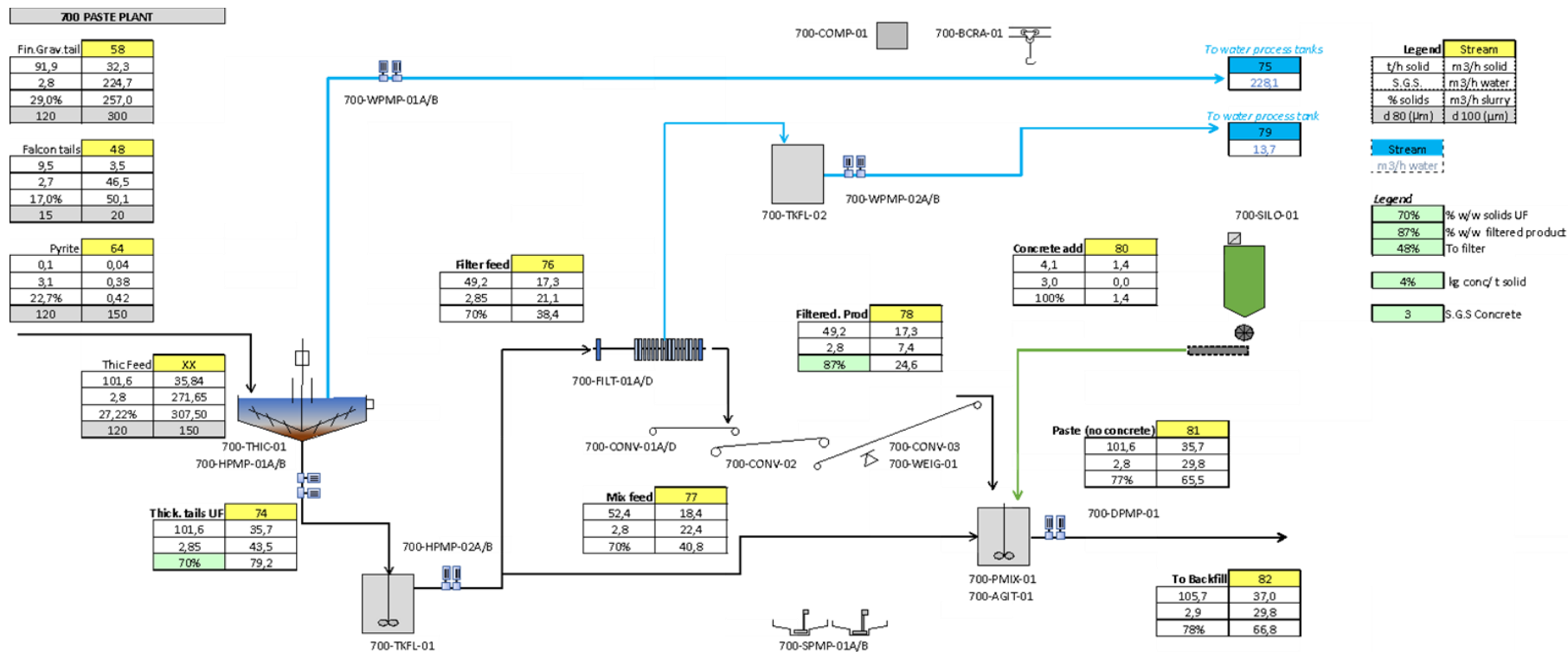


Figure 17-9: Area 700 mass balance, paste plant (MINEPRO, 2026).

17.4.8. Reagents preparation

In this plant, reagents are primarily used in the flotation circuit to separate sulphides from tungsten, as well as to separate chalcopyrite from pyrite in the copper flotation stages. In addition, a flocculant is used to facilitate the thickening process in the tailing's thickener.

The design of the storage, handling, and dosing facilities for these reagents will comply with current chemical safety regulations, ensuring operational safety and adherence to applicable standards. This approach guarantees safe management of all chemicals used in the process and minimizes environmental and occupational risks.

This section identifies and describes the reagents used, as well as their specific functions within the process.

Flocculant: a dedicated unit will be installed for the preparation and distribution of flocculant, designed as a compact plant capable of preparing, diluting, and dosing the required quantities for the process. Flocculants are compounds widely used in the mining industry to facilitate the agglomeration of ultrafine particles, forming larger and denser structures. This enhances the sedimentation rate and increases the solids concentration in the thickeners. They will be supplied in dry powder form, packaged in 25 kg bags, ensuring safe and convenient storage and handling within the plant.

pH modifier - Sulphuric acid (H_2SO_4): in the flotation circuit, maintaining a controlled pH is critical to ensure optimal mineral separation. Sulphuric acid is used to adjust the pulp pH to approximately 5 and is dosed during the conditioning stage.

Sulphide collector – AERO 238: its main function is to adsorb selectively onto the surface of sulphide minerals, making them hydrophobic and allowing them to attach to air bubbles for separation from gangue minerals. In this process, it is used to remove sulphides at the rougher flotation.

Frother – Methyl isobutyl carbinol (MIBC): is used in the flotation circuit as a frother. Its main function is to generate stable air bubbles that allow hydrophobic mineral particles to attach and rise to the surface for collection. It is typically added to the process after pH adjustment and collector addition.

Pyrite depressant – Sodium metabisulphite (SMBS): is used in the cleaning stage of the copper flotation circuit as a pyrite depressant. Its main function is to prevent pyrite from floating, allowing selective recovery of chalcopyrite and improving the grade of the copper concentrate.

Chalcopyrite activator – Copper sulphate ($CuSO_4$): it serves as an activator for chalcopyrite, promoting its response to the collector.

A flowsheet corresponding to reagents preparation plant area is presented in the following Figure 17-10, including the design mass balance for the main streams.

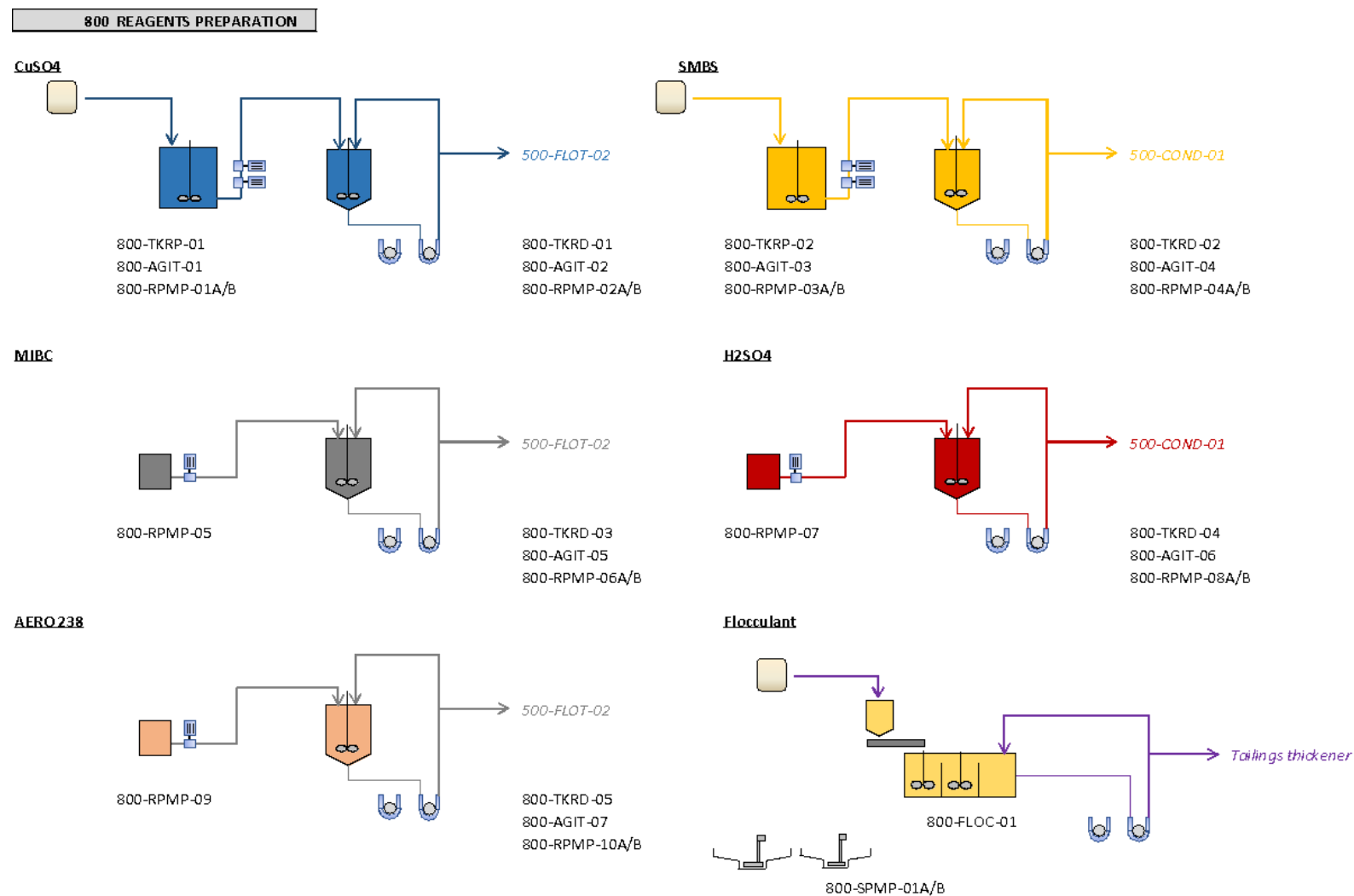


Figure 17-10: Area 800 mass balance, reagents preparation (MINEPRO, 2026).

17.4.9. Plant services

The plant utilities area comprises a set of auxiliary equipment and facilities whose purpose is to ensure the continuous, safe, and simultaneous availability of essential services required for plant operation.

Process water system

Process water refers to water that has been in contact with the ore or with one or more stages of the processing plant and may contain traces of chemical reagents at varying concentrations.

The system includes a process water pond, which acts as the main storage and collection facility for water recovered within the industrial circuit. From this pond, process water is pumped to a distribution tank that provides buffering capacity and allows controlled distribution to the different process consumers.

The design considers two independent pumping lines: a low-pressure line intended for auxiliary services such as centrifugal pump gland sealing, and a high-pressure line supplying the main processing operations. Both pumping lines are equipped with pumps arranged in a redundant configuration, sized to ensure adequate supply under peak demand conditions.

The principal uses of process water include supply to the DMS circuit, milling operations, gravity concentration equipment, and flotation.

Fresh water system

The fresh water system is designed to ensure the availability of clean water, free from contamination and without contact with reagents, for operations requiring higher water quality. These include reagent preparation, cooling systems (if applicable), dust suppression, fire protection services, and, where applicable, hygienic water uses.

The system consists of a fresh water pond that serves as the main storage and regulation reservoir, together with an intermediate tank from which water is pumped to the various points of consumption through a closed-loop distribution network. The network is equipped with isolation valves to facilitate maintenance activities.

Compressed air and blower systems

The processing plant will be equipped with screw-type air compressors connected to a common air receiver, operating with automatic start and stop based on air demand. The compressors will operate in alternating mode, with sequential start-up, and any single unit will be capable of supplying the plant's service air requirements. The air receivers are connected to distribution lines feeding the compressed air service points throughout the plant.

A refrigerated air dryer will be installed on one outlet of the main air receiver to provide dry and clean air for instrumentation purposes. Instrument air will be distributed through a dedicated network to the relevant points of use, such as level controllers, control valves, and other pneumatic actuators.

In addition, dedicated blowers will be installed to supply air to the flotation circuit, providing the airflow required for effective flotation performance. These blowers will operate independently from the service air compressors.

All compressed air systems and blowers will be installed with adequate acoustic insulation to minimize noise emissions. Air intakes will be fitted with suitable filters designed for easy access, cleaning, and replacement.

Fire protection system

The processing plant will be equipped with a fire protection system designed to address the different classes of fire that may arise across the various operational areas. Operating personnel will be appropriately trained in fire identification and in the correct use of the available firefighting equipment.

The design and installation of the fire protection system will comply with the applicable Industrial Fire Safety Regulations (RSCIEI), ensuring regulatory compliance and adequate coverage of identified fire risks.

A flowsheet corresponding to plant utilities area is presented in the following Figure 17-11, including the design mass balance for the main streams.

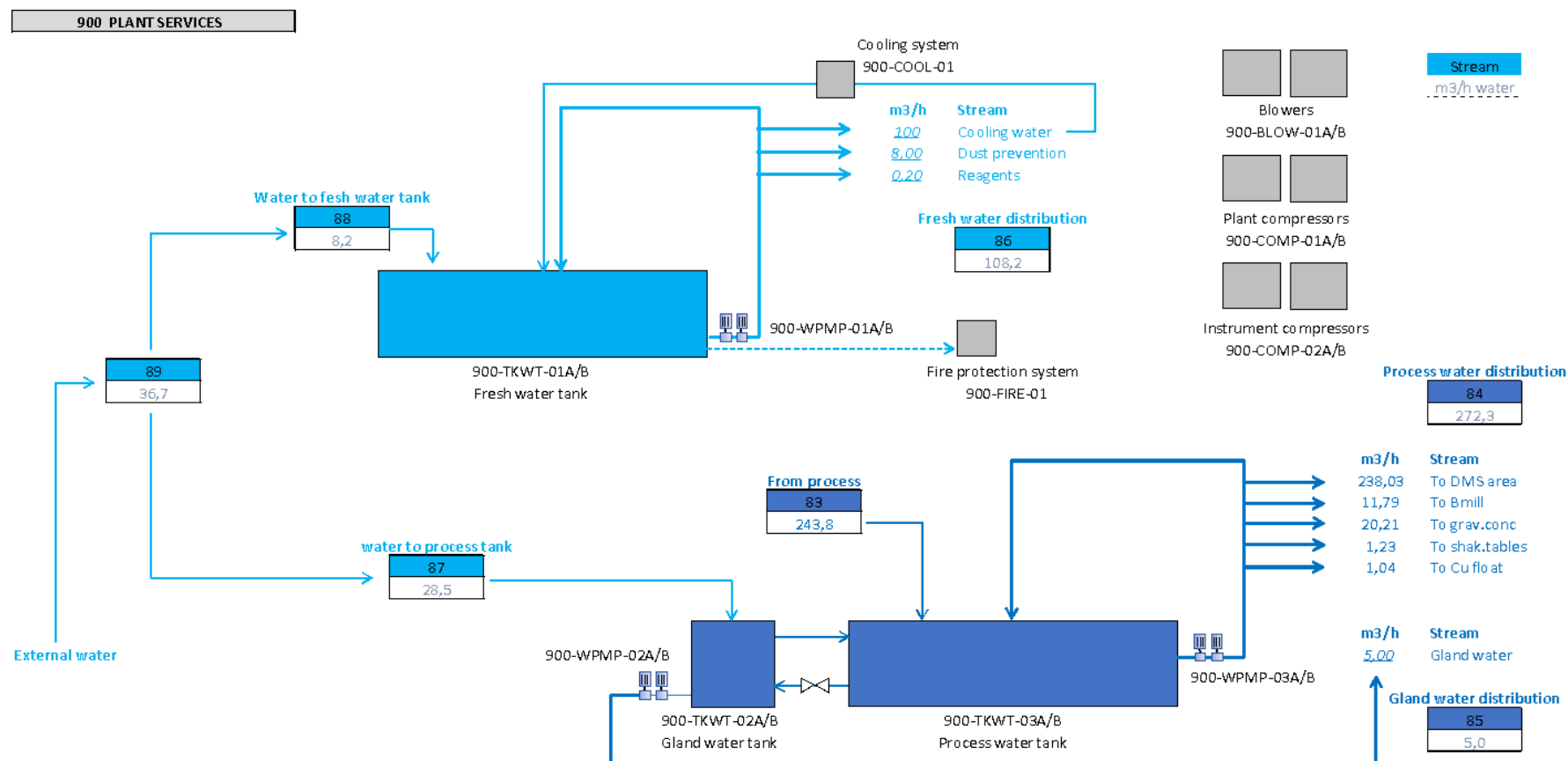


Figure 17-11: Area 900 mass balance, plant services (MINEPRO, 2026).

18. Project Infrastructure

18.1. Infrastructure and Site Requirements

The Mina da Borralha mining complex has been designed to minimize potential project impacts by concentrating industrial and social facilities within a compact area, taking into account environmental constraints and terrain limitations. The layout separates industrial zones from social facilities, optimizing the use of space while ensuring operational efficiency.

18.2. Processing Plant and Surface Infrastructure

The Paste Plant is centrally located relative to the ore body, facilitating mine backfilling operations. Water retention basins are situated on a rehabilitated former debris extraction area, enhancing environmental restoration. The infrastructure platform, including administrative, technical, and support facilities, has been designed to balance excavation and fill requirements while maximizing space for operations, parking, and ancillary structures. Excavation and fill volumes are approximately 41,263 m³ and 60,990 m³, respectively, with a minor fill deficit of 17,727 m³, which can be offset by material from existing spoil heaps.

18.3. Main Access Road

The access network was developed to integrate with existing rural roads and the municipal road CM1025-2. Separate routes for light and heavy vehicles were defined due to terrain and operational constraints. Heavy vehicle access follows a dedicated alignment, minimizing earthworks while maintaining low-speed circulation for safety. The road layout has been optimized for functionality, drainage, and terrain compatibility.

18.4. Surface Facilities

Surface buildings include administrative offices, main building with changing rooms and medical facilities, workshops, warehouses, control buildings, and weighbridge control. Facilities have been designed for operational efficiency, safety, and worker comfort, with capacities scaled to expected staffing levels.

18.5. Water Management

A comprehensive water balance model demonstrates that local groundwater and surface water resources are sufficient to supply the mine. Water management strategies prioritize diverting clean runoff, storing and treating potentially contaminated water, and reusing water for processing and operations. Three dedicated retention basins, with capacities ranging from 1,000 m³ to 5,000 m³, provide containment, sedimentation, and operational supply, ensuring continuity of mine processes and environmental compliance.

18.6. Power Supply and Distribution

The mine will be connected to the public electricity network via a 60 kV overhead line linking the Mina da Borralha substation to SE Frades (REN), over a 6.47 km route. Technical solutions comply with national and international standards, ensuring electrical, mechanical, and safety performance. The alignment minimizes environmental and social impacts while respecting regulatory setbacks, protected areas, and existing infrastructure. Signage and avifauna protection measures are included, in line with ICNF guidelines.

18.7. Conclusion

The infrastructure design for Mina da Borralha optimizes operational efficiency, environmental protection, and worker safety. Through careful planning of site layout, water management, road access, and electrical supply, the project ensures minimal environmental disturbance while providing reliable support for mining operations.

- Power supply
- Water supply
- Tailings management concept
- Access and logistics

The proposed infrastructure concept is considered sufficient to support the current PEA development case, subject to refinement during PFS-level engineering.

19. Market Studies and Contracts

19.1. Market Context and Strategic Relevance

The Project is expected to produce saleable concentrates of tungsten, tin and copper, with silver expected to report as a payable by-product credit, principally within the copper concentrate stream, subject to further metallurgical confirmation. At the current stage of study, tungsten is expected to be the principal commercial product and the principal driver of Project value.

The Project is at the Preliminary Economic Assessment (“PEA”) stage and, accordingly, its commercial framework remains preliminary. No independent detailed market study commissioned specifically for the Project has been completed as of the effective date of this Technical Report. For the purposes of this Report, the market assumptions used in the economic analysis are based on reasonably available information, including publicly available market information, industry practice for the sale of tungsten concentrates and other base metal concentrates, indicative concentrate quality assumptions, and preliminary assumptions regarding payability, downstream treatment, transportation and handling.

In addition, the Issuer has provided a letter of intent with an arm's length third party producer of tungsten powders in the United States for the purchase of tungsten concentrate production from mining at the Borralha Tungsten Project. In the opinion of the Qualified Person, these assumptions are reasonable and appropriate for a PEA-level assessment."

19.2. Material Contracts

As of the effective date of this Technical Report, no binding sales, agency, offtake, toll treatment, refining, transportation, handling, hedging or forward sales agreements are in place for the Project.

However, Allied Critical Metals Corp. has entered into a signed Letter of Intent with an arm's length third party producer of tungsten powders in the United States for the purchase of tungsten concentrate production from mining at the Borralha Tungsten Project. The LOI is expressly stated to be non-binding, except for the confidentiality obligations contained therein, and therefore does not constitute a definitive supply agreement.

The LOI provides indicative commercial terms including annual quantity, delivery basis, product specifications. While these terms are useful in demonstrating preliminary commercial interest and in supporting the Project's conceptual route to market, they remain subject to further negotiation and documentation.

No definitive contracts have been executed in respect of:

- mining contracts;
- concentrating or toll treatment contracts;
- smelting or refining contracts;
- transportation and handling contracts;
- sales or offtake contracts;
- hedging contracts; and
- forward sales arrangements.

This is not unusual for a project at the PEA stage, where mine planning, product definition, production scheduling, logistics and commercial strategy remain subject to further engineering, metallurgical and commercial development.

No binding sales or offtake arrangements have yet been concluded, and no assessment of contract terms, rates or charges relative to industry norms is therefore possible at this stage. Commercial arrangements of this nature would typically be advanced during later-stage studies, once there is greater certainty regarding concentrate specification, annual production profile, logistics, permitting status and development schedule.

19.3. Summary

The presence of Letter of Intent strengthens the commercial support for the Project by evidencing preliminary third-party interest in a tungsten concentrate product and by providing indicative guidance on concentrate specification, pricing framework, delivery basis and annual quantity. At the same time, the LOI is explicitly non-binding, except with respect to confidentiality obligations, and accordingly cannot be treated as an executed material sales contract.

In the opinion of the Qualified Person, the LOI, together with other reasonably available market information, provides an appropriate basis for the commercial assumptions used in this Technical Report at the PEA level. These assumptions remain preliminary and should be further advanced through additional metallurgical work, concentrate characterization, logistics studies, customer engagement and negotiation of definitive commercial agreements.

For contextual purposes, the QP notes that tungsten has been identified by the European Union as a critical raw material since 2011 and is also recognized as a strategic raw material under the 2024 Critical Raw Materials Act. Copper is recognized by the European Union as a strategic raw material under the 2024 Critical Raw Materials Act framework. Tin is not currently classified by the European Union as either a critical or a strategic raw material, although it is regulated as a conflict mineral under Regulation (EU) 2017/821, which became fully applicable on 1 January 2021.

The Qualified Person has reviewed the market information and considers the assumptions reasonable and appropriate for a PEA-level assessment.

20. Environmental Studies, Permitting and Social or Community Impact

20.1. Overview and context

This Section summarizes the environmental baseline conditions, known environmental liabilities, permitting status, and social and community considerations associated with the proposed reactivation of the Borralha underground tungsten mine.

The assessment is based primarily on the Environmental Impact Assessment (EIA) prepared by QUADRANTE, and on information made available by the competent authorities, including the Portuguese Environmental Agency (Agência Portuguesa do Ambiente - APA) and Portuguese Mining Bureau (Direção-Geral de Energia e Geologia - DGEG).

At the time of writing, the Project has received EIA approval and is advancing to the Environmental Compliance Report for the Detailed Design Phase (RECAPE). Detailed engineering design and certain baseline investigations remain ongoing.

The Qualified Person (QP) notes that several aspects of the environmental baseline and project design are not yet fully defined. Accordingly, the conclusions presented in this Section are subject to the completion of ongoing studies, RECAPE approval, and the receipt of all required permits.

20.2. Environmental studies and known environmental issues

Historical mining activities at Borralha have resulted in the presence of legacy environmental liabilities, including waste rock and spoil heaps, abandoned underground workings, and derelict infrastructure. Available historical environmental data are limited.

The QP considers that once the current environmental baseline studies still ongoing some of the support detailed engineering design or final permitting is now being developed. In particular, additional work is required in hydrogeology, geochemical characterization (including static and kinetic testing), ecological surveys, and air and noise monitoring, which is known to be on going to fulfill the RECAPE phase.

Completion of a comprehensive, permit-grade baseline program is considered essential prior to advancement of the Project to construction.

20.3. Waste, tailings and water management

Conceptual approaches to waste, tailings, and water management are described in the EIA; however, detailed designs have not yet been finalized.

The QP notes that key design aspects remain dependent on the results of ongoing geochemical and geotechnical investigations, particularly with respect to:

- Classification and accurate segregation of potentially acid-forming materials
- Selection of appropriate tailings management technology
- Design of water management systems, including dewatering, treatment, and discharge

The QP considers that, while the conceptual approach outlined in the EIA is generally consistent with industry practice, and the ongoing detailed RECAPE works and engineering design might reduce uncertainties. Further technical work is required to confirm the suitability of the proposed management strategies and to quantify associated environmental risks.

20.4. Water management

As described in EIA of the Borralha project, a water management strategy is designed to control, store, treat, and recycle water associated with mining and processing activities, while minimizing freshwater consumption and preventing impacts on surface and groundwater resources. The Project water management system comprises the following key components:

- Water supply (identification and quantification): The Project comprises two primary sources: (a) potable water supplied from the public network (Borralha reservoir), and (b) process water abstracted from a former mine drainage gallery, with an estimated average flow rate of approximately 20L/s.
- Water segregation of water streams: Water streams will be segregated between contact water (potentially contaminated) and non-contact water. Contact water will be collected for treatment and reuse, while non-contact runoff will be diverted away from operational areas through perimeter drainage systems.
- Water storage and distribution: The Project includes dedicated storage infrastructure, including processing water ponds, stormwater retention basins, sedimentation ponds, and dedicated mine water storage tanks.
- Water use in processing and recirculation: Process water will be used in mineral processing plant and recirculated within the system to the extent practicable, reducing freshwater demand and improving overall water use efficiency.

- Water demand is distributed across mineral processing, dust suppression, domestic use, and fire protection systems.
- Mine water management: A significant proportion of the water managed on site will originate from underground inflows. This water will be collected, stored, and treated prior to reuse or discharge, as required. Discharge points will be controlled and monitored, ensuring compliance with national water quality standards and discharge permits.
- Wastewater treatment and disposal: The Project includes separate treatment systems for mine water and domestic wastewater. Treated effluents will be preferentially reused within the process circuit, with discharge only occurring when necessary and in compliance with applicable regulatory requirements.
- Stormwater and runoff management: Surface runoff, including stormwater generated during high precipitation events, will be managed through diversion channels, drainage systems, and retention basins designed to control flow, reduce sediment transport, and prevent contamination.
- Containment and seepage control: Water management and tailings-related infrastructure, including basins and storage areas, will be constructed with appropriate lining systems to prevent seepage and protect soil and groundwater resources.
- Contaminated water management: Water in contact with mining activities, including underground inflows and process water, will be collected, stored, and treated. The system will operate, to an extent practicable, as a closed circuit to minimize discharge to the environment.

A preliminary site water balance has been developed considering dry, average, and wet year scenarios, integrating inflows (mine water, precipitation, abstraction) and outflows (evaporation, process consumption, discharge).

The implementation of an efficient water management system, including treatment, recirculation, and monitoring including flow rates, physicochemical parameters, and groundwater levels at defined control points, is essential to prevent adverse environmental impacts. In this sense, the water management system will be operated as a closed or semi-closed circuit to the extent practicable, with the objective of minimizing discharge to the environment and reducing freshwater intake requirements.

The water management system is closely linked to other key components of the Project, including tailings management and processing water circuits, and will be operated under a lifecycle approach to ensure environmental protection and operational safety.

Water management activities will include routine monitoring, data collection, and performance evaluation to ensure that system design criteria are met and that potential risks to water resources are effectively managed. This includes the collection of quantitative and qualitative data, regular analysis, and reporting to support decision-making and ensure compliance with environmental objectives, including the preservation of water resource availability and quality.

20.5. Permitting, status and financial assurance

The Project is subject to Portuguese environmental and mining legislation, as well as applicable European Union directives. The principal regulatory authorities include the APA and the DGEG.

The EIA has been completed, and EIA approval has been granted; the Project is advancing to RECAPE review by APA and other competent authorities. RECAPE approval and subsequent permit issuance remain conditional on submission of detailed engineering, updated baseline data, environmental and social management plans, closure documentation and demonstration of conformity with regulatory comments. Additional permits and approvals required prior to construction include mining licenses, water abstraction and discharge permits, waste management approvals, municipal permits, and health and safety authorizations.

At the time of writing, RECAPE approval has not yet been obtained, and the detailed engineering submissions remain on going. Future permitting outcomes, conditions and timelines may differ materially from the current expectations and could affect project timing and economics.

The QP notes that a financial assurance mechanism for closure and rehabilitation will be required; however, the amount and structure of such assurance have not yet been defined.

20.5.1. Permitting legislation

According to the applicable Portuguese legislation currently in force, industrial projects must obtain a single environmental permit (Licenciamento Único Ambiental - LUA) to lawfully construct, operate, monitor and decommission. The LUA procedure culminates in the issuance of a single environmental title (Título Único Ambiental - TUA) by APA. The TUA consolidates all environmental and administrative authorizations, conditions and monitoring obligations applicable to a project and is issued following the Environmental Impact Assessment decision (Declaração de Impacte Ambiental - DIA) and the environmental conformity review of the detailed execution design (RECAPE → DCAPE). Issuance of the TUA may require sequential or concurrent approvals under the LUA regime (Decree-Law No. 75/2015) and under the sectoral regimes that the LUA integrates.

Below are the principal sectoral legal regimes that the LUA procedure integrates and that are directly applicable to the Borralha Project as scoped in the EIA. The Lua regime includes:

- Single Environmental Permit procedure (LUA / TUA): Decree-Law No. 75/2015. Applicability: establishes the single-dossier procedure (SILiAmb) and the Single Environmental Title (TUA) mechanism by which sectoral license conditions are consolidated and enforced. Consolidates requirements deriving from relevant EU sectoral directives (notably EIA Directive 2011/92/EU as amended by 2014/52/EU; Industrial Emissions Directive 2010/75/EU; Seveso Directive 2012/18/EU; Waste Framework Directive 2008/98/EC; Water Framework Directive 2000/60/EC; Mining Waste Directive 2006/21/EC; ETS Directive 2003/87/EC) together with the corresponding national regimes (REI, RPAG, RJGRM, RJURH, SWM, etc.). RECAPE/DCAPE and sectoral license applications are processed via the LUA/SILiAmb pathway; the APA and CCDR (Comissão de Coordenação e Desenvolvimento Regional) act as licensing/coordination authorities; the TUA records consolidated permit conditions and enforcement/monitoring obligations.
- Environmental Impact Assessment regime (Regime Jurídico de Avaliação de Impacte Ambiental - RJIA): Decree-Law No. 151-B/2013, of October 31st amended and republished in Decree-Law No. 152-B/2017, of December 11th. Applicability: governs screening (Proposta de Definição de Âmbito - PDA), scoping, EIA content, public participation and issuance of the Environmental Impact Statement (DIA). RECAPE and DCAPE must demonstrate full implementation of DIA conditions and the detailed execution design conformity required by RJIA.
- Nature conservation and Natura 2000 obligations: Habitats Directive 92/43/EEC and Birds Directive 2009/147/EC, transposed into national law by Decree-Law No. 140/99 of April 24th and implemented by Decree-Law No. 49/2005 of February 24th (Avaliação de Incidências Ambientais - AlncA). Applicability: requires screening for Likely significant Effects (LSE or Efeito Provável Significativo - EPS) on Natura 2000 sites and, where LSEs are identified, an Appropriate Assessment (Art. 63 of Habitats Directive) is required, and the project may proceed only if it will not adversely affect site integrity. If adverse effects cannot be avoided, authorization is only possible under Art. 64 (Directive 92/43/EEC) subject to absence of alternatives, Imperative Reasons of Overriding Public Interest (IROPI or Razões Imperiosas de Interesse Público - RIIP) and the implementation of adequate compensatory measures. RECAPE must include Natura 2000 screening and full Appropriate Assessment where triggered, mitigation hierarchy, monitoring program and any proposed compensatory measures.

- Water-use and discharge regime (RJURH / water resources): EU Water Framework Directive 2000/60/EC (and, as applicable, Directives 91/271/EEC and 91/676/EEC) transposed and implemented nationally under Decree-Law No. 226-A/2007 of May 31st (consolidated; current version in force). Applicability: governs water abstraction licenses, discharge authorizations, protection of ecological flows and water-quality objectives. RECAPE must include permit-grade groundwater and surface-water modelling, water-balance, dewatering plans and proposed discharge controls measures, monitoring programs and contingency measures to demonstrate compliance with RJURH.
- Industrial Emissions regime (Regime das Emissões Industriais – REI; Industrial Emissions Directive - IED): Decree-Law No. 127/2013 of August 30th (transposition of Directive 2010/75/EU). Applicability: requires Best Available Techniques (BAT) assessment and justification, integrated emissions inventories, emission limit values and monitoring regimes for industrial installations. The Project's environmental license (Licença Ambiental - LA) obligations under REI are incorporated into the TUA and must be addressed in RECAPE (BAT conclusions, emissions control design, Monitoring, Reporting and Verification (MRV) arrangements).
- Major-accident prevention regime (Regime de Prevenção de Acidentes Graves (RPAG) - Seveso-type): National implementing legislation by Decree-Law No. 150/2015 of August 5th, transposing Directive 2012/18/EU. Applicability: applies where threshold quantities of hazardous substances are present; requires site tiering (upper/lower), safety reports, major-accident prevention policy, on-site emergency plans and off-site coordination. Where applicable, RPAG obligations must be integrated into the TUA and the Project emergency-response documentation (RECAPE/DECAPE), with periodic review and coordination with competent authorities.
- General Solid Waste Management regime (SWM): EU Waste Framework Directive 2008/98/EC (as amended, incl. Directive (EU) 2018/851) transposed in Portugal by Decree-Law No. 102-D/2020 of December 10th. Applicability: governs classification, segregation, handling, storage, transport and final disposal of non-mining wastes generated by the Project (municipal, hazardous and non-hazardous operational wastes). RECAPE must include a permit-grade Waste Management Plan (Plano de Gestão de Resíduos – PGR) addressing minimization, on-site segregation, secure storage, authorized treatment/disposal routes, traceability and reporting to ensure compliance with Decree-Law No. 102-D/2020.

- Mining Waste Management regime (Regime Jurídico da Gestão de Resíduos Mineiros - RJGRM): The Waste Management Plan (PGR) shall be developed in accordance with the provisions of Decree-Law No. 10/2010 of February 4th, amended by Decree-Law No. 31/2013, of February 22nd (transposition of Directive 2006/21/EC – Mine Waste Directive). Applicability: RJGRM prescribes the technical, operational and monitoring requirements for tailings storage facilities (TSF), waste-rock storage and other mining-waste facilities, including required geotechnical and geochemical safeguards, progressive rehabilitation, closure and post-closure monitoring. The PGR and TSF design dossiers in RECAPE must demonstrate compliance with RJGRM (geotechnical/geochemical safeguards, progressive rehabilitation, closure and post-closure monitoring).
- European Union Emissions Trading Scheme (EU ETS): EU legal framework - Directive 2003/87/EC as amended and updated by Directive (EU) 2018/410; implemented in Portugal by Decree-Law No. 12/2020 of 6 April 2020. Applicability: applies to combustion and process sources falling within ETS scopes; imposes MRV (monitoring, reporting, verification) obligations and potential allowance surrendering requirements. If applicable, ETS obligations must be reflected in permit conditions and operational MRV systems.
- Mining concession and Mine Plan (Plano de Lavra) regime: Decree-Law No. 30/2021, of May 7th that regulates the Mining Law No. 54/2015, of June 22nd. Applicability: prescribes concession obligations, the content and approval process for the Plan de Lavra submitted to DGEG, and the mandatory inclusion of subsidiary plans (PGR, PSS, PARP, PEE). DGEG approval of the Plan de Lavra follows consultation within the AIA/TUA process.
- Mine Closure Plan (Plano de Encerramento da Exploração - PEE): This document shall be developed in accordance with Decree-Law No. 30/2021 of May 7th implementing the mining Law No. 54/2015 of June 22nd. Applicability: the PEE shall establish technical measures for final closure, progressive and final rehabilitation, and mitigation of social, economic and environmental impacts of cessation of operations; it shall be reviewed at least every five years and, where technically viable, its measures should be implemented in parallel with operational activities. Closure obligations survive concession termination and non-compliance with the approved PEE constitutes a serious environmental infraction and may give rise to enforcement measures and financial liabilities. The PEE

shall be appended to RECAPE and cross-referenced to the PARP, PGR and financial-assurance documentation.

- Environmental and Landscape Recovery Plan (Plano Ambiental e de Recuperação Paisagística - PARP): Required under the mining and environmental framework (RJGRM - Law No. 54/2015 and Decree-Law No. 30/2021). Applicability: the PARP shall be a dynamic document appended to RECAPE that is updated at least every five years and implemented progressively during operations where technically feasible. The PARP shall include progressive rehabilitation schedules, success criteria, monitoring programs, contingency measures and financial-assurance estimates. Failure to implement the approved PARP constitutes material environmental non-compliance and may trigger enforcement action and penalties.
- Occupational health and mining safety regime: The Health and Safety Plan (Plano de Segurança e Saúde – PSS) shall be prepared in accordance with the applicable national mining safety legislation, notably Decree-Law No. 162/90 of May 22nd (Regulamento Geral de Segurança e Higiene no Trabalho nas Minas e Pedreiras) and Decree-Law No. 324/95 of November 29th, which establish minimum safety and health requirements for the extractive operations either by open cut or underground drilling. Applicability: this regime sets mandatory safety and occupational health standards for both surface and underground extractive activities; the PSS and associated operational procedures must demonstrate full compliance and be submitted as part of RECAPE/Plan de Lavra and updated for DCAPE and operational permitting.
- Environmental liability regime (polluter-pays): Decree-Law No. 147/2008 of July 29th (transposition of Directive 2004/35/EC) and related instruments. Applicability: establishes prevention, notification and remediation obligations for environmental damage and provides the legal basis for remediation orders and financial assurance instruments that will be reflected in the TUA and concession conditions.
- Local Emergency Committee (Comércio Europeu de Licenças de Emissão - CELE): local body responsible for coordinating on-site/off-site emergency response and liaison with civil protection and emergency services. Applicability: relevant where project activities trigger RPAG/Seveso or other major-accident risks and require local emergency coordination.
- Administrative submission and SILiAmb requirements: Ordinance No. 399/2015 of November 5th and implementing *portarias* set the LUA dossier structure and TUA

electronic format. Applicability prescribes the documentary structure and electronic fields required for LA/LUA submissions in SILiAmb. No separate EU directive governs SILiAmb itself, however, reference the EIA Directive (2011/92/EU as amended by 2014/52/EU) and relevant sectoral EU rules where they determine dossier content. RECAPE appendices should be formatted to directly populate SILiAmb, including metadata, GIS shapefiles, monitoring templates, permit-condition mapping, checklists and consolidated sectoral evidence, to support APA/CCDR technical review.

20.6. Social and community considerations

The social baseline and impact assessment are presented in the EIA documentation and supplemented by recent academic work on community perceptions from it was possible to understand the following conclusions (Carballo-Cruz and Silva, 2026).

The Borralha Project is located in the parish of Salto, municipality of Montalegre (Northern Portugal), a region characterized by low population density, demographic decline, and an economy largely dependent on primary sector activities, particularly livestock production and forestry. The area presents structural socioeconomic challenges, including population ageing, outward migration of younger and qualified individuals, low income levels, and limited industrial diversification. These conditions create both challenges and opportunities for mining-led regional development.

Historically, the Borralha mining concession represented one of the most important tungsten producing areas in Portugal, contributing significantly to employment generation and regional economic activity throughout most of the 20th century. The closure of operations in 1986 resulted in economic decline and population reduction, leaving a legacy of industrial heritage and strong community identity linked to mining activity. The proposed project represents the reactivation of a historically significant underground mining operation targeting tungsten, with associated tin and molybdenum mineralization. The project is expected to operate for approximately 14 years and may generate approximately 120 direct jobs and up to 600 indirect jobs through service provision and supply chains.

The municipality of Montalegre currently has approximately 9,200 inhabitants, with a density of roughly 11 inhabitants/km², significantly below the national average. The parish of Salto has approximately 1,263 inhabitants, with the village of Borralha hosting around 200 residents. Demographic indicators highlight a high ageing index and declining population trends, reflecting structural economic limitations and limited employment opportunities for younger generations. Economic activity remains largely concentrated in agriculture, livestock production (notably Barrosã cattle), small-scale agroindustry, and emerging rural tourism linked to the cultural and natural assets of the Barroso region.

The Social Impact Assessment (SIA) framework adopted for the Borralha Project follows internationally recognized principles, including those outlined by the International Association for Impact Assessment (IAIA). The assessment adopts an information-driven and participatory approach, integrating desk-based research, stakeholder engagement, interviews, and questionnaires to evaluate community perceptions, identify potential impacts, and support the development of mitigation and enhancement measures. The methodology incorporates benchmarking of comparable mining projects and structured consultation processes to ensure transparency and alignment with community expectations.

Potential positive socioeconomic effects associated with the project include employment generation, increased local income, stimulation of local supply chains, reinforcement of regional competitiveness in strategic raw materials, and potential synergies with tourism through the preservation and valorization of mining heritage. At the national and European levels, the project may contribute to improved supply security of critical raw materials, particularly tungsten, a strategic metal used in industrial, technological, and defense applications.

Potential social risks identified in the preliminary assessment include demographic pressures related to labour mobility, potential changes in local economic structure, pressure on local services, and the need to ensure preservation of cultural identity and mining heritage. The assessment framework identifies a broad set of social impact categories, including employment quality, community development, access to services, education and skills development, population dynamics, social cohesion, land use interactions, and impacts on traditional economic activities such as agriculture and livestock production.

The SIA process is designed to support the development of a Social Impact Management Plan (SIMP), including mitigation measures, monitoring programs, and stakeholder engagement mechanisms. Particular emphasis is placed on preserving the historical mining identity of the Borralha community, promoting tourism linked to industrial heritage, and ensuring a positive post-closure legacy through environmental rehabilitation and socioeconomic transition strategies.

The QP considers that based on the Carballo-Cruz and Silva, 2026 work the Borralha Project has the potential to contribute positively to local socioeconomic revitalization, while requiring structured engagement and monitoring to ensure that potential adverse social impacts are effectively managed in accordance with international best practices for responsible mining development.

20.7. Mine closure, remediation and reclamation

Closure planning for the Project is at a conceptual stage. The Project includes a commitment to address legacy environmental liabilities within the project area, including remediation of historical spoil heaps. This represents a positive aspect of the Project from an environmental perspective.

The QP considers that closure planning requires significant further development, including definition of closure objectives, performance criteria, cost estimates, and financial assurance provisions, although it is important to note that this can be obtained during the RECAPE phase.

20.8. Cumulative effects and regional context

A cumulative effects assessment shall be included in RECAPE and the EIA and shall consider historical site impacts, regional land-use changes. Cumulative assessment shall address combined effects on water resources, biodiversity, landscape character, socio-economic conditions and infrastructure capacity. Where cumulative impacts are identified, proportionate mitigation, monitoring and compensation measures shall be proposed and coordination with regional authorities and stakeholders shall be demonstrated (QUADRANTE, 2025).

20.9. Heritage, landscape and visual considerations

Industrial heritage features and landscape values shall be assessed and integrated into project design and closure planning. RECAPE and the EIA shall include a landscape and visual impact assessment, identification of heritage assets and proposals for preservation, adaptive reuse or documentation where removal is unavoidable. Heritage-sensitive rehabilitation options that contribute to local identity and socio-economic outcomes shall be considered and, where appropriate, incorporated into closure and legacy planning (QUADRANTE, 2025).

20.10. Health, safety and emergency preparedness

Health and safety considerations have been addressed at a conceptual level in the EIA. The QP notes that detailed health, safety, and emergency response plans have not yet been finalized and will be required as part of detailed design and permitting.

20.11. Monitoring, reporting and independent verification

Environmental monitoring programs for the Project are described in detail in the Environmental Impact Assessment (EIA), including specific monitoring plans for key environmental and social components.

The monitoring programs defined in the EIA include, but are not limited to:

- Monitoring and Control Program for Invasive Vascular Plant Species;
- Wolf Monitoring Plan;
- Monitoring Program for Potential Bat Roosts;
- Surface Water Resources Monitoring Program – Quantity and Quality;
- Groundwater Resources Monitoring Program – Quantity;
- Groundwater Resources Monitoring Program – Quality;

- Air Quality Monitoring Program;
- Noise Monitoring Program;
- Vibration Monitoring Program;
- Social Monitoring Program.

Based on the review of the EIA, the Qualified Person (QP) notes that these programs are generally well developed and include clearly defined:

- Monitoring parameters and indicators;
- Sampling locations and methodologies;
- Monitoring frequencies across project phases (construction, operation, and closure);
- Reporting requirements and data management procedures;
- Adaptive management provisions, including periodic review of results.

As an example, the monitoring program for invasive flora species includes detailed mapping protocols, inspection frequencies, classification criteria, and defined management responses based on observed conditions. This level of detail is considered consistent with current regulatory requirements and standard industry practice in Portugal.

An integrated environmental and social monitoring and reporting framework shall be established, comprising performance indicators for water quality, air quality, noise, biodiversity, geotechnical stability and social outcomes; monitoring frequency and methods; data quality assurance and independent verification; public reporting protocols; and adaptive management procedures with predefined trigger levels and corrective actions. Independent audits shall be scheduled at defined intervals and following significant incidents. Monitoring results and compliance records shall be made available to competent authorities and to the community in accordance with permit conditions and disclosure requirements (QUADRANTE, 2025).

20.12. Residual risks and uncertainties

The Project is subject to several residual risks and uncertainties, although the QP considers that these risks are typical of brownfield mining projects; however, their magnitude cannot yet be fully quantified due to current data gaps.

Further studies, conservative design approaches, and adaptive management will be required to reduce uncertainty and support project development.

20.13. Recommendations

Based on the information reviewed, the QP recommends that the following work be completed prior to advancing the Project to construction:

- Completion of a comprehensive environmental and social baseline program;
- Detailed geotechnical investigations, including assessment of legacy underground workings;
- Completion of representative geochemical testwork;
- Development of detailed waste, tailings, and water management designs;
- Advancement of closure planning and preparation of cost estimates;
- Development of a structured stakeholder engagement program;
- Preparation of a permitting roadmap and completion of RECAPE requirements.

21. Capital and Operating Costs

Capital and Operating costs, have been both calculated into a PEA level of accuracy.

21.1. Capital Costs

Capital costs for the Borralha Project are presented on a nominal USD basis and comprise initial construction capital and sustaining capital over the operating life of the project. The capital estimate includes a 5% contingency applied in the underlying capital build-up.

Capital Cost estimation includes:

- Mining access
- Mining development
- Mining ventilation
- Underground mining infrastructures like ventilation, pumping
- Process plant
- Surface mining elements
- Labour on initial works
- Initial engineering and procurement
- Owners cost
- contingency

Capital cost estimation does not include:

- Sunk costs
- Land access
- Construction financial interest
- Legal costs
- Exploration works
- Metallurgical tests
- Taxes, insurances and duties on construction

The Project has a front-end loaded capital profile, with the majority of development and construction expenditure incurred prior to first production, followed by sustaining capital during operations.

- Initial Capital: USD 91.4 Millon;
- Sustaining Capital: USD 86.9 Millon;
- Total Capital: USD 178.3 Millon.

This capital structure reflects a conventional mine development, with the processing plant and site infrastructure installed upfront and ongoing reinvestment required to maintain underground access and operating continuity.

21.1.1 Contingency Approach

The capital cost estimate incorporates contingency at both the component level and the overall project level, reflecting the varying degrees of definition and uncertainty across different project elements.

At the component level, contingency allowances have been applied to individual cost categories based on their relative level of engineering definition and associated risk:

- Mining-related capital: approximately 5%
- Processing plant: approximately 35%
- Infrastructure: approximately 25% to 35%

These allowances are embedded within the respective capital cost estimates and reflect a risk-weighted, bottom-up contingency approach.

In addition to the component-level contingencies, a further 5% contingency has been applied at the total project level within the economic model.

This additional allowance is intended to account for:

- integration risks between project components
- potential scope gaps
- residual uncertainties not captured at the individual cost component level

As a result, the effective total contingency incorporated in the capital cost estimate is significantly greater than 5%, when considering both component-level and overall allowances (Table 21-1).

Table 21-1: Overall Project Contingency.

Component	Base Cost	Contingency (%)	Contingency Type
Mining	X	5%	Embedded
Processing	X	35%	Embedded
Infrastructure	X	25–35%	Embedded
Total Project	—	+5%	Global

21.2. Operating Costs

OPEX costs for the Borralha operations on this PEA study are summarized at Table 21-2

Table 21-2: Operating cost assumptions

Item	Price (USD)
Mine Opex SLOS	33.70
Mine Opex DF	43.65
Plant Opex	9.46
G/A Opex	5.00

Total operating costs over the life of mine amount to approximately USD 799 million, distributed across the main cost categories as follows:

- Mining: USD 555 million
- Processing: USD 177 million
- G&A (General and Administrative): USD 67 million

Mining constitutes the primary cost driver, comprising the largest portion of total operating expenditures, with processing costs following. G&A expenses remain relatively consistent throughout the mine's operational lifespan.

Operating costs rise during the ramp-up phase and reach equilibrium once steady-state production is achieved. Fluctuations over time are mainly attributable to adjustments in throughput and mining activity, while reduced costs are typically observed in the concluding years as production decreases.

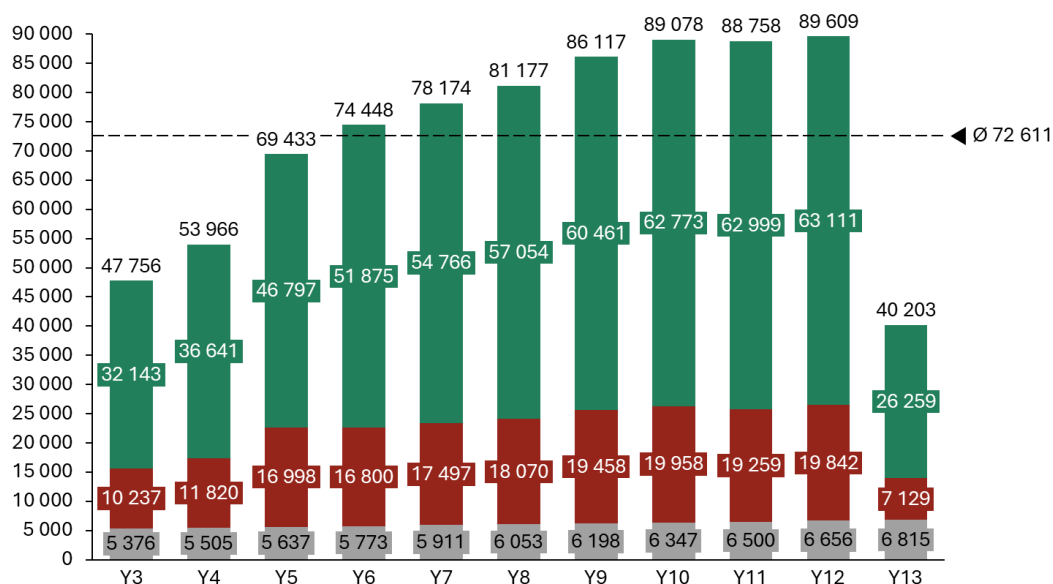


Figure 21-1: Opex by Category⁽¹⁾

⁽¹⁾ All costs shown in nominal US dollars, expressed in thousands (kUS\$)

22. Economic Analysis

This chapter forms part of the Preliminary Economic Assessment (PEA) of the Borralha Tungsten Project, prepared in accordance with National Instrument 43-101, and presents the financial and economic evaluation of the Borralha Project, integrating the technical outputs developed throughout this study into a comprehensive economic framework. The purpose of this analysis is to determine the Project's potential to deliver economic value, measure its financial performance, and analyze its sensitivity to significant technical and market variables.

The evaluation has been conducted at a PEA level and is therefore based on conceptual engineering inputs, cost estimates, and assumed operating conditions.

The mineral resource estimates underpinning this assessment include Inferred Mineral Resources, which are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Accordingly, this PEA is preliminary in nature as it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. As such, the results presented herein should be considered indicative of the Project's potential and subject to further refinement as additional technical data becomes available. Nevertheless, the analysis provides a coherent and internally consistent basis for understanding the potential economic viability of the Project at a PEA level and identifying the principal drivers of value and risk.

The financial evaluation has been performed using a LoM discounted cash flow (DCF) model, developed to reflect the annual evolution of production, costs, and revenues over the duration of the Project. This model integrates the mine production schedule, metallurgical performance, capital investment, and operating cost structure into a single framework that allows for the estimation of annual cash flows.

The analysis has been conducted on a real basis, including inflation or escalation factors, in order to isolate the underlying economic performance of the Project and ensure consistency across all model components. All costs and revenues are expressed in United States dollars (USD) at a constant base date, and no currency exchange rate fluctuations have been modeled. The impact of foreign exchange variability should be considered as an additional risk factor in subsequent assessments. This approach ensures consistency across all components of the model and allows for a clearer comparison of different scenarios.

The economic analysis reflects only the Santa Helena Breccia development case and excludes additional potential revenue from Venise, molybdenum and aggregates.

22.1. Key Assumptions

22.1.1. Commodity Price

The economic model is based on long-term commodity price assumptions reflecting market consensus and third-party industry sources. ACM has required information from ARGUS (independent provider of global energy and commodity market intelligence) and their prevision of tungsten price from the date to 2030 has been incorporated in the financial model.

Prices are expressed in real terms and subsequently escalated within the model under the nominal framework described in Section 22.2

Tungsten (WO_3) represents the primary revenue driver of the Borralha Project. The base case price assumption is approximately USD 704/mtu WO_3 , consistent with long-term forecasts from recognized industry sources. For mine planning and cut-off grade determination, a more conservative price of approximately USD 659/mtu WO_3 has been applied to ensure robustness under lower price conditions.

By-product revenues are derived from copper (Cu), tin (Sn), and silver (Ag), using the following base case price assumptions:

- Copper (Cu): USD 9,943/t
- Tin (Sn): USD 32,000/t
- Silver (Ag): USD 37.74/oz

These prices are aligned with recent market levels and are considered appropriate for long-term evaluation purposes at the PEA level.

Commodity prices are treated as exogenous inputs to the model and are subject to sensitivity and scenario analysis, as presented in Sections 22.4. Tungsten price remains the dominant value driver, with project economics demonstrating significant leverage to variations in WO_3 pricing.

22.1.2. Other economic Assumptions

A base EUR/USD exchange rate of approximately **1.15 USD/EUR** is applied in the model. This base rate reflects long-term equilibrium assumptions and is consistent with the underlying inflation framework adopted in the economic evaluation.

A discount rate of 8% has been applied, selected on the basis of the risk profile associated with an early-stage underground mining project in an established European mining jurisdiction, and is consistent with rates commonly applied to projects at a comparable stage of development. All financial results are presented on a pre-tax basis, as tax modeling falls outside the scope of this PEA-level assessment and will be addressed in subsequent study phases.

Currency costs are escalated using 2.0% per annum for € and 2.4% per annum for US\$.

Other assumptions are summarized on Table 22-1.

Table 22-1: Other economic assumptions

Item	Term	Value
Payabilities & Penalties	Payability WO ₃	80%
	Payability Sn	96%; Penalties: USD 1,150 / t cc
	Payability Cu	95%; Penalties: USD 119 / t cc
	Payability Ag	86%
TC / RC	TC/RC WO ₃	USD 0 / t cc
	TC Sn	USD 1,610 / t cc
	TC/RC Cu	USD 232.41 / t cc
	RC Ag	USD 3.54 / t cc
Royalties	Base estimation	Royalty to NSR (after payabilities, TC/RC y penalties)
	Set Up	0% Yrs. 1–2; 3% Yrs. 3–5; 4% Yr. 6; 5% desde Yr. 7
Taxation & Incentives	Corporate Position (IRC)	21%
	Municipal Tax	1.5% on taxable income
	State Spillover (progressive)	3% > EUR 1.5M; 5% > EUR 7.5M; 9% > EUR 35M
	Tax losses (carryforward)	Up to 65% of the taxable income of each Yr is offset.
	Tax incentive (capex)	Maximum intensity R _{max} =30% of eligible investment (limited by: remaining capacity, taxes for the period and theoretical profit)

22.1.3. Production Assumptions

The PEA economic study is based on an average yearly production of

- Mining 1.4 million tonnes per annum (Mtpa).
- WO₃ concentrate production 1,708 tonnes

22.1.3.1. Closure and Rehabilitation Provisions

Closure and rehabilitation are explicitly considered in the capital estimate and are disclosed as a point-in-time real cost of approximately USD 1.5 million, incurred at the end of the mine life.

Given its nature as a terminal obligation, closure is presented in real terms rather than nominal USD, to avoid distortion from long-term inflation assumptions.

22.2. Financial Model and Cash Flow

The financial model has been developed to provide a robust and decision-oriented representation of project economics, integrating operational, fiscal and capital components into a coherent cash flow framework. All projections are expressed in **nominal terms** and presented in USD.

The evaluation has been conducted at a PEA level and always working under an MRE. The result should never be considered or used to make Reserve estimation.

22.2.1. Revenue Model

The project generates approximately **USD 1.45bn in Net Smelter Return (NSR)** over the LOM, derived from ~USD 1.46bn in Gross Metal Value (GMV). The minimal spread between GMV and NSR reflects favorable commercial terms and low treatment and refining charge exposure.

Revenue is dominated by **tungsten (WO₃)**, which underpins the project's commodity risk profile and price sensitivity. Operating expenditure (OPEX) totals ~USD 799m (LOM), driven by underground mining costs, with processing and G&A representing a smaller share of the cost structure.

EBITDA reaches ~**USD 588m** over the LOM, equivalent to a margin of approximately **40%**, positioning the project competitively within the global tungsten peer group and demonstrating meaningful operating leverage through the production cycle.

22.2.2. Tax Framework

The tax structure reflects the Portuguese corporate fiscal regime, incorporating:

- IRC at a statutory rate of 21%;
- Municipal surtax (Derrama Municipal) and state surtax (Derrama Estadual) applied on taxable income above applicable thresholds;
- An early-year tax shield arising from a 30% capital expenditure-based incentive, which defers effective taxation during the initial production years;
- A gradual transition to the fully taxed regime as incentives phase out, consistent with standard Portuguese investment legislation.

This structure enhances early-phase free cash flow generation without distorting long-term project economics, and has been reflected in the model on a year-by-year basis.

22.2.3. Cash Flow Profile and Value Bridge

The waterfall chart illustrates the sequential conversion from gross revenue to free cash flow, quantifying the contribution and impact of each major cost and fiscal component. The Analyses confirms:

- High GMV-to-NSR conversion, reflecting efficient commercial off-take terms;
- Strong EBITDA generation, driven by the revenue mix and cost structure;

- Controlled fiscal and capital drag, with taxes and sustaining capital representing a manageable deduction from operating cash flow.

This value bridge highlights the margin quality of the project and confirms that EBITDA is the dominant driver of Free Cash Flow (FCF), with limited leakage through the cost and tax stack.

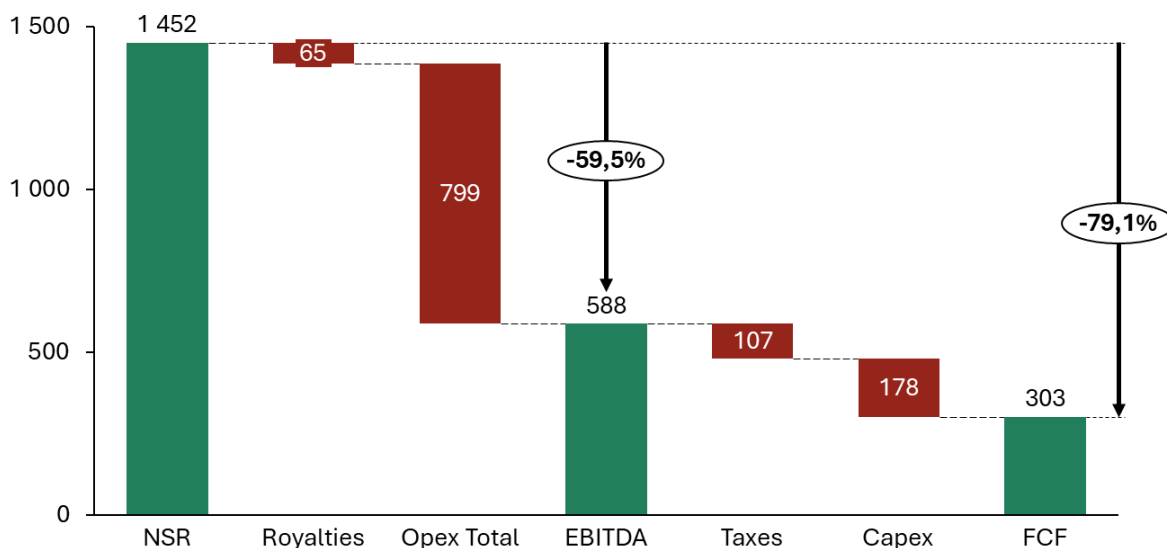


Figure 22-1: Waterfall Cash Flow

22.3. Economic Results

In summary, the most important economic results to be reported are:

- Payback: 3.8 from start of operations (5.8 yrs.from the start of construction)
- NPV 106 MM USD @10%
- IRR (post tax) 27.2 %
- EBITDA margin 40%

Table 22-2 summarizes the base case post-tax economic results for the Borralha Tungsten Project in accordance with this PEA study scope.. All figures are stated in nominal USD.

Table 22-2: Base Case Post-Tax Economic Summary (Nominal USD)

Metric	Unit	Value
WO ₃ Price Assumption (Base Case)	USD/mtu	~704 (Argus LT Fcst)
NPV @ 0% (post-tax)	USD M	~304
NPV @ 8% (post-tax)	USD M	~134
NPV @ 10% (post-tax)	USD M	~106
IRR (post-tax)	%	27.2%

Metric	Unit	Value
Payback (from construction start)	Years	~5.8
Payback (beginning operation)	Years	~3.8
EBITDA (LOM)	USD M	~588
EBITDA Margin	%	~40%
Initial Capex	USD M	~91
Sustaining Capex (LOM)	USD M	~87
Total Capex (LOM)	USD M	~178
NPV (8%) / Initial Capex	X	~1.5x
C1 Cash Cost	USD/mtu WO ₃	~255
AISC	USD/mtu WO ₃	~303

All figures are post-tax and expressed in nominal USD. NPV, IRR, payback period and AISC are non-GAAP measures. Capital cost estimates carry a precision range of $\pm 35\%$, consistent with PEA-level study accuracy. This PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too geologically speculative to have economic considerations applied to them that would enable classification as Mineral Reserves. There is no certainty that the PEA results will be realized. The economic analysis presented herein is based on mineral resources including Inferred Mineral Resources and does not demonstrate economic or technical viability.

22.4. Sensitivity Analysis

Sensitivity analysis was conducted by varying individual input parameters across a $\pm 10\%$ range from base case assumptions, holding all other variables constant. The primary sensitivity metric is post-tax NPV at an 8% discount rate. Post-tax IRR is presented as a secondary metric for commodity price sensitivity, given its relevance to investment decision-making. Base case WO₃ price is the Argus long-term forecast averaging ~USD 704/mtu. Results are expressed in nominal USD.

The tornado chart in Figure 22-2 illustrates the relative NPV sensitivity to each key variable at $\pm 10\%$.

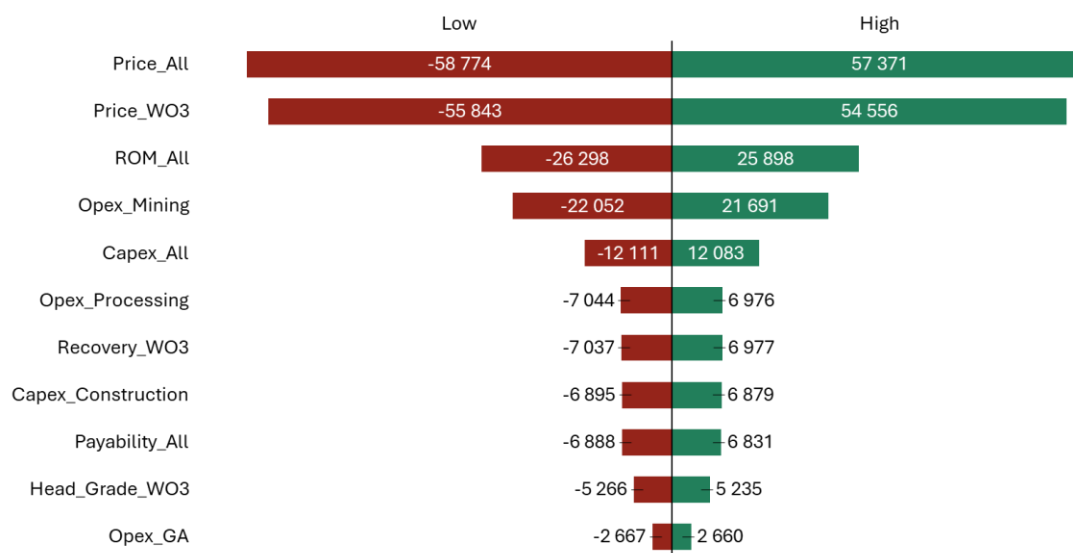


Figure 22-2: Post-Tax NPV(8%) Sensitivity to Key Variables at ±10% (Nominal USD Million; Base Case = ~USD 134m)⁽²⁾

⁽²⁾ All costs shown in nominal US dollars, expressed in thousands (kUS\$)

WO₃ concentrate price is the dominant value driver, reflecting the Project's high operating leverage to revenue. TCRC and head grade rank second and third respectively, as both directly affect realized revenue per ton processed. Metallurgical recovery exhibits symmetric NPV sensitivity comparable to grade, underscoring the importance of the ongoing variability testing program discussed in Section 4. Capital expenditure and G&A costs exhibit comparatively limited NPV sensitivity within the modeled range, reflecting their moderate contribution to total project cost.

Given that the prevailing tungsten price substantially exceeds the price assumptions adopted in this PEA, a high-level economic sensitivity analysis was completed to evaluate the effect on NPV, IRR, and payback period assuming tungsten sales prices of USD 1,000/mtu and USD 1,500/mtu (Table 22-3).

Table 22-3: Base Case Post-Tax Economic Summary (Nominal USD)

Metric	PEA Scenario	Upload	Better
WO ₃ Price USD / mtu	704	1,000	1,500
NPV @ 8% (post-tax) USD M	134	346	706
IRR (post-tax) %	27%	49%	78%
Payback (from construction start)	5.8	4.2	3.2
Payback (beginning operation)	3.8	2.2	1.2

⁽²⁾- All costs shown in nominal US dollars, expressed in thousands (kUS\$).

22.5. Risks and Opportunities

Project risks have been assessed across five categories: market, technical, execution, regulatory and financial. The assessment reflects the PEA-level accuracy of the study ($\pm 35\%$ capital cost precision) and the inclusion of Inferred Mineral Resources in the mine plan, which introduces inherent geological uncertainty. This PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too geologically speculative to have economic considerations applied to them that would enable classification as Mineral Reserves. There is no certainty that the PEA results will be realized.

A risk categories inventory is listed on Table 22-4.

Table 22-4: Project Risks Register Summary

Risk	Category	Likelihood	NPV Impact	Primary Mitigation
WO ₃ price decline below ~USD 640/mtu	Market	Low–Medium	High	Argus LT forecast basis; spot ~USD 1,998/mtu provides material buffer
FX volatility (EUR/USD)	Market	Medium	Medium	USD-denominated revenue; partial EUR cost base provides natural hedge
Capital cost overrun (> $\pm 35\%$)	Execution	Medium	Medium	Advance contractor engagement; fixed-price procurement strategy
Schedule delay / extended ramp-up	Execution	Medium	Low–Medium	Phased commissioning plan; experienced underground contractor selection
Metallurgical recovery variability	Technical	Low–Medium	Medium	Ongoing variability test program; DMS pre-concentration reduces processing risk
Inferred Resource conversion risk	Geological	Medium	Medium	20,000m infill drilling program underway; Inferred <40% of LOM mine plan
Head grade variability	Geological	Low–Medium	Medium	Geological refinement; grade control program at feasibility stage
Underground geotechnical conditions	Technical	Low	Low–Medium	Geotechnical investigations planned for PFS stage

Risk	Category	Likelihood	NPV Impact	Primary Mitigation
Regulatory / licensing delays	Regulatory	Low	Low–Medium	Favorable EIA (DIA) received January 2026; RECAPE process advancing
Offtake and market access	Market	Low	Low	Tungsten designated critical mineral (EU/US); strategic demand support

The project is expected to expand local resources, which will enhance its long-term NPV.

Enhancements to metallurgy within the project will lead to increased revenue and, consequently, an improved cash flow profile.

23. Adjacent Properties

There are no adjacent properties, as defined under NI 43-101, that are contiguous with or in close proximity to the Borralha Project and that are considered material to the understanding of the Project. The Project is not reliant on information from any adjacent properties. Other Relevant Data and Information

24. Other Relevant Data and Information

24.1. Integration of Technical Information

The Technical Report integrates geological, mineral resource, mining, metallurgical, infrastructure, environmental, and economic information to support a Preliminary Economic Assessment (“PEA”) of the Borralha Project.

The geological interpretation and Mineral Resource Estimate form the basis for the conceptual mine design and production schedule. The selected underground mining methods are considered appropriate for the geometry and continuity of the mineralized breccia bodies and are supported by preliminary geotechnical assumptions.

The proposed processing flowsheet, based primarily on gravity concentration methods, is consistent with the known mineralogical characteristics of the tungsten mineralization. Metallurgical recovery assumptions applied in the economic analysis are considered reasonable at this stage of study.

The life-of-mine plan, production schedule, and cost estimates are internally consistent and reflect the integration of the above technical inputs within the economic model.

24.2. Use of Historical Data and Legacy Workings

The Borralha Project is a historical tungsten mining operation with extensive legacy underground workings and associated infrastructure. Historical information, including previous mining records and site observations, has been reviewed and used to support the understanding of the deposit and site conditions.

While historical data provides useful context for geological interpretation, mine planning considerations, and infrastructure layout, the Mineral Resource Estimate presented in this Technical Report is based primarily on modern exploration data and has been independently validated. Historical data have not been solely relied upon for resource estimation.

The presence of legacy underground workings is considered in the conceptual mine design and may have implications for geotechnical conditions, mine access, and hydrogeological behavior.

24.3. Scope of Mineralization and Revenue Streams Considered

The Preliminary Economic Assessment presented in this Technical Report is based solely on the Santa Helena Breccia mineralization and does not include any other mineralized zones identified within the Borralha Project area.

In particular, recently identified mineralized breccia zones, including the Venise target, were not considered in the Mineral Resource Estimate, mine design, production schedule, or economic analysis presented herein. These zones remain at an exploration stage and will require additional drilling and technical evaluation prior to consideration in future studies.

Similarly, the economic analysis is based on tungsten, copper and tin production only and does not include potential contributions from other metals, including molybdenum, or from ancillary revenue streams such as the potential sale of construction aggregates derived from waste rock or development material.

The Qualified Person notes that while preliminary geological and operational observations indicate the presence of additional mineralization and potential secondary products, these have not been sufficiently defined or evaluated to be incorporated into the current PEA. Accordingly, such potential contributions have not been considered in the current PEA and remain subject to future evaluation.

Future work programs may evaluate the extent, continuity, and economic relevance of these additional mineralized zones and potential by-product or ancillary revenue streams.

These additional mineralized zones and potential revenue streams may represent upside to the current development case, subject to further technical and economic evaluation.

24.4. Data Limitations and Information Gaps

As a PEA-level study, certain technical aspects of the Project remain at a conceptual or preliminary stage. Identified data gaps and limitations include:

- Limited metallurgical variability testing across the full range of mineralization types;
- Ongoing hydrogeological investigations to better constrain groundwater inflows and dewatering requirements;
- Environmental baseline studies that are being further developed as part of the ongoing permitting process (RECAPE phase).
- Geotechnical variability and ground support requirements not yet fully defined at detailed level.

The Qualified Person considers that these limitations are typical for a study at the PEA level and do not preclude the assessment of reasonable prospects for eventual economic extraction.

24.5. Additional Assumptions

The economic evaluation includes assumptions that, while considered reasonable, are subject to further refinement in future studies. These include:

- Continued availability of grid power through connection to the regional electricity network;
- Availability of local labour and contractor services consistent with regional conditions;

- Implementation of infrastructure and water management systems as described at a conceptual level in this Report.
- Continued access to processing consumables and reagents under assumed market conditions.

These assumptions are considered appropriate for a preliminary economic assessment but will require confirmation in subsequent study phases.

24.6. Strategic Context

Tungsten is classified as a critical raw material by the European Union and other jurisdictions due to its strategic importance and supply concentration. The Borralha Project represents a brownfield redevelopment opportunity within a historically productive tungsten district in Portugal.

The Project has the potential to contribute to the diversification of tungsten supply within Europe and benefits from its location, existing infrastructure, and historical mining footprint.

24.7. Limitations of the Preliminary Economic Assessment

This Preliminary Economic Assessment is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves.

There is no certainty that the results of the PEA will be realized. Additional work, including infill drilling, detailed engineering, metallurgical testing, and permitting, will be required to advance the Project to a Pre-Feasibility Study level.

25. Interpretation and Conclusions

25.1. Results and Interpretation

25.1.1. Mineralization

From a technical perspective, the Project incorporates mining and processing techniques that have been validated for this type of mineral both globally and within the Iberian Peninsula. The predominance of wolframite as the principal mineral in the Project deposit facilitates a higher recovery rate compared to nearby deposits where scheelite is more prevalent.

25.1.2. Exploration, Drilling and Analytical Data Collection in Support of Mineral Resource Estimation

To the extent known, there are no significant risks or uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration and drilling information provided by the Issuer. The historical and recent drilling programmes appear to have been carried out in a prudent and careful manner. Future drilling campaigns should include continuous sampling of drillholes and run a full suite of analytical results for all samples.

An updated Mineral Resource Estimate (“MRE”) has been completed for the Borralha Tungsten Project, with an effective date of 16 November 2025. The estimate applies exclusively to the Santa Helena Breccia (“SHB”) within the Property and has been prepared in accordance with the CIM Definition Standards (2014, updated 2023) and National Instrument 43-101 (“NI 43-101”). This MRE supersedes all previous Mineral Resource Estimates reported for the Property and the SHB.

Relative to the previous Mineral Resource Estimate reported in March 2024, the updated MRE reflects a material increase in both tonnage and geological confidence. The prior estimate was reported 4.98 Mt classified as Indicated and 7.01 Mt classified as Inferred at comparable WO₃ grades within the Santa Helena Breccia. The current estimate increases the Measured and Indicated Mineral Resources to 13.0 Mt and reports 7.7 Mt of Inferred Mineral Resources, reflecting the impact of additional drilling, improved geological interpretation, and refined estimation parameters. This updated MRE supersedes all previously reported Mineral Resource Estimates for the SHB.

The updated estimate incorporates additional drilling completed during the 2025 Phase 1 reverse circulation drilling campaign, together with refinements to geological interpretation, breccia domain modelling, and grade estimation parameters. To date, the SHB has been tested by nine surface trenches and a total of 41 drill holes (diamond and RC) over an approximate 400 m strike length and to depths exceeding 350 m below surface. Drill spacing ranges from approximately 20 m in the central portion of the breccia to greater than 50 m toward the margins and at depth, and this variability is reflected in the Mineral Resource classification.

Mineral Resources are reported as in situ and undiluted and do not include modifying factors such as mining dilution or recovery, metallurgical recovery, capital or operating costs, or economic analysis. The estimate is constrained to a single, continuous breccia domain interpreted using geological, structural, alteration, and grade continuity criteria. Recent drilling has confirmed mineralization continuity toward the west and down-dip, and the SHB remains open along strike and at depth.

WO₃ grades exhibit a positively skewed distribution characteristic of breccia-hosted wolframite mineralization, with a pronounced but geologically coherent nugget effect. Appropriate grade restriction techniques were applied to limit the influence of extreme values while preserving local high-grade variability. Grade interpolation was carried out using Ordinary Kriging within a three-dimensional block model, with search parameters informed by correlogram-based spatial continuity analysis. Model validation confirms that the block model adequately reproduces the spatial distribution, grade continuity, and global statistics of the input data without introducing material bias.

Mineral Resources have been classified as Measured, Indicated, and Inferred based on data density, geological confidence, spatial continuity, and estimation performance. Resources are reported above a 0.09% WO₃ cut-off grade (COG), selected to support reasonable prospects for eventual economic extraction (“RPEEE”), based on conceptual underground mining assumptions, gravity-dominant processing, assumed tungsten pricing, and indicative operating costs. A grade–tonnage sensitivity analysis demonstrates a smooth and continuous relationship, indicating a well-behaved grade distribution and limited sensitivity to cut-off selection.

The updated Mineral Resource Estimate (“MRE”) for the Borralha Tungsten Project, effective 16 November 2025, is presented in Table 25-1. The estimate is reported at a 0.09% WO₃ COG, is undiluted and in situ, and is classified in accordance with CIM Definition Standards. In the QP’s opinion, the mineral resources reported herein at the selected COG have RPEEE, taking into consideration mining and processing assumptions.

Table 25-1: Mineral Resource Statement

TOX	Category	Density g/cm ³	Mass Mt	WO3 % %	Average Value			Material Content			
					WO3 % ppm	Ag ppm ppm	Sn ppm ppm	WO3 % t	Cu ppm t	Ag ppm Mt. oz	Sn ppm t
oxSHB	Measured	2.76	0.1	0.14	412	2.2	77	97	28	0.00	5
	Indicated	2.78	1.5	0.17	450	2.3	82	2 574	675	0.11	124
	Measured + Indicated	2.78	1.6	0.17	448	2.3	82	2 671	703	0.12	129
	Inferred	2.79	0.3	0.20	570	3.1	97	601	169	0.03	29
noxSHB	Measured	2.81	0.9	0.22	826	5.5	106	1 991	740	0.16	95
	Indicated	2.80	10.5	0.21	654	4.2	86	22 399	6 890	1.41	903
	Measured + Indicated	2.80	11.4	0.21	667	4.3	87	24 391	7 630	1.57	998
	Inferred	2.78	7.5	0.18	355	3.2	65	13 277	2 646	0.78	482
Total	Measured	2.81	1.0	0.22	796	5.2	104	2 088	769	0.16	100
	Indicated	2.79	12.0	0.21	628	3.9	85	24 974	7 565	1.52	1 027
	Measured + Indicated	2.79	13.0	0.21	641	4.0	87	27 062	8 333	1.68	1 127
	Inferred	2.78	7.7	0.18	363	3.2	66	13 878	2 815	0.80	511

Differences may occur in totals due to rounding.

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

The assessment of economic potential that is incorporated in the mineral resource is a high-level assessment intended to report mineral resources and does not represent an attempt to estimate mineral reserves.

The mineral resource may be affected by further infill drilling, which may result in increases or decreases in subsequent MREs. Inferred mineral resources are higher-risk estimates that may change with additional sampling data. It cannot be assumed that all or part of an Inferred mineral resource will necessarily be upgraded to an Indicated mineral resource through continued exploration. The mineral resource may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socioeconomic and other factors.

25.2. Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

No significant factors or risks are known that affect access, title, right or ability to perform the exploration work recommended on the Property.

25.3. Economic Analysis

25.3.1. Mining Method

The PEA mining approach involves the underground extraction of the Santa Helena Breccia, utilizing Sublevel Open Stopping (“SLOS”) as the primary mining method and supplementing with Drift-and-Fill (“DF”) techniques in areas where SLOS geometry is insufficient. Initial geotechnical analyses confirm that the selected SLOS stope dimensions align with prevailing rock mass conditions; however, the stability of stope backs remains a key concern and necessitates comprehensive support measures, including rock bolts, cable bolts, shotcrete, and paste backfill.

Hydrogeology constitutes a significant technical consideration in underground development. Mining operations above the historical -60 m level are expected to benefit from gravity drainage, resulting in more favorable operating conditions. Below this level, operations will require continuous pumping, redundant power sources, enhanced pumping infrastructure, and further investigation into flooded historic workings. A cautious preliminary pumping design value of 180 m³/h has been established for low-water scenarios, with higher inflows anticipated during winter months.

For the PEA, the mining inventory was developed by applying modifying factors to designed stopes and screening them based on NSR/t versus operating cost per tonne. Only those stopes where the projected NSR surpasses the associated operating costs have been included. The economic evaluation is based on an average annual production estimate of approximately 1.4 Mtpa mined and 1,708 t/y of WO₃ concentrate.

25.3.2. Metallurgy

The 2025 metallurgical testing program represents an advanced phase of metallurgical testing designed to define the optimal process plant design by building upon previous studies and refining the flowsheet. This phase focuses on a detailed mineralogical evaluation of both tungsten and copper minerals to assess by-product potential and evaluate pre-concentration options like Dense Media Separation (“DMS”). Following the pre-concentration stage, which rejects approximately 40% of the barren mass, the remaining material is ground to 1 mm to prepare for a multi-stage gravimetric circuit test work.

The gravimetric concentration circuit is the primary stage for tungsten recovery, specifically designed to process a wide range of particle sizes from the ground ore.

The step can be summarized as follows:

- Size classification via hydrocyclones, producing ultrafines (< 20 µm) and other coarser fractions suitable to be fed into spirals.
- Coarse and fine concentration in spirals, followed by regrinding and upgrading into shaking tables. This results in a high-grade tungsten pre-concentrate ready for subsequent sulphide removal and purification.
- Ultrafines concentration with specialized equipment, including Falcon centrifugal concentrators and Multi-Gravity Separator (“MGS”) units, to ensure high tungsten recovery from the ultrafine stream.

After the gravimetric concentration step, the resulting tungsten concentrate reports significant sulphide content, primarily pyrite and chalcopyrite, due to their high density. Therefore, a sulphide/copper flotation stage is included:

- Sulphide removal: a rougher flotation stage is employed to clean the tungsten concentrate by removing these sulphides. The non-floated product becomes the cleaned tungsten concentrate, while the floated material forms a sulphide-rich stream.

- Copper by-product study: the sulphide-rich stream undergoes a second, selective flotation stage to separate chalcopyrite (copper-bearing) from pyrite.

The integration of these stages, detailed size-based gravimetric concentration, ultrafine recovery, and selective flotation, supports the project's ability to achieve an overall tungsten recovery of 75% - 80% at a grade of 65%WO₃.

Based on the test work progress, the recoveries and grades are estimated for this study are shown in the Table 25-2.

Table 25-2: Estimated recoveries and grades from the Borralha project.

Element	Estimated Recovery	Target Grade
Tungsten (WO ₃)	75% – 80%	65%
Copper (Cu)	60%	21%
Tin (Sn)	30% – 40%	50%

25.3.3. Mineral Processing

The process plant is designed for a throughput of 1,400,000 tons per year, utilizing a combination of separation techniques to produce saleable concentrates of tungsten, copper, and tin. The facility is engineered based on principles of safety, regulatory compliance, and sustainability, incorporating Best Available Techniques (BAT) such as energy-efficient systems and a closed-loop process water circuit.

The plant operates under two distinct schedules:

- Crushing area: operates 14 hours per day (two shifts) with 87.5% availability.
- Downstream processes: operates 24 hours per day (three shifts) with 94.4% availability.

The process includes the following areas:

- Area 100 - crushing: a three-stage closed-circuit system reduces ROM material from a maximum size of 500 mm to a final product size of 6 mm. This includes a primary jaw crusher (located inside the mine) followed by secondary and tertiary cone crushers on the surface.
- Area 200 - dense Media Separation ("DMS"): this pre-concentration stage treats the 6–2 mm fraction. By using a dense medium (magnetite or ferrosilicon) at a density of 2.75, the plant rejects approximately 40% of the barren mass as coarse tailings, significantly improving downstream efficiency.
- Area 300 - grinding: the DMS product and fine ore are ground to 1 mm in a ball mill operating in closed circuit with a 1 mm screen to ensure optimal liberation for the downstream gravimetric concentration step.

- Area 400 - gravimetric concentration: the circuit processes three size fractions (1,000–300 µm, 300–20 µm, and <20 µm). Coarser fractions are processed in spiral circuits and then upgraded on shaking tables. Ultrafine particles (<20 µm) are recovered using specialized Falcon centrifugal concentrators and Multi-Gravity Separators (MGS) to minimize tungsten losses.
- Area 500 - copper flotation: this area performs two functions. First, a rougher flotation stage removes sulphides (pyrite and chalcopyrite) to clean the tungsten concentrate. Second, a selective cleaning circuit separates chalcopyrite from pyrite to produce a saleable copper concentrate.
- Area 600 - concentrates dewatering and purification: final concentrates are dewatered and dried. The tungsten-tin stream undergoes dry magnetic separation and electrostatic separation to produce tungsten and tin concentrates separately.
- Area 700 - paste plant: to ensure long-term stability and avoid surface waste, fine and coarse tailings are thickened to 70% solids, mixed with cement, and pumped back into mine voids.
- Area 800 – reagents preparation: there is an area specifically dedicated to the storage, dosing and preparation of the reagents involved in the flotation process (collectors, frothers and pH modifiers) and in the dewatering (flocculant).
- Area 900 – plant services: it comprises a set of auxiliary equipment and facilities whose purpose is to ensure the continuous, safe and simultaneous availability of essential services required for plant operation. This includes the process and freshwater system, the compressed air or the fire protection system.

25.3.4. Project Infrastructure

The Project infrastructure has been designed to support a compact and efficient mining operation while minimizing environmental and social impacts. The site layout integrates processing, mining, and support facilities within a defined footprint, optimizing operational logistics and reducing surface disturbance.

The processing plant is strategically located in proximity to the mineralized zones to facilitate efficient material handling and potential backfilling operations. Surface infrastructure includes administrative and operational buildings, workshops, warehouses, and support facilities, all designed in accordance with anticipated production requirements.

Access to the Project is provided through an upgraded network of existing local roads, supplemented by dedicated haul routes for heavy vehicle traffic, ensuring safe and efficient site logistics.

Water management is supported by a site-wide water balance, indicating that available groundwater and surface water resources are sufficient for planned operations. Water management infrastructure includes retention and sedimentation facilities designed to ensure operational continuity and environmental compliance.

Power supply to the Project is planned via connection to the national electricity grid through a 60 kV overhead transmission line linking the Borralha site to the SE Frades substation. The proposed electrical infrastructure has been designed in accordance with applicable regulatory and technical standards.

Overall, the infrastructure design is considered appropriate for the scale and level of study of a Preliminary Economic Assessment and supports the development of a robust and operationally efficient mining project.

25.3.5. Environmental

The environmental and social assessment for the Project is based primarily on the Environmental Impact Assessment (“EIA”) prepared by Quadrante and information provided by Portuguese regulatory authorities, including the Agência Portuguesa do Ambiente (“APA”) and the Direção-Geral de Energia e Geologia (“DGEG”).

The Project has received a favorable Environmental Impact Assessment decision (“DIA”) and is currently advancing to the RECAPE phase (Environmental Compliance Report for the Detailed Design Phase). Final permitting remains subject to RECAPE approval and the completion of detailed engineering and supporting baseline studies.

Historical mining activities have resulted in legacy environmental features, including waste rock deposits, abandoned underground workings, and derelict infrastructure. These are considered manageable within the context of the proposed redevelopment, although further geochemical, hydrogeological, and environmental baseline investigations are required to support detailed design and permitting.

Conceptual designs for waste, tailings, and water management have been developed and are considered consistent with industry practice. The Project incorporates water management strategies based on collection, treatment, reuse, and controlled discharge, with the objective of minimizing environmental impacts and freshwater consumption. A preliminary site water balance supports the technical viability of the proposed approach.

The Project is subject to Portuguese and European Union environmental and mining legislation, including the integrated environmental permitting framework (“LUATUA”). In addition to RECAPE approval, further permits will be required prior to construction, including those related to water use, waste management, and mining operations.

Social baseline studies indicate that the Project is located in a low-density rural region with historical mining activity and socio-economic challenges. The proposed redevelopment is expected to generate employment and support regional economic activity, while requiring ongoing stakeholder engagement and monitoring to manage potential social impacts.

Mine closure and rehabilitation planning are at a conceptual stage. The Project includes provisions for the remediation of historical liabilities and will require the development of detailed

closure plans and financial assurance mechanisms as part of the permitting process. Environmental and social monitoring programs have been defined at a conceptual level in the EIA and will be further developed during the RECAPE phase. Residual environmental and social risks are considered typical of brownfield mining projects but cannot yet be fully quantified at the current stage of study.

The Qualified Person considers that the environmental and social framework is appropriate for a Preliminary Economic Assessment. Further studies, detailed engineering, and regulatory approvals will be required to advance the Project toward construction.

25.3.6. Sustainability

ACM recognizes the importance of responsible mining across the social, environmental and governance spectrum, and sustainability priorities are being embedded throughout the organisation in policies, SOPs, oversight mechanisms and company culture.

ACM's evolving sustainability strategy and priorities are informed by its material matters, namely occupational health and safety; employee welfare and relationships; diversity, equal opportunity and non-discrimination; communities; land management; water management; and climate change and energy use.

25.3.7. Capital and Operating Cost Estimates

Capital and operating cost estimates have been prepared at **PEA level accuracy**. Capital costs are presented on a nominal USD basis and include initial construction capital and sustaining capital over the life of mine. The capital estimate includes a **5% contingency** in the underlying build-up. Reported capital excludes sunk costs, land access, financing interest during construction, legal costs, exploration, metallurgical test work, and construction taxes, insurance and duties.

CAPEX summary is:

- Initial Capital: USD M 91.4
- Sustaining Capital: USD M 86.9
- Total Capital: USD M 178.3.

OPEX cost for the Borralha operations on this PEA study are summarized in Table 25-3.

Table 25-3 Operation cost assumptions for the Borralha project.

Item	Price (USD)
Mine Opex SLOS	33.70
Mine Opex DF	43.65
Plant Opex	9.46
G/A Opex	5.00

Total operating costs over the life of mine amount to approximately USD 799 million, distributed across the main cost categories as follows:

- Mining: USD 555 million
- Processing: USD 177 million
- G&A (General and Administrative): USD 67 million

The capital cost estimate incorporates contingency at both the component and project levels, reflecting the varying levels of engineering definition across the Project, and the Qualified Person considers this approach appropriate for a Preliminary Economic Assessment.

25.3.8. Economic Analysis

The economic evaluation has been conducted at the PEA level utilizing a discounted cash flow model, which incorporates production scheduling, metallurgical performance, capital expenditures, and operating costs. The study includes Inferred Mineral Resources and is therefore considered preliminary; there is no guarantee that the outcomes projected by the PEA will be achieved.

The base case economic analysis applies long-term price assumptions of approximately USD 704/mtu WO₃, USD 9,943/t Cu, USD 32,000/t Sn, and USD 37.74/oz Ag. Additional key parameters include an 8% discount rate, a base EUR/USD of 1.15, WO₃ payability at 80%, Cu payability at 95%, Sn payability at 96%, and Ag payability at 86% (Table 25-4).

Table 25-4: Economical parameters summary of the Borralha project

Metric	Unit	Value
WO ₃ Price Assumption (Base Case)	USD/mtu	~704 (Argus LT Fcst)
NPV @ 8% (post-tax)	USD M	~134
IRR (post-tax)	%	27.2%
Payback (from construction start)	Years	~5,8
Payback (beginning operation)	Years	~3,8
EBITDA (LOM)	USD M	~588
EBITDA Margin	%	~40%
Initial Capex	USD M	~91
Sustaining Capex (LOM)	USD M	~87
Total Capex (LOM)	USD M	~178

The project is expected to generate around USD 1.45 billion NSR over its lifetime, derived from USD 1.46 billion GMV, suggesting relatively limited commercial deductions in the base scenario. Sensitivity analysis identifies the WO₃ price as the primary value driver, followed by treatment/refining terms, head grade, and metallurgical recovery. Capital expenditure and G&A exhibit comparatively lower sensitivity within the examined ranges.

Given that the prevailing tungsten price substantially exceeds the price assumptions adopted in this PEA, a high-level economic sensitivity analysis was completed to evaluate the effect on NPV, IRR, and payback period assuming tungsten sales prices of USD 1,000/mtu and USD 1,500/mtu (Table 25-5).

Table 25-5: Base Case and uploaded scenarios

Metric	PEA Scenario	Upload	Better
WO ₃ Price USD / mtu	704	1,000	1,500
NPV @ 8% (post-tax) USD M	134	346	706
IRR (post-tax) %	27%	49%	78%
Payback (from construction start)	5.8	4.2	3.2
Payback (beginning operation)	3.8	2.2	1.2

The mineral resource estimates underpinning this assessment include Inferred Mineral Resources, which are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Accordingly, this PEA is preliminary in nature as it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. As such, the results presented herein should be considered indicative of the Project's potential and subject to further refinement as additional technical data becomes available. Nevertheless, the analysis provides a coherent and internally consistent basis for understanding the potential economic viability of the Project at a PEA level and identifying the principal drivers of value and risk.

25.4. Proposed Project Development Plan

The following main activities and target dates for completion are planned:

- Publication of a PEA technical report during Q2 2026.
- MRE update during Q3 2026.
- Publication of updated and enhanced pre-feasibility study technical report during H2 2026.

25.5. Overall Highlights and Conclusions

The PEA demonstrates the technical and economic viability of the Borralha Project based on a single mineralized breccia (Santa Helena), with additional mineralized zones and potential by-products not included in the current development case.

Expanding mineral resources is expected to strengthen the long-term net present value of the Project. Therefore, it is recommended to conduct an exploration campaign both within the resource area of the Santa Helena Breccia and throughout the broader license area.

The PEA demonstrates the technical and economic viability of the Borralha Project based on a single mineralized breccia (Santa Helena), with additional mineralized zones and potential by-products not included in the current development case.

Infill and expansion drilling is ongoing with a 20,000m drill program with several drill rigs on site, expected to be completed in Q4 2026. ACM is aiming to increase the size and grade of the deposit, to be reflected in an MRE update and follow-on technical study update during H2 2026 to capture additional project value.

25.6. Risks and Uncertainties

25.6.1. Exploration and Mineral Resources Risks

Multiple mineral domains with potentially different metallurgical features may be present in the mineralised body. If so, they need to be identified in any updated MREs and block models to facilitate preparation of a geometallurgical model for the Project.

25.6.2. Mining Risks

The mine method has been designed to a PEA standard and therefore there are many variables yet to be determined before a mine method and mine plan may be finalized. There is no assurance that the expected mine method and mine plan will be entirely as presently anticipated.

In addition, abrasiveness has not been adequately investigated, and its potential influence on mining and comminution costs also warrants further study.

25.6.3. Metallurgy and Processing Risks

Testwork relating to mineralized material is ongoing and it is possible that outcomes may require updates to the processing strategy. This would require design updates and a review of the optimal throughput during the PFS.

The concentrator metallurgical performance estimate for the current PEA is preliminary and includes projections from ongoing test works, which results may differ from expected, and that would also design updates and a review of the optimal throughput during the PFS.

25.6.4. Accuracy of Costs, Expenses, and Prices Risks

To further progress the Project, it is essential to update mining costs, process plant construction expenses, and mine development pricing to ensure the reserves cut-off achieves sufficient accuracy for the Project's required level. The Qualified Person considers the current price ranges to be reliable for a Preliminary Economic Assessment; however, ongoing analysis is recommended due to inflation effects on both costs and commodity revenues.

25.6.5 Environmental and permitting Risks

The key perceived risks, typical of a Project of this nature, to social and environmental baseline conditions as well as to the Project include:

- Environmental risk
 - Reduced water availability and quality (surface and groundwater).
 - Reduced air quality.
 - Loss of terrestrial and aquatic biodiversity and heritage resources through construction and operational activities.
- Social risk
 - Population influx results in impacts to local wellbeing and pressure on local services and resources.
 - Changing socio-economic conditions (positive impact).
- Project risk
 - Obtaining relevant permits from Portuguese authorities.
 - Social despondence due to unmanaged expectations.

These risks are not comprehensive and only include the perceived significant risks. A comprehensive list of risks is available in the ESIA Report. Comprehensive perceived risks are being directly managed through ongoing programs, engagements and resulting management plans as described in the aforementioned sections.

Completion of the transfer of registered title to the Property remains a condition precedent to long term development, even though no current disputes or defects are known. There will be many permits required from different government agencies in Portugal in order to complete construction, commissioning and commencement of production of a mine at the Property. Although the Project is considered positively by governmental authorities in Portugal the Project is still at the PEA development stage, there is no assurance at this point that all the necessary the permits will be granted in a timely manner or at all.

25.7. Opportunities

25.7.1. Exploration and mineral resource opportunities

Expanding mineral resources is expected to strengthen the long-term net present value of the Project. Therefore, it is recommended to conduct an exploration campaign both within the resource area of the Santa Helena Breccia and throughout the broader license area. ACM is presently conducting a 20,000m drill program with this aim expected to be completed within Q2 2026.

25.7.2. Mining and mineral reserve opportunities

A detailed geotechnical drill program could aid in more efficient mine design and help optimize mining to reduce LOM operating costs. Additional value chain optimization will be completed during the PFS, which could enhance value by optimizing mine design, COG and processing optimization using advanced analytical techniques.

25.7.3. Metallurgy and processing opportunities

Improvements in metallurgy within the project would also drive higher revenue, resulting in a more favorable cash flow profile, and therefore additional metallurgical work is also recommended.

Given that tungsten represents the primary commodity in Borralha, conducting a trade-off analysis to assess the impact on Net Present Value (NPV) of adding facilities to process additional elements is advisable, as there may be significant credits for other minerals.

25.7.4. Environmental opportunities

Through the implementation of the ESIA, negative project impacts will be identified and mitigated and positive impacts promoted. This leads to improved environmental and social management, climate change mitigation, and sustainable development. The mainstreaming of impact management in this way introduces opportunities across the spectrum of social and environmental wellbeing in the shorter term, but also sustainability in the longer term.

25.7.5. Sustainability opportunities

Good performance in responsible mining can result in better management of risks and negative impacts, while positioning the company to maximise its positive impacts or contribution, and relationships. This contributes to a stronger license to operate.

Opportunities include:

- **Environmental:** Meeting and exceeding environmental requirements will reduce risk and strengthen goodwill and social license to operate. This also applies to managing environmental expectations that may exceed legal requirements. This applies to water management, land and biodiversity management, tailings, air quality, noise and energy and climate change.
- **Local content:** Good performance in local ownership, employment, training and skills development, procurement, and supplier development will reduce risk and enhance government goodwill and community support.
- **Health and safety:** Excelling in the management of health and safety of employees and communities reduces risks and improves employee and community relationships and social license to operate.
- **Motivated employees:** Prioritising employee wellness, training/skills development, and relationships can improve productivity by reducing absenteeism and staff turnover and increasing presenteeism and productivity.

- Community relationships: Engaging and collaborating respectfully and building strong relationships with host communities will contribute to strengthening social license to operate.
- Excellence in health and safety management, which ensures that employees are well looked after and feel valued. This is likely to have motivational and productivity benefits for the mine staff and improve its reputation.

26. Recommendations

26.1. Overall Recommendations

The recommended work program has been structured to (i) de-risk the current development case, (ii) improve cost and engineering accuracy, and (iii) evaluate upside opportunities not included in the PEA.

The results presented in this PEA report demonstrate positive economics for the Borralha Tungsten Project. As such, it is recommended that development of the Project continues through subsequent mineral resource update(s) and studies. Table 26-1 summarizes the proposed budget to enable various technical optimization activities and to advance the Project through the next stage of study, a PFS.

Table 26-1: Recommended work program budget

Description	Estimated Cost (USD)
Infill drilling (~15,000m)	\$ 5,000,000
Regional exploration (5,000m)	\$ 1,750,000
MRE	\$ 30,000
Mine cost modelling	\$ 30,000
Mine engineering	\$ 70,000
Metallurgical test work	\$ 200,000
Detailed Geotechnical studies	\$ 100,000
Process engineering	\$ 100,000
Site infrastructure engineering	\$ 100,000
Water and power supply engineering	\$ 50,000
Environmental and permitting (RECAPE)	\$ 900,000
Sustainability and ESG initiatives	\$ 200,000
TOTAL (USD):	\$ 8,530,000
TOTAL (CAD):	\$ 11,700,601

*Assuming an exchange rate of \$1.3717 CAD/USD.

The recommended work program and associated budget are considered appropriate to advance the Borralha Project toward the PFS stage while de-risking the current Santa Helena-based development case and evaluating selected upside opportunities.

26.2. Mining and Geotechnical

The next phase of work should focus on improving the technical confidence and engineering definition of the underground mining concept adopted in the PEA. The Santa Helena Breccia mine plan should be refined through additional geotechnical characterization, improved mine design, and closer integration between mining assumptions and the economic model.

Recommended work includes the continued development of a site-specific geotechnical database to support stope geometry, ground support requirements, mine sequencing, and dilution assumptions. Additional geotechnical investigations should also support refinement of the selected mining methods, including the relative application of Sublevel Open Stopping and Drift-and-Fill in different sectors of the deposit.

Further work should be completed to improve underground mine design and operational planning, including ventilation studies, mineral transport assessment, dewatering refinement, and development sequencing. The mine design should also be updated using revised cost assumptions and integrated with the block model to support a more robust economic cut-off and improved stope optimization.

26.3. Metallurgy and Process Engineering

Additional metallurgical work is recommended to confirm and refine the process assumptions used in the PEA and to support advancement of the Project toward PFS level. This work should focus on validating concentrate quality, metallurgical recoveries, variability across mineralization domains, and key process design parameters.

The ongoing metallurgical test work program should be completed to confirm the estimated grades and recoveries of the final concentrate products. Further test work should also be undertaken to verify the performance of the currently proposed processing circuit for tungsten, copper, and tin, and to better constrain the variability of metallurgical response across the deposit.

Additional backfill test work is recommended to support and confirm the design parameters of the paste backfill plant. A geometallurgical program should also be developed to integrate mineral domains, metallurgical recovery, and process response in support of future mine planning and plant optimization.

Coarse waste characterization should be completed to assess the technical suitability of waste rock material for potential sale as construction aggregate, although no such revenue has been included in the current PEA.

26.4. Infrastructure and Site Engineering

Further engineering work is recommended to improve the definition of the Project's surface and supporting infrastructure and to support transition from conceptual PEA-level design to PFS-level engineering. This work should include refinement of site layout, utility systems, water handling infrastructure, and key service facilities.

Priority work programs should include additional engineering of surface infrastructure, site access, plant support facilities, water supply and distribution systems, and power supply connection. The site-wide water balance should be advanced to a more detailed level and integrated with mine dewatering, process water demand, storage capacity, and discharge requirements.

Infrastructure engineering should also include refinement of waste rock handling, stockpile layout, dump design, and site logistics to improve constructability, operational efficiency, and environmental performance.

26.5. Environmental and Permitting

The Project should continue to advance environmental baseline studies, detailed permitting support work, and design inputs required for the RECAPE phase and subsequent permitting stages. Environmental work programs should be aligned with the evolution of engineering design to ensure that project definition, mitigation measures, and regulatory submissions advance in a coordinated manner.

Recommended work includes completion and refinement of environmental baseline programs, further hydrogeological and geochemical investigations, and continued development of waste, tailings, water management, and closure design concepts. This work should support the preparation of permit-grade technical documentation and provide the basis for a more detailed evaluation of environmental risks and mitigation measures.

The next stage of environmental work should also include continued engagement with regulatory authorities and stakeholders, assessment of project alternatives where required, and incorporation of detailed environmental design criteria into the engineering process.

26.6. Sustainability and Social Performance

The next phase of work should further formalize the Project's sustainability and social performance framework to support responsible project development, strengthen local engagement, and improve readiness for future permitting and financing stages.

Recommended work includes continued development of sustainability-related governance procedures, advancement of community and stakeholder studies, and preparation of updated engagement and development plans aligned with the Project's next stage. Additional work should also be completed on local content planning, responsible sourcing procedures, and community-facing management measures relevant to construction and future operations.

The Project should also advance its climate and energy work by completing an energy and climate-related assessment to support the future development of a broader climate strategy and improve alignment with evolving reporting and financing expectations.

26.7 Economic Analysis and Project Integration

The next phase of work should focus on improving project integration and increasing the overall level of technical and economic definition required to advance the Project to a Pre-Feasibility Study level.

Updated capital and operating cost estimates should be prepared using refined engineering inputs and, where possible, contractor or supplier support. Commodity price assumptions, payability assumptions, and commercial terms should also be reviewed and updated as appropriate for the next stage of study.

The economic model should be revised to reflect the improved integration of mining, processing, infrastructure, environmental, and scheduling inputs. Priority areas include refinement of the mine plan, improved integration between mining and processing, updated waste rock management assumptions, stockpiling and scheduling strategies, and incorporation of updated sampling, analytical, and metallurgical data into a revised project economic model.

While the current PEA demonstrates a positive development case based solely on the Santa Helena Breccia, future work may also assess additional mineralized zones and potential by-product or ancillary revenue opportunities that were not included in the present study.

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