2022

TECHNICAL REPORT – SCOPING STUDY FOR THE ÇORUM COPPER PROJECT, TURKEY

UMREK Technical Report on the Scoping Study for the Çorum Copper Project, Turkey

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Cautionary Statement

The following cautionary statement is an extract from the UMREK Code (2018).

The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Mineral Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

In discussing 'reasonable prospects for eventual economic extraction' found in Article 20, all types of issues affecting eventual economic extraction, including parameters related to mining, must be assessed by the Competent Person (even if it is only a preliminary assessment). While the Scoping Study may form the basis of this assessment, the Code does not require a Scoping Study to be completed to declare Mineral Resources.

Scoping Studies are generally the first-stage economic assessment of a project and can be based on the combination of directly collected project data and estimates acquired from a similar deposit or operation. In addition, a Scoping Study can be used within the company for purposes related to comparison of projects and planning. The most important point to be considered when reporting the general outcomes of a Scoping Study is not to imply that a Mineral Reserve has been declared and/or a positive result has been achieved in economic terms. In this sense, indicating in the Scoping Study the Mineral Resource inputs and the applied procedures would be a good practise.

While initial mining and processing cases may have been developed during a Scoping Study, they must not be used to allow a Mineral Reserve to be developed.

Scoping Studies can also be called Preliminary Economic Assessments. 'Order of magnitude' as used herein typically implies low accuracy cost estimates (see Table 2 of the UMREK Code).

Compliance Statement

Information given in this report in relation to production targets and forecast financial information derived from those production targets are based on data reviewed and confirmed to be compliant with the requirements of the UMREK code by Mrs Burcu Ardıçoğlu Tuzcu, MSc, CEng MIMMM and Mr Emrah Tuğcan Tuzcu, PhD, CEng MIMMM. The Competent Persons are members of YERMAM, a professional organization recognised on BIST and UMREK web sites.

Mrs Burcu Ardıçoğlu Tuzcu and Mr Emrah Tuğcan Tuzcu are employed by Mine & Process Engineering Solutions (MPES, Ankara, Turkey). The relationship of the Competent Persons with AVOD is based on a purely professional association. This report was prepared in return for fees based on agreed commercial rates, and the payment of these fees is in no way contingent on the results of this report.

Mrs Burcu Ardıçoğlu Tuzcu and Mr Emrah Tuğcan Tuzcu have sufficient experience about the pledged activity and the relevant mineral type or mineralisation to be classified as a Competent Person as described in the UMREK Code. Mrs Burcu Ardıçoğlu Tuzcu is the Competent Person for Mining and Mr Emrah Tuğcan Tuzcu the Competent Person for Processing and Evaluation.

Mrs Burcu Ardıçoğlu Tuzcu and Mr Emrah Tuğcan Tuzcu consent that the issues based on their knowledge are included in the report.

Executive Summary

AVOD Altın Madencilik Enerji İnş.San.ve Tic A.Ş. (AVOD) commissioned RSC Consulting Ltd (RSC) to undertake a Scoping Study based on RSC's 2022 mineral resource estimate (MRE) for the Çorum Copper Project (the Project), to be carried out and reported in compliance with the UMREK code and signed off by an UMREK certified Competent Person.

The results of the Scoping Study are indicative that mining and processing of the Çorum copper deposits may represent an economically viable project, that a pathway to mining and processing exists, and that current mineral resources are likely to be able to be converted to mineral reserves. The project warrants progression towards a pre-feasibility study.

The Çorum Copper Project is situated at the border of the Çorum and Yozgat provinces in Turkey and lies approximately 200 km east of Turkey's capital city, Ankara. The closest significant settlement is Boğazkale which lies approximately 1 km west of the licence boundary. The project covers 13.75 km^2 and is held as exploration licence 200712071. The historic site of Hattusas, the capital of the Hittite Empire during the Bronze age, is situated in the northwest portion of the licence. The mining prospects lie over 1.5 km southeast of this site and are not visible from Hattusas.

The project is suitable for open-pit mining of two deposits, referred to as Area A and Area B (as outlined in Figure 1 and Figure 2). The deposits are shallow and near-surface. Area A mineralisation is unweathered sulphides and Area B mineralisation is made up of a sulphur-enriched caprock overlying oxide and unweathered sulphide mineralisation.

Figure 1: Çorum project, outlining local settlements and conceptual pits and infrastructure, from Google Earth.

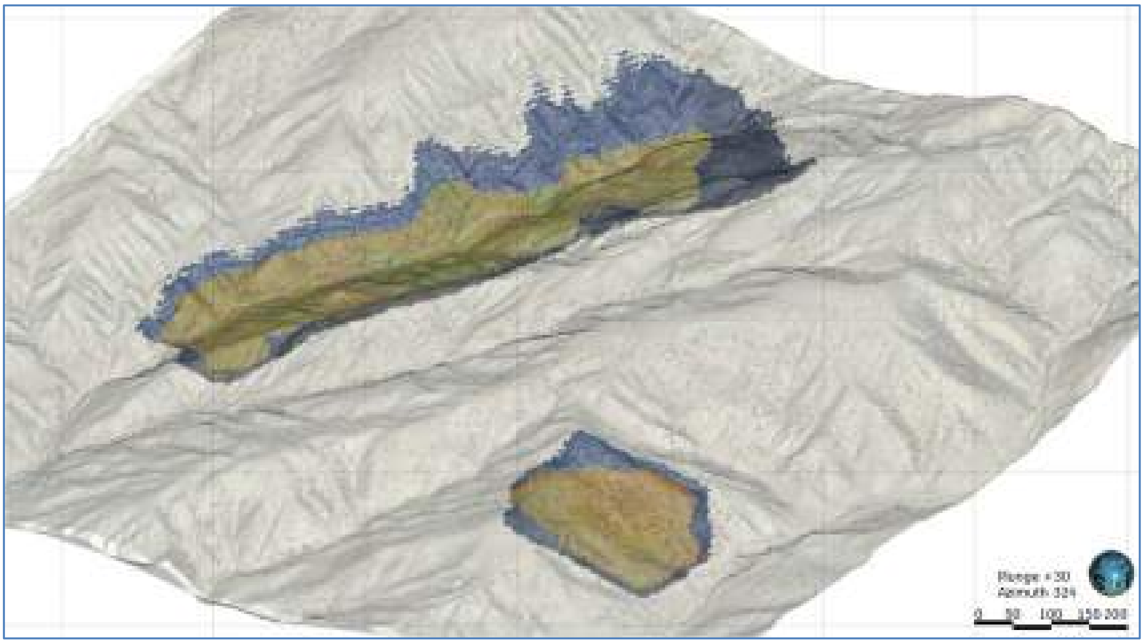

Figure 2: Area A and B pits and block models, oblique view looking down and northwest.

Processing is assumed to be by froth-flotation, to produce a copper sulphide concentrate, and solvent-extraction and electrowinning (SX/EW) to produce copper cathode. The project is assumed to process up to 650 ktpa of sulphide and 125 ktpa of oxide ore per year, for a period of 10–11 years.

Two potentially extractable tonnes scenarios have been prepared and evaluated. These are referred to as the 'base' case and the 'upside' case. The purpose of the two cases is to compare the effect of variations to reasonably justifiable, conservative and optimistic input parameters on the evaluation outcomes.

The key differences between the input parameter assumptions for each case are;

Table 1: Key inputs, base and upside cases.

Key inputs	Base Case	Upside Case
Discount Rate (%pa)	8%	8%
Copper Price (USD/lb)	3.00	4.50
Royalty/State Right (%NSR)	3%	3%
Processing Rate, Flotation (ktpa)	650	650
Processing Rate, SX/EW (ktpa)	125	125
Met Recovery Oxide	70%	80%
Met Recovery, Mixed to Leach	40%	55%
Met Recovery Mixed to Concentrate	20%	25%
Met Recovery Sulphide	80%	80%
Concentrate Grade (%Cu/dmt)	25%	25%

The upside case optimised open pits have been used to constrain the 2022 MRE for the purposes of reasonable prospects of economic extraction (RPEEE).

Costs for mining the operation have been estimated based on review of published reports for multiple similar or comparable projects situated in Turkey and, where appropriate, around the world. These have also been adjusted for UMREK reporting requirements. Revenue estimates are based on five-year LME copper prices and reasonably justifiable treatment and refining terms and conditions.

The key outcomes of the Scoping Study are;

Table 2: Scoping Study headline outcomes.

Headline Outcomes	Base Case	Upside Case
Ore Tonnes Mined (dmt)	7,520,000	8,170,000
Cu % processed (%)	1.46%	1.39%
Concentrate Shipped (dmt)	265,440	276,675
Copper Cathode Produced (t)	18,821	21,623
Sold Copper (t)	83,522	89,063
Sold Copper (Mlb)	184	196
Pre-Tax Revenue (USD M)	466	771
Net Cashflow, Pre-Tax (USD M)	71	419
Project Duration, Nominal (years)	9.8	10.8
NPV, Pre-Tax, Y1 dollars (USD M)	27	255
IRR, Pre-Tax, Y-2 (%)	15%	59%

In total, approximately 65% of tonnes and 70% of contained copper in the Project inventory is classified as Inferred, and the rest is classified as Indicated. There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that these will convert to Indicated or Measured Mineral Resources.

The total pre-production capital cost for the Project is estimated to be USD 55–60 million. All-in sustaining costs for the life-of-mine are estimated to be USD 1.70–2.15/lb of sold copper.

The Project remains at an early stage of evaluation and is yet to be the subject of geotechnical, hydrogeological, environmental or other studies. The deposits are also yet to have undergone metallurgical testing. The Scoping Study includes recommendations that such studies, as well as a drilling programme to upgrade the definition of the deposits, take place prior to commencing pre-feasibility designs and modelling.

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1 Introduction & Terms of Reference

1.1 Subject and Purpose

AVOD Altın Madencilik Enerji İnş.San.ve Tic A.Ş. (AVOD) commissioned RSC to undertake an independent mineral resource estimate and a scoping study on the Çorum Copper Project (the Project), and to report it in accordance with the UMREK Code (2018).

This technical report contains all relevant underpinning technical information and documentation for the Scoping Study and contains specific information on categories specified by UMREK Table 1.

1.2 Qualifications & Experience

The work completed by RSC and the subject of this report was carried out by the following people (the Study Team).

Luke Neesham, BEng (Mining) GDAppFin MAusIMM (Principal Underground Mining Engineer)

Luke has over 30 years' experience in both underground and open-pit mining engineering. These include Mine Manager, Principal Consultant and Senior Mining Engineer roles in six Australian States and Territories, The People's Republic of China, The Former Soviet Union, Papua New Guinea and The Philippines, as well as consulting for projects in Africa, Europe and South America, and studying in North America. He is a full-time employee of GO Mining Pty Ltd, and one of the main authors of this report.

His experience includes underground shaft and decline, handheld and mechanised mining, management, supervision and engineering for gold, copper, lead/zinc and nickel mines, as well as open-pit mining and management. He has undertaken due diligence, mine design, scheduling, financial modelling and reporting in a wide range of scoping, pre-feasibility and feasibility studies, including as Competent Person for mineral reserves Estimates under the JORC code. He has also held Project Manager roles, undertaking capital works and construction on multiple mine sites.

Luke holds a Bachelor of Mining Engineering from the Western Australian School of Mines and a post-graduate Diploma in Applied Finance and Investment. He holds Underground Manager and Quarry Manager certificates of competency in Western Australia, New South Wales and the Northern Territory of Australia, and is a member of the AusIMM.

Mr Neesham was primarily involved in preparing financial, processing and reporting aspects of the Scoping Study.

John Millbank, BEng (Mining), MBA, MAusIMM (Principal Open Pit Mining Engineer)

John has over 30 years' experience in production, planning and consulting roles, specialising in open-pit metalliferous mines. These roles include Mining Manager, Statutory Quarry Manager, Principal Consultant and technical roles in Australia, Solomon Islands and Finland. He is a full-time employee of Proactive Mining Solutions, and one of the main authors of this report.

His 20 years of open-pit gold experience has spanned all scales and economic cycles, from historical lows and 50-tonne class machines to the current near-record price highs and 400-tonne class machines. Recent consulting roles have included due diligence studies, process audits, mine optimisation, design and equipment selection studies. John has recently completed optimisation, and design works for all study levels of feasibility and scoping studies. Production technical roles have included implementation of operations at new starts and turning feasibility studies into operating mines. John has also acted as Competent Person for mineral reserves Estimates under the JORC code.

John holds a Bachelor of Engineering in Mining Engineering from the University of South Australia and a master's degree in Business Administration. He has held a Quarry Manager's Certificate of Competency in Western Australia since 1997 and is a member of the AusIMM.

Mr Millbank was primarily involved in preparing mining aspects of the Scoping Study, including open pit optimisations, and in Peer Review of the report.

Geological and project general summary aspects of the Scoping Study are based on the RSC mineral resources estimate (MRE), with an effective date of 30th June 2022 (Chapman, 2022).

Burcu Ardıçoğlu Tuzcu, MSc CEng MIMMM (Principal Mining Engineer)

Burcu is a mine planning expert in mine modelling, reserve estimation, strategic and tactical mine planning in coal and metallic ore projects, with 20 years of experience in open pit and more than five years of experience in underground. She has worked from greenfield to production stages and is experienced in a wide range of geological and mine modelling software including Surpac, Whittle, and MineSched. She is a full-time employee of Mine & Process Engineering Solutions and is the Competent Person for this Report.

Burcu holds a Bachelor of Science degree in Mining Engineering, and Master of Science degrees in Mineral Processing and Engineering Management from Middle East Technical University. She is a member of the Institute of Materials, Minerals and Mining (IOM3) and a Chartered Engineer from the Engineering Council of the United Kingdom. She is a Competent Person under JORC and a Qualified Person under NI 43-101 on reporting of Resources and Reserves. She is a professional member of the Association of Geoscience, Mining and Metallurgy Professionals (YERMAM) and a Competent Person from the National Resources and Reserves Reporting Committee (UMREK) in Turkey.

As a Competent Person, she has been involved in many scoping, pre-feasibility, and feasibility studies. She also has worked as the Mine Planning Lead of a 6K ton/year capacity Lignite Mine for several years.

Emrah Tuğcan Tuzcu, PhD CEng MIMMM (Principal Mining Engineer)

Emrah is a Certified Professional Engineer (IOM3-639376) with the Institute of Materials, Minerals and Mining which is a recognised overseas professional organisation as listed by the Engineering Council of UK. He is a full-time employee of Mine & Process Engineering Solutions and is the Competent Person for this Report.

Emrah is a professional member of SME (Society for Mining, Metallurgy and Exploration with the member ID of 04146505). He is a mining engineer with a mineral processing and metallurgy degree and has more than 20 years of experience in design and optimisation of mineral processing plants. He also teaches mineral processing modelling, design and optimisation and is the author of several technical papers. Emrah is also a professional member of the Association of

Geoscience, Mining and Metallurgy Professionals (YERMAM) and a Competent Person from the National Resources and Reserves Reporting Committee (UMREK) in Turkey. As a Competent Person, he was involved in more than 50 scoping, pre-feasibility, and feasibility studies.

Olivier Bertoli MEng MAusIMM, GAA (General Manager Resources and Reserves)

Olivier's specialist training in applied mathematics and geostatistics from the Paris School of Mines is complemented by 27 years of experience as a practice-leading geo-statistician. He is a full-time employee of RSC Consulting Ltd, the project manager of the Study, and a peer reviewer of this report.

As a consultant, Olivier completed many consulting jobs for major mining companies in diverse locations and geological settings. Olivier has extensive experience in advanced geostatistical modelling: 2D methods, recoverable resource estimation (LMUC, MIK), conditional simulations and multivariate modelling. He has delivered numerous in-house and public training courses on these topics and specialises in staff mentoring on relevant applications of geostatistical techniques to mineral resource estimation.

Olivier has experience with a wide range of commodities which includes precious and base metals, mineral sands, diamonds, iron ore and coal deposits.

René Sterk, MSc FAusIMM CP(Geo) MAIG (RPGeo) MSEG (Principal Resource Geologist)

René has undertaken geological projects in many countries in Africa, Australasia and Europe and has experience with a wide variety of geological settings and commodities. René specialises in resource estimation, grade control, reconciliation, QA/QC and successful sampling, and has a strong skillset in exploration management for gold and base metals. He is a Competent Person under JORC for gold (alluvial, shear-zone, epithermal, carlin and porphyry), base metals, Li/Sn/Ta, seabed mineralisation (nodules), and industrial minerals (garnet sand, diatomite). René is the principal author of many Canadian NI 43-101 and JORC compliant resource and exploration studies and Competent Person's Reports. He is a full-time employee of RSC Consulting Ltd and a peer reviewer of this report.

He holds a master's degree in Structural Geology and Tectonics. Rene is a Chartered Professional and a Fellow with the AusIMM, and a Member and Registered Professional Geologist with the AIG. He has published papers on resource estimation best practice and is contracted by Seequent (makers of Leapfrog software) to run its popular resource estimation courses.

Any reference made to "RSC" throughout this document includes its subcontractors (GO Mining, Proactive Mining Solutions and MPES).

1.3 Independence Declaration

The relationship of RSC with AVOD is based on a purely professional association. This report was prepared in return for fees based on agreed commercial rates, and the payment of these fees is in no way contingent on the results of this report.

1.4 Sources of Information

The following data were provided by AVOD.

- Exploration data and reports, including estimates previously carried out by other companies.

RSC has prepared an MRE (Chapman, 2022) containing detailed information regarding the project and mineral resource.

Financial estimates and open pit optimisations have been guided by a combination of industry experience and data contained in a number of recent publicly released reports for similar and comparable projects located in Turkey, and where considered appropriate, around the world.

1.5 Site Visit

Due to the preliminary nature of the Scoping Study, a site visit has not been undertaken by the Competent Persons or the mining engineers preparing this study. Other RSC staff first visited the project in July 2019. Mr Aldrich (Competent Person Exploration) inspected the geology and 2019 drill sites. He also visited the analysing laboratory (Ankara) and the core storage facility.

Mr Grimshaw and Mr Goodship visited the project in April 2021 to review the implementation of standard operating procedures (SOPs) during drilling.

Several remote meetings and consultations with personnel familiar with the project have taken place. RSC has reviewed multiple reports regarding the project, and Turkish mining projects generally, as a part of the study, alongside GIS and other relevant data. Where questions have arisen, or clarification has been required, the Study Team has consulted with appropriate persons familiar with the location and subject.

The Study Team are confident that the information has been sufficient to familiarise them with the key items relevant to the project, and to prepare a study to a level of detail and accuracy appropriate for a Scoping Study, as defined in the UMREK code. The Competent Persons have reviewed the data used to prepare the Scoping Study and have verified that the inputs, outputs and contents are appropriate.

1.6 Disclaimer

The opinions, statements and facts contained herein are effective as of 1 July 2022, unless stated otherwise in the report.

Given the nature of the mining industry, conditions can significantly change over relatively short periods of time. Consequently, actual results and performances may be more, or less favourable, in the future and their disclosure represents no legal opinion of the authors.

For disclosure of information relating to socio-political, environmental, and other related issues, the authors have relied on information provided to RSC.

Results of evaluation and any opinions or conclusions made by RSC are not dependent upon prior agreements or undisclosed understandings concerning future business dealings with AVOD.

The authors of this report are not qualified to provide extensive comment on legal issues associated with the Çorum Copper Project described in this report.

Similarly, the authors are not qualified to provide extensive comment on risks of any nature (sovereign, terrorist or otherwise) associated with the Project.

This document contains certain statements that involve several risks and uncertainties. There can be no assurance that such statements will prove to be accurate; actual results and future events could differ materially from those anticipated in such statements.

The information, conclusions, opinions, and estimates contained herein are based on:

- information available to RSC at the time of preparation of this report;
- assumptions, conditions, and qualifications set out in this report; and
- data, reports, and other information supplied by AVOD and other third-party sources.

The opinions, conclusions and recommendations presented in this report are conditional upon the accuracy and completeness of the existing information.

No warranty or guarantee, be it express or implied, is made by RSC with respect to the completeness or accuracy of the legal, mining, metallurgical, processing, geological, geotechnical and environmental aspects of this document. RSC does not undertake or accept any responsibility or liability in any way whatsoever to any person or entity in respect of these parts of this report, or any errors in or omissions from it, whether arising from negligence or any other basis in law whatsoever.

RSC reserves the right, but will not be obligated, to revise this report and conclusions, if additional information becomes known to RSC, after the date of this report.

AVOD has reviewed draft copies of this report for factual errors. Any changes made, because of these reviews, did not include alterations to the conclusions made. Therefore, the statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this report.

RSC assumes no responsibility for the actions of the company or others with respect to distribution of this report.

2 Project General Summary

2.1 Project Description & Location

The Çorum Copper Project is situated at the border of the Çorum and Yozgat provinces in Turkey and lies approximately 200 km east of Turkey's capital city, Ankara (Figure 3). The closest significant settlement is Boğazkale which lies approximately 1 km west of the licence boundary. The project covers 13.75 km^2 and is held as exploration licence 200712071. The historic site of Hattusas, the capital of the Hittite Empire during the Bronze age, is situated in the northwest portion of the licence. The mining prospects lie over 1.5 km southeast of this site and are not visible from Hattusas.

Figure 3: Location of the Çorum Project.

The co-ordinate system used for the Project is UTM ED50 Zone 36N.

The project mineral resources are separated into two distinct deposits, referred to as Area A and Area B (Figure 4).

Figure 4: Location of the Çorum Project and prospects.

2.2 Tenure & Ownership

AVOD controls 100% of the Çorum Project through its ownership of exploration licence 200712071, which covers 1,375 ha (Table 3). The licence applies to mineral Group 4 which includes:

- sub-section (a): industrial minerals, including boron, sodium, lithium and calcium;
- sub-section (b): energy source minerals including lignite and anthracite resources;
- sub-section (c): precious metals, including gold (Au), silver (Ag), Cu and iron (Fe); and
- sub-section (ç): radioactive minerals and other radioactive substances containing elements such as uranium, thorium and radium.

RSC understands that the land where the project is situated is privately owned, and AVOD expects that purchasing the land required to undertake mining operations will not present any significant issues. A nominal allowance has been included in the Scoping Study financial modelling for the cost of these purchases.

Table 3: Status of the mineral licence that comprises the Project.

Exploration Licence	Ownership	Status	Minerals	Date granted	Expiry date	Surface area (ha)
200712071	100% AVOD	active	Group 4c	6/03/2019	6/03/2024	1,375

2.3 State Rights & Royalties

The right to explore and extract from mines is granted through mining licences issued by the state under the Mining Law (Mining Law No. 3213, of 4 June 1985). RSC anticipates that a royalty of approximately 3% of the total annual Cu sales of the mine will be payable to the Treasury. RSC has made this assumption when compiling inputs for a preliminary optimisation study; it is based on a desktop analysis of comparable operations. The issue of state right and royalties is discussed in section 8.2 and detailed in section 0.

2.4 Environmental Liabilities & Permits

RSC is not aware of any environmental restrictions to explore within the Project area.

Key environmental legislation concerning mining activities include the Environmental Law No. 2872 (dated 11 August 1983) and the Environmental Impact Assessment Regulation (published in the Official Gazette No. 29186, dated 25 November 2014) (EIA Regulation). An approved environmental impact assessment (EIA) must be obtained before commencing mining activities, and it is a prerequisite for the issuance of any other licence or permit that could be legally required.

2.5 Access

The project can be accessed via the Yozgat-Boğazkale Road which transects the south of the project area, and the unsealed road to Yüksekyayla. Areas A and B are situated in the hills between these roads and are 2.5 km to 4 km from Boğazkale. Much of the wider project area is accessible via several unsealed roads and farm tracks. RSC understands that the land where the project is situated is privately owned, in the form of approximately 12 smallholding farms.

2.6 Climate

The climate is classified as Csb Köppen climate classification (http://koeppen-geiger.vu-wien.ac.at/present.htm) hence a continental/Mediterranean climate with warm dry summers and cool wet winters. Boğazkale has an annual rainfall of 451 mm and an average temperature of 10°C. July and August are the warmest months with average temperatures of 20.2 and 20.4°C, respectively. The coldest month is January with an average temperature of -1.0°C. Precipitation varies by 50 mm between the driest month (August, 8 mm), and the wettest month (December, 58 mm) (Table 4).

Table 4: Boğazkale monthly climate. Source: https://en.climate-data.org/asia/turkey/Çorum/Boğazkale-15860/.

	Jan	Feb	Mar	Ap	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Temp. (°C)	-1	0.4	4.5	9.5	14.4	17.4	20.2	20.4	16.2	11.2	6.1	1.6
Min. Temp. (°C)	-5.2	-4.1	-1.1	3.2	7.2	9.9	12.2	12.1	8.0	3.8	0.4	-2.3
Max. Temp. (°C)	3.2	5	10.1	15.8	21.0	25.0	28.3	28.7	24.5	18.7	11.9	5.6
Precipitation (mm)	51	46	48	49	57	40	14	8.0	18	25	37	58

2.7 Physiography

Altitudes in the licence area range from 1,100–1,400 m above sea level, and the terrain is hilly with moderate to occasionally-steep slopes. Flat agricultural fields are located in the northwest of the licence area. The Büyükkale river drains through the southern portion of the licence area towards the northeast. Area A is located in the gully formed by an ephemeral watercourse that flows into this river.

The UMREK Code (2018) Table 1 Section 1 requires inclusion of 'A detailed topographic-cadastral map. Where possible, weather and ground conditions that must be mitigated, particularly for difficult ground conditions, dense vegetation and/or high-altitude areas.' The area has been examined by RSC using Google Earth satellite imagery, and multiple figures of satellite and aerial imagery are included in the report. The Competent Persons do not regard it as necessary to include a detailed topographic-cadastral map presenting weather, ground conditions, dense vegetation and/or high-altitude areas.

2.8 Vegetation

The vegetation of the licence area includes a small forestry block, farmland and hilly shrubland.

2.9 Local Resources & Infrastructure

Boğazkale is located approximately 90 km by road from Çorum, a northern Anatolian city and the capital of the Çorum Province of Turkey. Çorum is located inland in the central Black Sea Region of Turkey and is approximately 250 km from Ankara and 600 km from Istanbul. The city of Çorum has a population of approximately 530,000 with a broad range of shops and services. The nearest airport is in Ankara, which connects internationally.

Port facilities, for potential export of concentrates, as well as a copper refinery, are located at Samsun. These can be reached by road, approximately 270 km from Boğazkale, or potentially as a combination of road and rail via Turhal (165 km from Boğazkale, Figure 5).

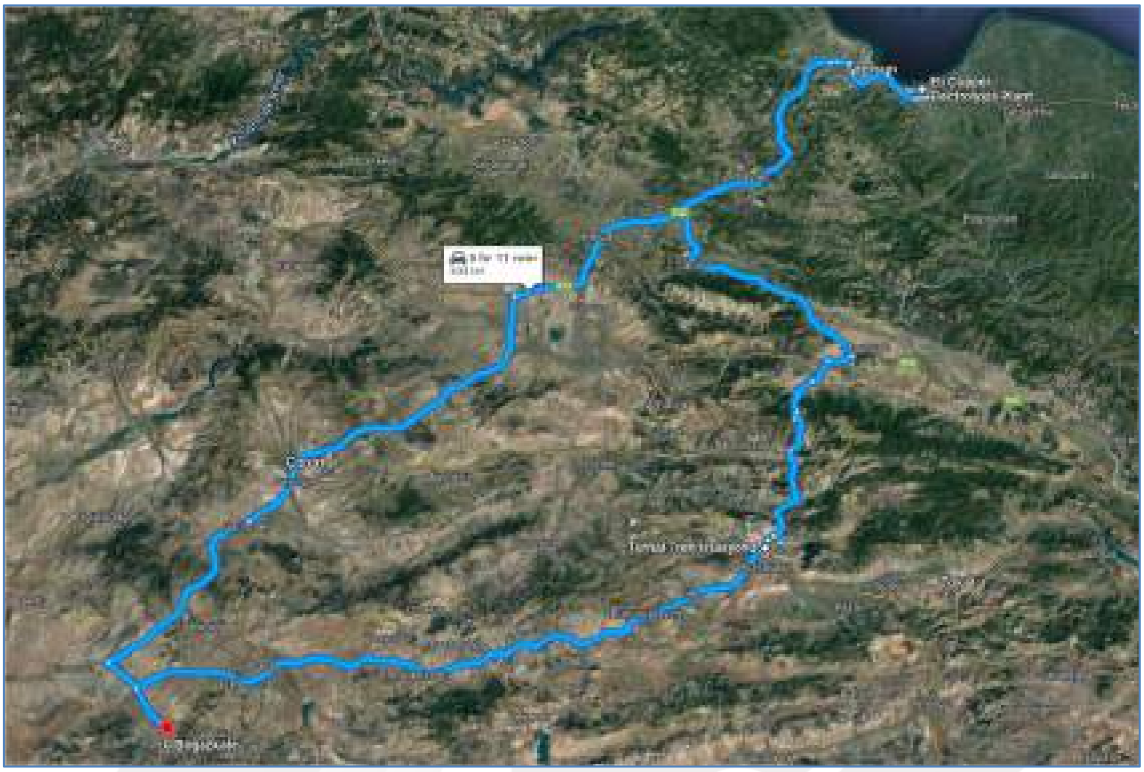

Figure 5: Potential routes to Samsun Port, from Google Maps.

3 History and Previous Work

3.1 Tenure & Operating History

RSC understands that some mining occurred in the Project area in the 1950s. However, no information is available about the location, extent, or historical production. RSC inspected a mine site in the Project area and only noted very minor excavations, and no evidence of mine infrastructure.

3.2 Exploration History

No exploration was carried out in the area between the 1950s and when AVOD acquired the licence (200712071) in 2013.

3.3 Production History

Historical production records are not available for the Project area.

4 Geological Setting & Mineralisation

4.1 Regional Geology

Turkey is made up of four major tectonic blocks: Pontides, Anatolide-Tauride, Kirşehir block and Arabain Platform (Okay and Tüysüz, 1999; Okay, 2008). The geology of Turkey is very complex. The four major tectonic blocks can be further subdivided into smaller tectonic terranes. The Project occurs in the Sakarya terrane which is part of the larger Pontide block (Figure 6).

These four tectonic units are separated by suture zones that formed during the closure of the Tethys oceans. A major Neotethyan suture zone in Turkey is the Izmir-Ankara-Erzincan Suture Zone (IAESZ) which separates Eurasian Pontide domains in the north from Gondwana-derived Anatolide-Tauride domains in the south (Figure 6).

The Project is situated in the IAESZ. The IAESZ trends roughly east-west and stretches through all of Turkey (Figure 6). Towards the west, the IAESZ becomes the Vardar suture and in the east, it transitions into the Sevan-Akera suture zone. Blocks and slivers of ophiolitic material occur along the IAESZ (Sarıfakıoğlu et al., 2017). In the central portion of the IAESZ is the Ankara mélange, a subduction-accretion complex (Bailey and McCallien, 1950; Figure 7). In addition to ophiolitic material, the Ankara mélange contains seamount and oceanic plateau rocks, and blocks of metamorphic rocks: epidote-glaucophane, epidote-chlorite and epidote-actinolite schists (Sarıfakıoğlu et al., 2014).

In the area of Boğazkale, the Ankara mélange trends ESE and is exposed over a width of about 6–10 km. Near the town of Boğazkale, the Ankara mélange contains blocks of ophiolitic and Permian–Triassic limestone rocks derived from the Sakarya terrane in the north (Figure 7, Sarıfakıoğlu et al., 2017). Blocks of ophiolitic rocks are made of serpentinised peridotite, lavas, and radiolarite. The ages of the radiolaria in the different blocks span from late Triassic to early Cretaceous (late Carnian–middle Norian, late Valanginian–early Barremian, and Valanginian–early Aptian). The Ankara mélange is thrust southward along a low-angle fault onto rocks that formed in an island-arc setting, composed of Campanian–Maastrichtian limestone, sandstone, volcaniclastic and volcanic rocks (Sarıfakıoğlu et al., 2017). The thickness of the island arc units varies, from pinched out in the west to exposed over a horizontal distance of about 6 km in the east. Both the Ankara mélange and the Cretaceous island-arc sequence tectonically rest on top of the Lower–Middle Eocene flysch deposit that is exposed in the south. In the north, the Ankara mélange is juxtaposed against the Karakaya Complex; although, this tectonic contact is mostly covered by younger Cenozoic sediments (Figure 7).

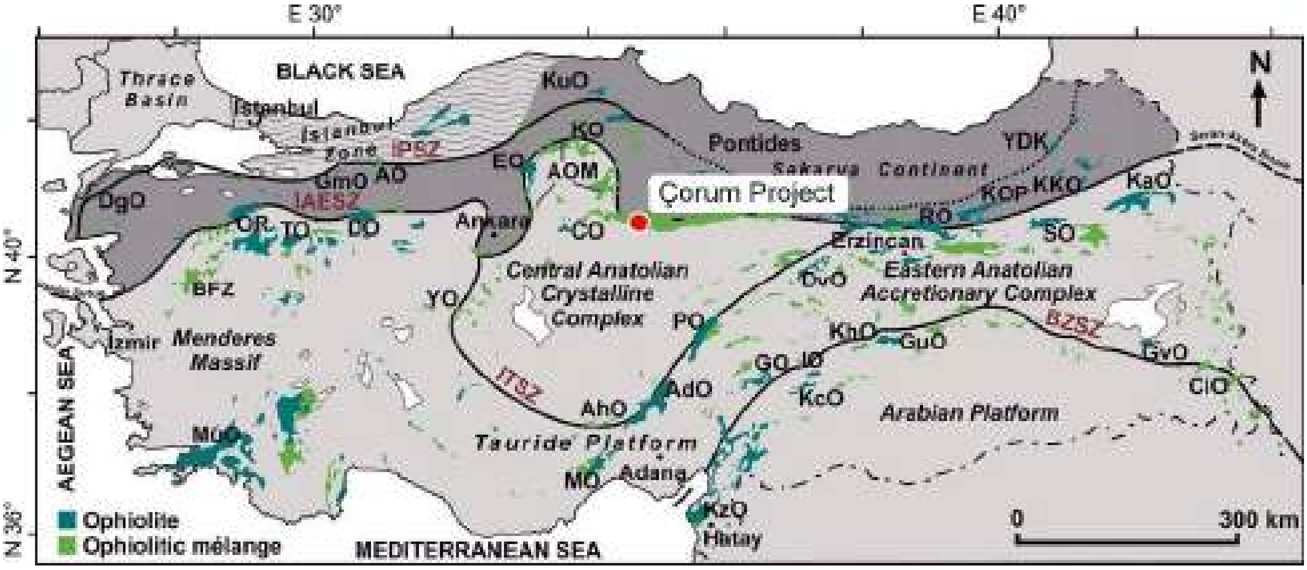

Figure 6: Simplified geological map of Turkey with major faults and ophiolitic complexes. Pontide tectonic belt comprises Sakarya continent and the Istanbul zone. IPSZ: Intra-Pontide suture zone; IAESZ: Izmir-Ankara-Erzincan suture zone; EO: Eldivan ophiolite; KO: Kargı ophiolite; CO: Çicekdağ ophiolite; AOM: Ankara mélange; ITSZ: Inner-Tauride suture zone; BZSZ: Bitlis-Zagros suture zone. Other abbreviations stand for different ophiolites. Figure modified after Sarıfakıoğlu et al. (2017).

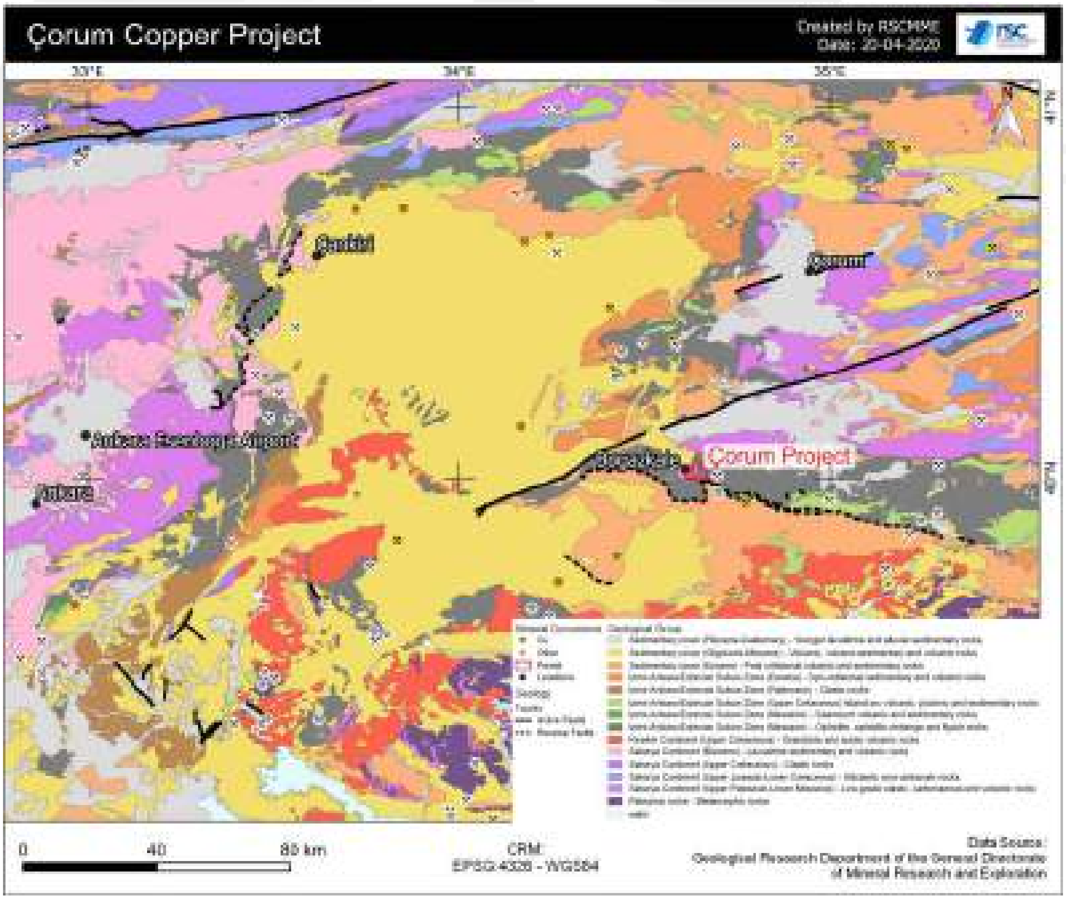

Figure 7: Geological map of central Turkey indicating the central part of the IAESZ and major geological units. Modified after Sarıfakıoğlu et al. (2017).

4.2 Local Geology

Lithologies encountered within the licence are of marine and ophiolitic origin, and the most abundant rock type in the area is basalt, followed by seafloor sediments (radiolarite, Figure 8). The occurrence of deep-sea carbonate sediments at some sites suggests sediment deposition above the carbonate compensation depth (<4,000 m) and likely related to the regional shortening and shallowing of the Tethys Sea (Bosellini and Winterer, 1975; Parlak and Robertson, 2004). Ultramafic lithologies are encountered only east of the Project where Lowicki and Teigler (2018) also note the presence of a very small lens of massive chromite.

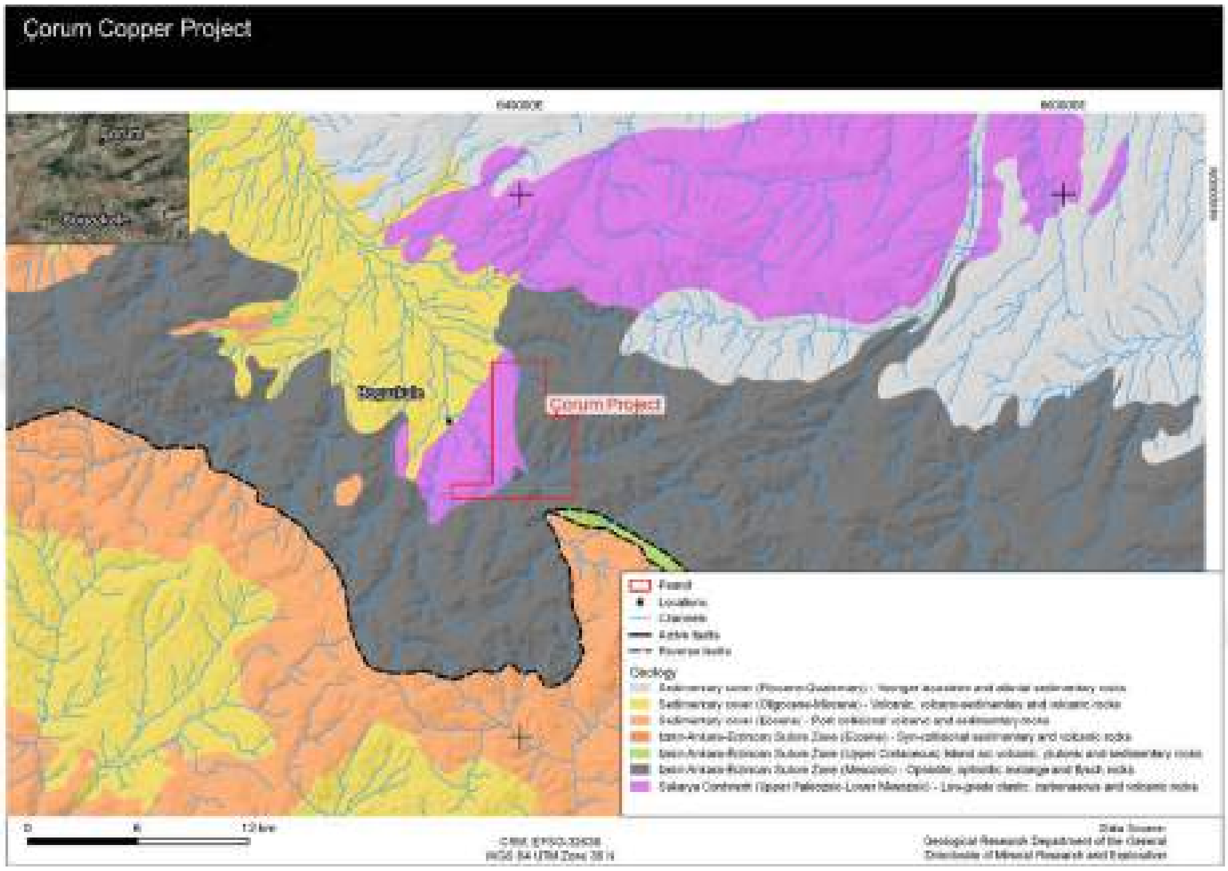

Figure 8: Geological map of the Project and surrounding area. Geology is mapped at 1:500,000.

4.3 Deposit Geology

The main lithologies within the deposit are basaltic lava flows and seafloor sediments (radiolarites, Figure 9). These lithologies are typical of those found near surface in semi-active spreading ridges, probably within water less than 4,000 m in depth, and likely related to the regional tectonic shortening and shallowing of the Tethys. The texture of the basalt varies from massive to brecciated and in places pillow basalts are present (Figure 10). The variable physical nature of the basalt is caused by lavas extruded onto/along the seafloor. The basalt flows form lateral bodies hosting complex arrays of massive competent basalt and brecciated basalt. Hyaloclastites formed by quench fragmentation of lava flow surfaces during submarine is common. Here the edges of lava flows are generally brecciated while the inner portions are more massive and cohesive as a result of slower cooling compared to the edges of the flow. The slower cooling inside the thicker sections of such flows also allowed for porphyritic textures to form, which are primarily defined by feldspar crystals. The bases of the lava flows tend to be brecciated and can include rip-up clasts of seafloor sediments and cherts. The tops of lava flows are typically glassy and brecciated, due to lava being in direct contact with water; this results in rapid cooling and related brecciation (hyaloclastite). The overall strike of lithological contacts in the Project area is N to NE (Figure 9 and Figure 11).

Many lithologies indicate signs of secondary hydrothermal alteration. For example, ultramafic rocks (dunite and harzburgite) have been serpentinised. Additionally, chloritisation and epidotisation, together with veins of calcite and quartz within the ophiolitic rocks, indicate an overprint by a hydrothermal system which was possibly active during deposition of the basalt on the seafloor (Lowicki and Teigler, 2018).

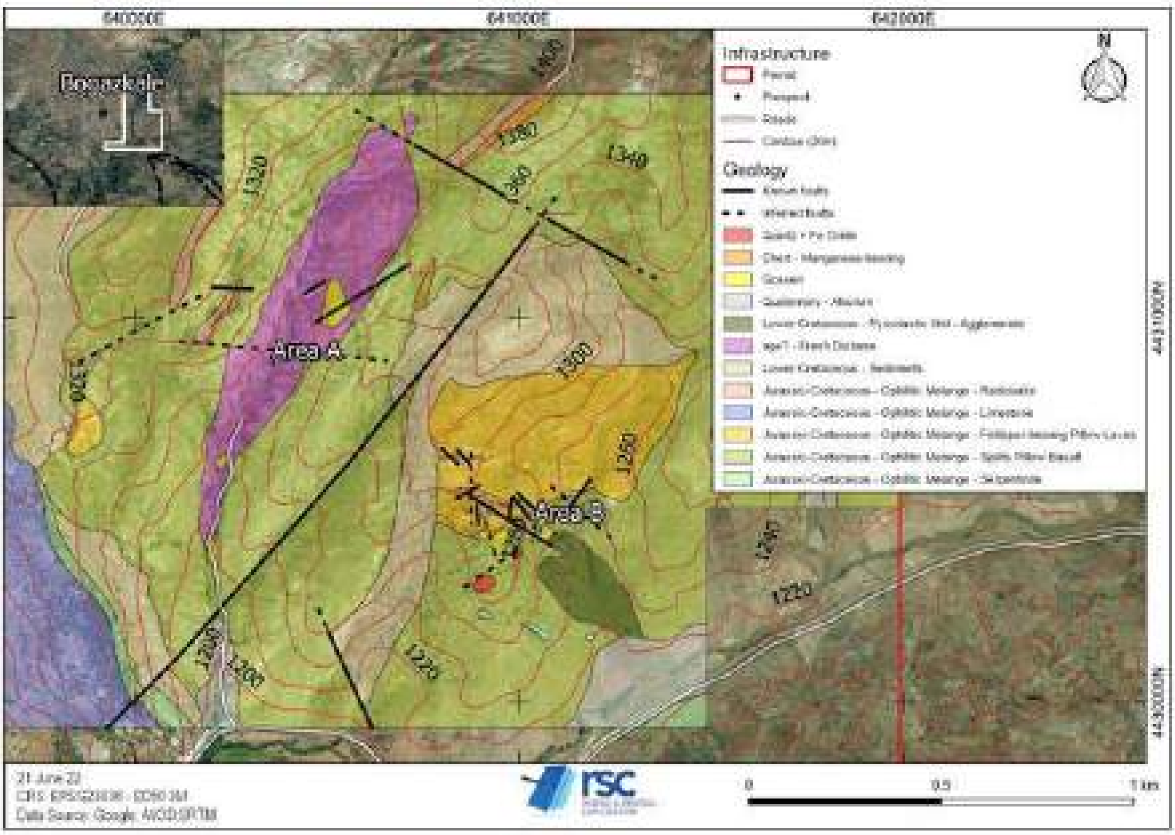

Figure 9: Geological map of the project. Geology source: AVOD.

Figure 10: Basalt lava flow with pillow textures (Area A), (30-cm hammer for scale).

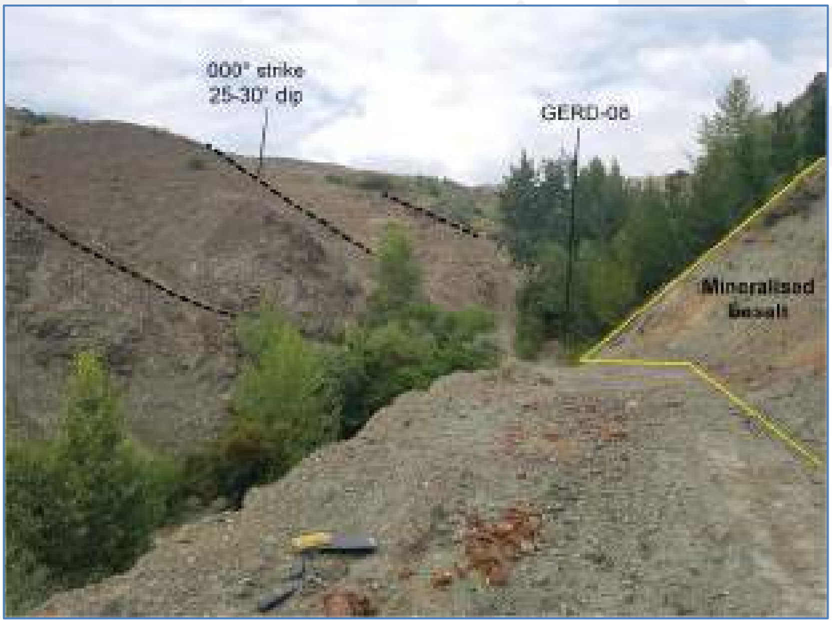

Figure 11: Area A. Looking north toward GERD-08. Photo indicating orientation of individual lava flows and outcropping mineralisation. Note: GERD-08 refers to the location of a drillhole collar.

4.4 Controls on Mineralisation

The basaltic flows that host the Cu mineralisation in the Project vary from brecciated to massive to porphyritic. The variation is caused by the variable cooling of basaltic flows (hyaloclastites) as they spread across the seafloor. The basaltic lava flows can also entrain seafloor sediments and other basaltic clasts as the flow is extruded across the seafloor. Pillow lava textures are also present in places. This variety of lava textures and rock rheology of the basalt provides an abundance of accommodation space for mineralised hydrothermal fluids to pass through the newly deposited lava and back to the seafloor.

In outcrop, the most apparent evidence of base metal enrichment is strongly oxidised zones with Fe-hydroxides/oxides and Cu-oxides (Figure 12 to Figure 15). Disseminated pyrite is the most evident form of mineralisation in less weathered outcrops. There are areas with gossanous material that occur in lenses along zones of strong alteration. The textures suggest that the gossan formed from oxidation of sulphide minerals, assumed to be pyrite (Lowicki and Teigler, 2018). Lowicki and Teigler (2018) also noted one of the malachite-stained outcrops was explored by a German based company in the 1950s (test work and results are unknown). RSC also visited the site and observed the strongly oxidised zones with Fe hydroxides/oxides and Cu oxides and noted that no excavations could be seen.

The broadly horizontal distribution of Cu mineralisation at the Project suggests that Cu mineralisation was precipitated from hydrothermal fluids after the deposition of the basaltic flows. Copper enrichment occurs in two forms: primary and secondary.

Primary Cu mineralisation at Çorum is associated with basalt in the form of disseminated, semi-massive and thin zones of massive sulphides, and was likely deposited not long after the basaltic flow was emplaced (i.e. basaltic lava flows were emplaced near active seafloor hydrothermal vents, Figure 13).

The secondary malachite and azurite mineralisation at Çorum has formed by weathering of the primary mineralised rock. During this weathering process, the sulphides are broken down and much of the contained Cu is transported to the water table where it forms oxide minerals like malachite and azurite (Figure 13 and Figure 14). Which particular Cu mineral(s) are precipitated depends on the pH of the groundwater and the redox potential (Barrie et al., 2016) If the Cu is transported into areas of low oxygen, the Cu may reprecipitate as sulphides, in addition to any primary Cu-sulphides potentially already present in this zone. This means that the secondary sulphide mineralisation may cause the rock to be more enriched in Cu than in the primary unweathered sulphide zones.

RSC notes that the Project is also affected by significant post-mineralisation faulting (Figure 9 and Figure 15).

The controls on mineralisation, as discussed above, have been incorporated into the estimation strategy discussed in section 7. In RSC's opinion, the understanding of the local geology and the controls on mineralisation are sufficient to support the classification of Mineral Resources.

Figure 12: Iron hydroxides/oxides and Cu oxides within basaltic flows, Area A.

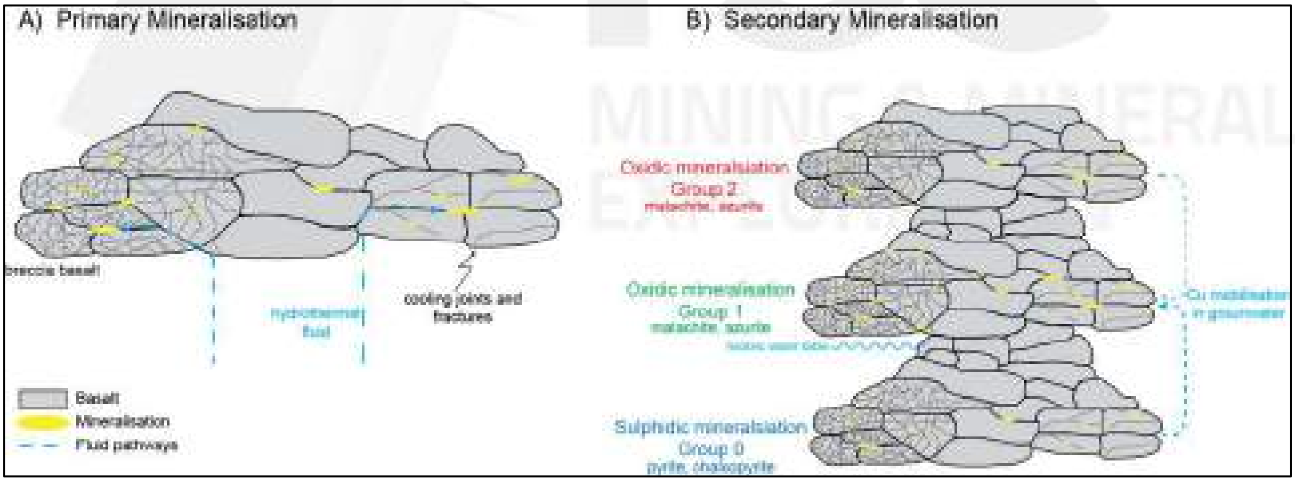

Figure 13: Schematic model of the mineralisation process at Çorum. A) Primary mineralisation occurred post lava deposition on the sea floor. Hydrothermal fluids migrate through conduits in the basalt (breccia or cooling cracks and joints) and precipitate Cu-rich sulphides. B) Secondary mineralisation occurred via 'recent' weathering. Cu-rich fluids transport Cu throughout the rock column. Above the water table, Cu precipitated in an oxidised environment as oxide or carbonate minerals; below the water table Cu precipitated in a reducing environment as sulphide minerals.

Figure 14: Area B, GERD-54 20.7 m to 27.8 m with abundant oxide Cu mineralisation.

Figure 15: Area B. Looking north. Photo indicates mineralised basalt with azurite veining and post mineralisation faulting.

4.5 Mineral Deposit Model & Comparable Deposits

The Project is considered to be a volcanogenic massive sulphide (VMS) deposit. VMS deposits form when seawater is heated by submarine volcanism and flows through the volcanic rocks using a network of conduits, including cooling cracks and joints, and interconnected pore spaces in permeable rocks such as in volcanic breccias. The hydrothermal fluids mobilise metals including Cu, Zn, Pb, Au and Ag. Changes in temperature can cause the metal-laden hydrothermal fluids to precipitate the dissolved metals as sulphide minerals forming deposits. The shape of VMS deposits varies and could be pod or sheet-like.

Because VMS deposits exhibit a broad range of geological and geochemical characteristics, many classification systems have been reported. One such classification system was created by Cox and Singer (1986), where VMS deposits were subdivided into three groups:

1) Cyprus-type associated with marine mafic volcanic rocks;
2) Besshi-type associated with clastic terrigenous sediment and marine mafic volcanic rocks; and
3) Kuroko-type associated with marine felsic to intermediate volcanic rocks.

Besshi-type VMS deposits form in basaltic sheets that are typically interbedded with, or have, intruded turbiditic-to-hemipelagic sediments (Cox, 1986; Taylor et al., 1995). These form Cu rich deposits and can also contain small abundances of lead (Pb). Deposits of the Kuroko-type tend to be larger and are generally of higher Cu-grade than Cyprus-type deposits. Kuroko-type VMS deposits form in intermediate to felsic rocks in extensional environments associated with arc volcanism and, in addition to Cu and zinc (Zn), are often also enriched in Pb and Ag (Singer, 1986; Taylor, 1995).

The Cu mineralisation at Çorum bears many similarities to Cyprus-style VMS deposits, also classified as back-arc mafic (Galley et al., 2007) or mafic-ultramafic (Shanks and Koski, 2012). This style of VMS deposits form in intra-oceanic back-arc or fore-arc basin and oceanic ridge settings (Koski and Mosier, 2012). At Çorum, the geology is dominated by ophiolitic rocks such as serpentinites, basalts (with pillow lavas and spilitic structures) and deep-sea sediments such as radiolarite.

Cyprus-style deposits have potential for enrichment in Zn, in addition to Cu. The Çorum rocks indicate minor enrichment in Zn relative to N-MORB (normal mid-ocean ridge basalt; Arevalo and McDonough, 2010). RSC notes that less than 1% of the 2018 and 2021 samples returned Zn grades greater than 1% and the average grade is 0.05% Zn across all samples; hence, the Zn 'enrichment' at Çorum is negligible.

Mineralisation at Çorum is associated with lava flows, which may suggest that it formed below the seafloor, either in the lower part of a vent (i.e. in the alteration halo) or along conduits some distance away from any main vent.

5 Exploration by AVOD

AVOD initiated its first geological exploration in 2013, which included geophysical surveys that were followed by mapping and two diamond drilling programmes.

AVOD commissioned Aktif Yerbilimleri A.S. (AY) to carry out a magnetics survey over what is now Area A. Subsequently, AVOD contracted the governmental institution, General Directorate of Mineral Research and Exploration (MTA), to undertake a ground geophysics survey using induced polarisation (IP), which produced maps and sections of chargeability and resistivity.

The results from the IP survey identified a continuous zone of high resistivity and high chargeability anomalies which extended northeast 600–700 m, with an average east-west width of 100 m. MTA (2013) estimated the IP anomaly could extend to a depth of 150 m. RSC notes drill testing in 2018 revealed that the depth of mineralisation is limited to 25 m.

In 2016, AVOD commissioned DMT to undertake mapping and grab sample programme around Area A. During these programme, Cu mineralisation was discovered at Area B, approximately 700 m east of Area A.

In 2017, AVOD drilled five diamond drillholes for a total of 599 m to test the northern extension of the historical mining area, east of Area A. Hole depths ranged between 50 and 250 m. This initial programme was completed using a Delta 2500 drill rig supplied by Asyatek Drilling. Drillholes were drilled using triple tube PQ with HQ tails. Selected full core samples were taken. Samples were analysed by Argetest in Ankara, whose laboratory is certified to ISO Quality Management System (ALS: ISO 9001:2015).

In 2018, AVOD drilled 20 diamond drillholes for a total of 1,380.5 m. In total, 11 of these were drilled at Area A and nine at Area B. Holes ranged in depth from 57.7 m to 105 m and the average depth of the drillholes was 69 m. The drillhole collars do not follow a grid pattern, and their locations were placed to gain maximum information about the geology of the two areas. All drillholes were drilled using triple tube PQ; however, seven drillholes were completed using HQ, when drilling became difficult. Of the 1,380.5 m drilled in total, only 185.3 m were drilled using HQ.

RSC notes that several discrepancies were identified between the collar locations provided by AVOD, and survey points collected by RSC in 2019 using handheld GPS. Offsets ranging from a minimum of 8.9–37.6 m were observed for the 2018 drillholes.

During December 2019, a digital terrain model (DTM) was collected by Ünal Harita Engineering (http://www.unalharita.com/). The DTM covered both Areas A and B and resulted in significant improvements to topographical surface control for the Project. Spatial resolution of the DTM was 3.45 cm per pixel. The coordinate system used was Turef TM36 (EPSG:5256). The data was collected using a DJI Phantom 4 and Topcon GR-5 Advances GNSS receiver, flying at a height of approximately 100 m.

High-definition photography was also collected and captured the recent exploration activity (drill pads and tracks). This improved surface control resulted in a re-evaluation of the 2017 and 2018 drill collars. RSC repositioned the drillholes in the drillhole database, based on the location of drill pads visible in the high-resolution photogrammetry.

In 2021, AVOD drilled 42 diamond drillholes for a total of 1,855 m. 27 were drilled at Area A and 15 at Area B. Holes ranged in depth from 20 m to 70 m, with an average depth of 44 m. The drillhole collars do not follow a strict grid patten, and their locations were designed to infill the 2018 drilling to roughly 40 m x 40 m spacing between drillholes. All drillholes were drilled using triple tube PQ.

Upon the completion of the 2021 drill programme, AVOD contracted a professional surveyor to record the location of drillhole collars by means of a Differential Global Positioning System (DGPS) to an accuracy of less than 10 cm.

6 Previous Studies

6.1 2018 - Dünya Grup

AVOD commissioned Dünya Grup Gayrimenkul Değerleme (Dünya) to undertake a 'reserve determination' and valuation report (Duzgun, 2018). The date of the report is 20 November 2018. The report and classification of the resources and reserves was not reported in any internationally accepted reporting code, such as the JORC Code (2012) or NI 43-101.

A 'reserve determination' was undertaken by Duzgun (2018) on information collected from 20 diamond drillholes, which included 13 drilled with a PQ rod diameter and seven drilled with HQ rod diameter. A total of 615 samples were used. Duzgun (2018) split the data into two areas: West Zone (Area A) and East Zone (Area B).

Geological domaining was undertaken using Netpromine software. The mineralised domains were based on assays from drillhole samples. The domains' lateral extent was controlled by IP geophysics, which resulted in the domain being extended 15–30 m beyond the drillholes in the West Zone. In the West Zone, the deposit was split into three domains: West Zone 1–3 (Table 5). The Eastern Zone was also split into three domains: East Zone — Oxidic; East Zone — Sulphide Top and East Zone — Sulphide Sub (Table 5). Modelling was undertaken on 8 m x 8 m x 8 m blocks, with sub-blocking down to 1 m x 1 m x 1 m. Estimation of Cu grades was undertaken using a nearest neighbour method.

Based on the estimation, Duzgun (2018) estimated a reserve of 2.7Mt at 2.0 Cu % at a 1% Cu cut-off (Table 5). Duzgun (2018) also attempted to estimate the wider potential of the both the West and East Zones. This was classified into two categories: 'visible' and 'possible' (Table 6).

Table 5: Reserves determined by Duzgun (2018), at a 1% Cu cut-off.

Solid model name	Average Cu Grade (%)	Tonnage (Tonnes)
West Zone 1	1.42	4,761
West Zone 2	1.76	1,098,118
West Zone 3	1.47	308,191
East Zone — Oxidic	2.76	887,280
East Zone — Sulphide Top	1.60	358,189
East Zone — Sulphide Sub 1	0	0
East Zone — Sulphide Sub 2	1.45	48,383
Total	**2.0**	**2,704,922**

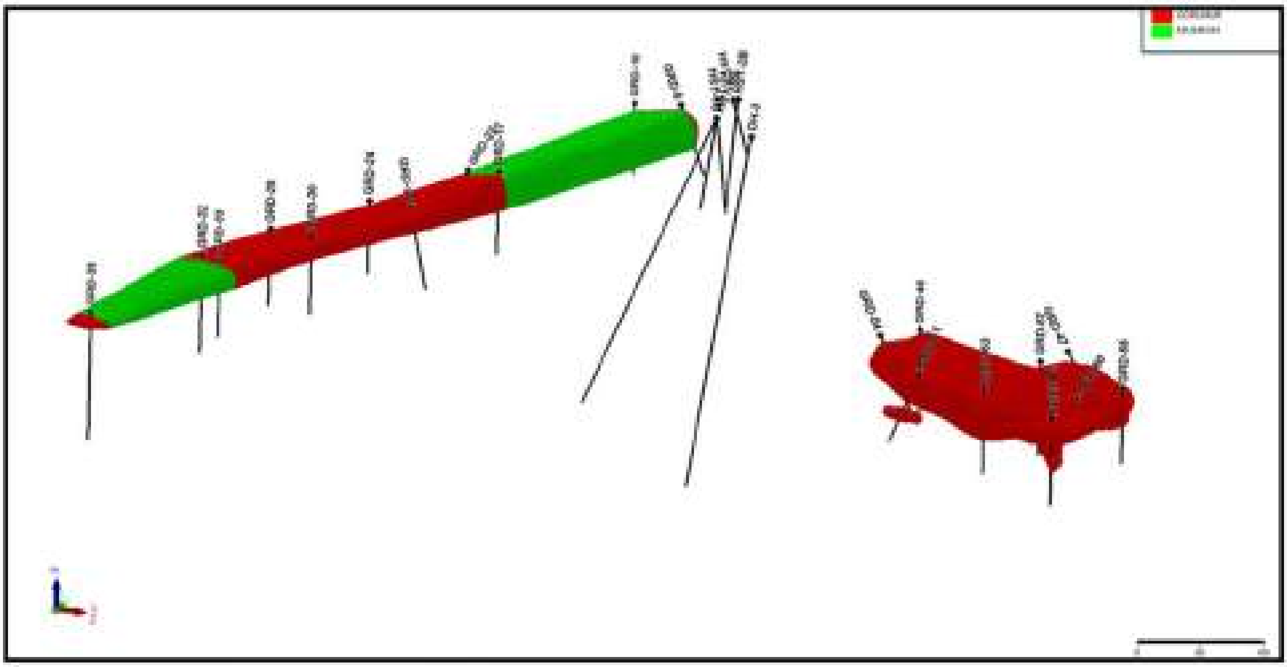

Figure 16: Block model and classification (Red: Visible; Green: Possible; Duzgun (2018)).

Table 6: Summary of visible and possible tonnes and grades.

	Amount (Ton)	Cu (%)	Al (%)	Fe (%)	Zn (ppm)	Au (ppm)	Ag (ppm)
Visible Resource Amount	2,880,595	1.94	5.73	16.70	474	0.02	1.17
Possible Resource Amount	1,403,344	1.96	5.50	16.95	311	0.02	0.69
Total Resource Amount	**4,283,940**	**1.78**	**5.65**	**16.78**	**421**	**0.02**	**1.01**

The valuation undertaken by Duzgun (2018) was based on the reserve determination. The ore sale price used was USD 6,181 per tonne at 99% purity. A concentrate grade of 18% Cu was assumed for the Project, which gives a Cu concentrate sale price of USD 1,112.58 per ton. Duzgun (2018) estimated the operational cost per ton below in Table 7.

Duzgun (2018) determined the fair-market value of the Project as TRY 565,515,000 excluding taxes. At the time of reporting, the exchange rate between TRY and USD was 5.35, giving a Project value in USD 105,703,738.

Table 7: Operational cost per ton from Duzgun (2018).

Type of Expense	Cost Per Ton (TRY)	Total Cost (TRY)
Pickling Cost	21.91	3,879,400
Tüvenan Ore Production Cost	59.16	10,474,080
Blasting Cost	34.81	6,162,800
Process Cost	877.40	155,328,463
Labour and Personnel Expenses	45.67	8,086,574
State Right	118	20,891,520
Shipping cost	169.66	30,035,137
Port Expenses	62.20	11,011,427
Corporate Tax (22%)	1003.96	177,733,314
Withholding, Severance Pays, Stamp Duty and Other Legal Liabilities and Unforeseen Expenses (8%)	365.08	64,630,296
Total (TRY)	2757.85	488,233,011
Total (USD at 5.35)	**515.49**	**91,258,507**

6.2 2018 - DMT

AVOD commissioned DMT GmbH & Co. KG (DMT) to carry out separate resource estimates using the drilling carried out by AVOD (Lowicki and Teigler, 2018). The report and classification of the resources (Lowicki and Teigler, 2018) was undertaken in accordance with the JORC Code (2012). The resource report also included a report by Wagner (2018) on the preliminary economic assessment (PEA) of the Çorum Copper Project. The PEA (Wagner, 2018) was not reported in accordance with any internationally accepted reporting code, such as the JORC Code (2012) or NI 43-101.

DMT also provided guidance for the 2018 drilling programme and SOPs for the sampling practices and analyses of the samples.

Lowicki and Teigler (2018) undertook a resource estimation based on geological logging and assays from 20 drillholes. In total, 615 assays and 209 density analyses were available for the estimation. DMT divided the resource into three bodies (Body A, Body B1 and Body B2). Body A covers all drilling at Area A, and Bodies B1 and B2 divide the mineralisation at Area B into oxidised and non-oxidised material (Table 8). Wireframing was undertaken using a 1% Cu cut-off grade, and wireframes were linked between drillholes to create 3-D bodies. Due to limited geological knowledge, the wireframes were not extrapolated past the drillholes.

No block modelling was undertaken, and the resource is based on averaged Cu grades and density.

DMT produced a resource estimate in November 2018 which states a mineral resource of 2.7 Mt at an average grade of 2.0% Cu (Table 8). DMT categorised the entire resource as Inferred.

DMT also recommended further work was needed to improve the classification of the resource estimate. Recommendations included:

- further geological mapping of the prospect;
- extension of IP surveys;
- infill and extensional drilling;
- improved understanding of the structural controls of the deposits;
- producing a block model;
- investigating the extent of historical mining activities;
- obtaining a digital terrain model (DTM);
- investigating the mineral composition of the Cu mineralisation; and
- undertaking processing tests for sulphide and oxide mineralisation.

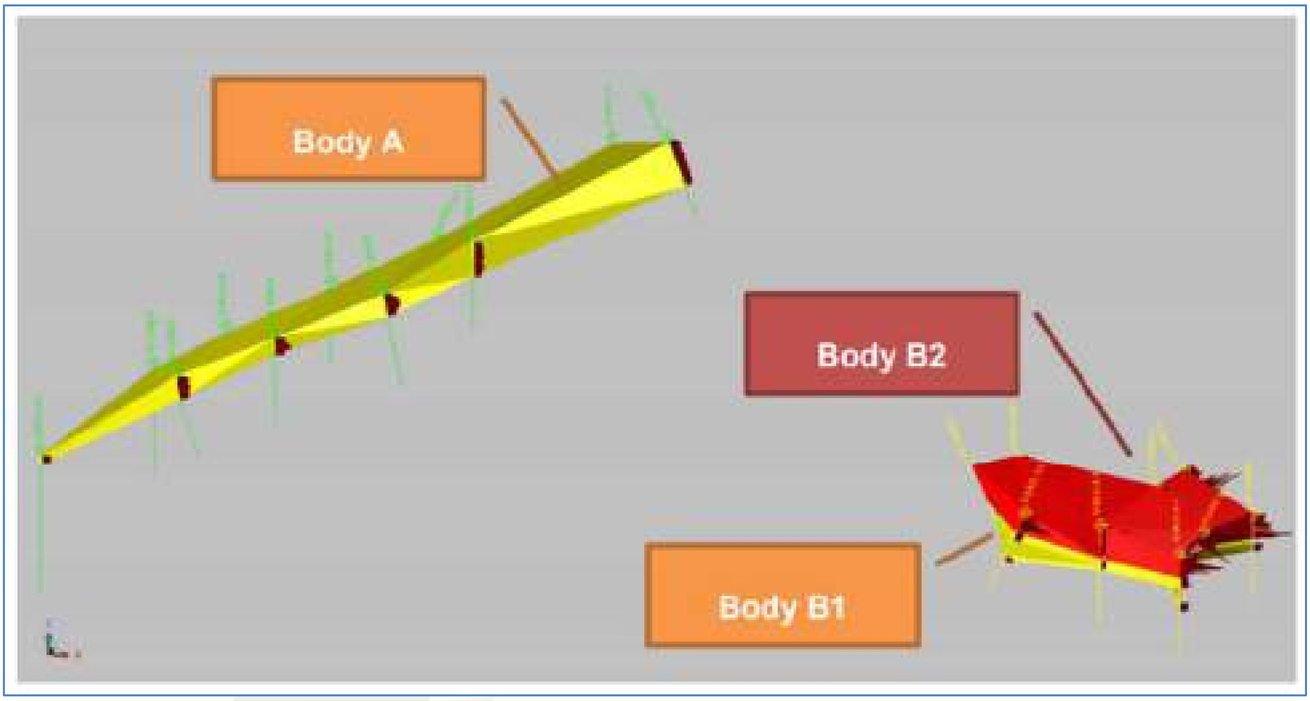

Figure 17: Wireframes modelled by DMT, from Lowicki and Teigler (2018).

Table 8: Mineral resource estimate at a 1% Cu cut-off (JORC, 2012), from Lowicki and Teigler (2018).

Category	Area	Body ID and Type of Mineralisation	Cu Grade (%)	Tonnage (Mt)
Inferred	Area A	Body A (sulphidic body in Area A)	1.7	1.6
Inferred	Area B	Body B1 (sulphidic body in Area B)	1.4	0.3
Inferred	Area B	Body B2 (oxidised body in Area B)	2.9	0.8
Total Inferred	**Area A+B**	**All 3 bodies A (sulphidic), B1 (sulphidic) and B2 (oxidised)**	**2.0**	**2.7**

6.3 2018 - Dirk H. Wagner Mining Consulting

A PEA was prepared by Dirk H. Wagner Mining Consulting, which is based on the findings in the mineral resource report by Lowicki and Teigler (2018). The economic assessment proposes open pit mining of both 'Orebody A' and 'Orebody B'.

Wagner (2018) calculated a waste volume of 2.15 Mm^3 with an assumed density of 2.5 t/m^3, giving a total waste tonnage of 5.38 Mt. Most of the waste is from slope areas that are based on an overall slope angle of 40 degrees.

Wagner (2018) assumed the following mining factors to derive a realistic production scenario:

- overall resource recovery: 90%;
- production losses: 5%;
- dilution orebody A: 10%, and
- dilution orebody B: 5%.

Applying the above factors results in a 'mineable' resource of around 2.5 Mt @ 1.87% Cu (Table 9). The overall stripping ratio (waste: ore) is 2.2.

Wagner (2018) estimated the mine to operate for 10 years with an annual production rate of 250,000 t of ore. Mining activities would be outsourced to contractors. Wagner (2018) notes that options for a processing plant were under consideration, but further tests would be needed to determine which processing approach was required. RCS notes that Wagner (2018) does not provide a site plan or discuss where the processing plant, waste rock heaps and tailings should be placed.

Mining costs assumed by Wagner (2018) were based on other hard rock projects in Turkey and information received from AVOD. Wagner (2018) assumed that mining would cost 1.65 USD per m³ of rock. This equates to 3.63 TRY/t cost for waste mining (2.5 t/m³ density), 2.48 TRY/t for sulphide ore mining (3.66 t/m³ density) and 3.49 TRY/t for oxide ore mining (2.6 t/m³ density). The processing costs assumed by Wagner (2018) are based on other hard rock projects in Turkey and Wagner (2018) adjusted to reflect the size of the operation. A total cost of 15 USD/t or 82.5 TRY/t was applied.

Table 9: Mineable resource, from Wagner (2018).

		Ore Tonnes	Cu %
Resource	A	1,600,000	1.7
	B1	3,000,000	1.4
	B2	800,000	2.9
Total		2,700,000	2
'Mineable resource'	A	1,505,000	1.55
	B1	269,000	1.33
	B2	718,000	2.76
Sulphide Ore		1,774,000	1.51
Oxide Ore		718,000	2.76
Total		2,492,000	1.87

Notes:

- The resource recovery rate was calculated to be 90% with production loses of 5%.
- Dilution within Area A was assumed to be 10% and 5% within Area B.

Further capital expenditure was estimated at 30 M USD and this cost was dominated by the cost of the processing plant (20 M USD). Wagner (2018) estimated the Project cash flow, before taxes, was 96 M USD with an internal rate of return of 39% and payback of 4.1 years.

6.4 2020 - Bordokum Mining and Addison Mining Services

AVOD commissioned Bordokum Mining and Addison Mining Services to complete an MRE for the Çorum copper Project in 2020 (Hogg et al., 2020). The estimation was based on the results of the 2018 drilling campaign (20 diamond drillholes) and was completed using wireframing of discrete domains within a block model and ordinary kriging. The MRE and technical report were prepared in accordance with the UMREK Code (2018). Domains were extrapolated with a consistent thickness up to 50 m from the bounds of existing drilling. The total estimated resource contained approximately 8.6 Mt @ 1.8% Cu (Table 10). The MRE is reported at a cut-off grade of 1% for oxide, 1.2% for mixed and 0.8 % for fresh. The cut-off grades were based on assumed and estimated operating costs and metallurgical recoveries.

Table 10: Bordokum Mining and Addison Mining Services 2020 Çorum Cu Project Inferred mineral resource by estimation domain.

Area	Oxidation	Tonnes (Mt)	Average Cu Grade (%)	Cu Metal Content (kt)
A	Sulphide	4.6	1.5	69
B	Oxide	1.6	3.3	55
B	Mixed	0.6	1.8	12
B	Sulphide	1.7	1.1	19
Total		8.6	1.65	150

6.5 2020 - RSC

AVOD commissioned RSC to carry out an MRE for the Çorum Copper Project and prepare a technical report in compliance with the JORC Code (2012) (Aldrich & Sterk, 2020). The estimation was based on the results of the 2018 drilling campaign (20 diamond drillholes). The MRE was completed using ordinary kriging within a sub-blocked model. Estimation was constrained to samples within estimation domain wireframes. Wireframes were closed off at ~25 m from the drillholes (i.e. half the drillhole spacing). RSC estimated an Inferred mineral resource at Çorum of 4.4 Mt @ 1.9% Cu at a 1% Cu cut-off (Table 11).

Table 11: RSC 2020 Çorum Cu Project Inferred Mineral Resource by Area.

Area	Tonnes Mt	Average Cu Grade %	Cu Metal Content kt
Area A	2.2	1.7	36
Area B	2.3	2.1	48
TOTAL	**4.4**	**1.9**	**85**

6.6 RSC Comments on Previous Studies

There is reasonable consistency between the various legacy studies carried out on the Project. Duzgun (2018) estimated 4.3 Mt @ 1.8 Cu %; Lowiki and Teigler (2018) estimated 2.7 Mt @ 2.0 Cu %, Hogg et al. (2020) estimated 8.6 Mt @ 1.8% Cu, and Aldrich & Sterk (2020) estimated 4.4 Mt @ 1.9% Cu (Table 12). Wagner (2018) also reported a potential minable resource of 2.5 Mt @ 1.9 Cu % (Table 12) and Duzgan reported a potential minable resource of 2.7 Mt @ 2.0 Cu % (Table 12).

Lowiki and Teigler (2018) restricted the domaining to the drillhole traces, significantly restricting the volume of the deposit to 2.7 Mt. In comparison, Hogg et al. (2020) extrapolated wireframes up to 50 m from drillholes, leading to an overestimation of tonnes compared to other MREs based on the 2018 drilling data (Duzgun, 2018; Lowiki and Teigler, 2018; and Aldrich & Sterk, 2020). RSC considers the Hogg et al. (2020) estimate to be overstated, as the 2021 step-out drilling of approximately 50 m partially closed-off mineralisation in Area A and completely closed-off mineralisation in Area B. The total resource ('visible' and 'possible') estimated by Duzgun (2018) and MRE by Aldrich & Sterk (2020) resulted in comparable tonnages (4.3 Mt and 4.4 Mt, respectively) having undertaken a similar approach to extrapolation of grades within the models.

RSC notes that the previous studies by Duzgun (2018), Lowiki and Teigler (2018), and Hogg et al. (2020) used the uncorrected drillhole collar data (section 5).

Table 12: Summary of previous technical studies at 1% Cu cut-off.

Study	Date	Mineral Resource	Mining Study
Duzgun	2018	4.3 Mt @ 1.8% Cu	2.7 Mt @ 2.0% Cu
Lowiki and Teigle; Wagner	2018	2.7 Mt @ 2.0% Cu	2.5 Mt @ 1.9% Cu
Hogg et al.	2020	8.6 Mt @ 1.8% Cu	
Aldrich & Sterk	2020	4.4 Mt @ 1.9% Cu	

7 Mineral Resources

AVOD commissioned RSC to update the MRE for the Çorum Copper Project and prepare a technical report in compliance with the UMREK Code (2018) (Chapman, 2022). The MRE reported in Chapman (2022) is used in the Scoping Study reported here. The following is summary of the MRE.

Estimation domains were modelled based on an assessment of the multi-element geochemical dataset and supported by downhole geological logging. The MRE was completed using ordinary kriging (OK). A block size of 25 m × 25 m × 5 m was used, with a minimum sub-block size of 5 m × 5 m × 1 m.

The Competent Person has classified an Indicated Mineral Resource of 2.5 Mt at 1.43% Cu and an Inferred Mineral Resource of 5 Mt at 1.6% Cu, reported at a cut-off grade of 0.3% for oxide material and 0.35 % for fresh (Table 13).

The Competent Person has classified the Mineral Resource in the Inferred and Indicated categories in accordance with the UMREK Code (2018). For the Inferred portion of the Resource (5 Mt at an average grade of 1.6% Cu), geological evidence is sufficient to imply but not verify geological and grade continuity. The Inferred portion of the Resource is based on exploration, sampling and testing information gathered through appropriate techniques from drillholes. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. Confidence in the Inferred Mineral Resources is insufficient to allow the results of applying technical and economic parameters to be used for detailed planning in Pre-Feasibility or Feasibility Studies.

For the Indicated portion of the Resource (2.5 Mt at an average grade of 1.43% Cu), grade and densities are estimated with sufficient confidence, to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from drillholes, and is sufficient to assume geological and grade continuity between points of observation where data and samples are gathered.

The Indicated portion of the MRE has been confined to the areas drilled in Area A during the 2021 drilling campaign. The remainder of the domain has been classified as Inferred, as evidence is sufficient to imply but not verify geological and grade continuity. There is no material classified as Measured.

Copper mineralisation remains open in Area A and there is excellent exploration potential to increase the Mineral Resource further.

Table 13: Çorum Cu Project Mineral Resource Classification.

Area	Resource Category	Oxidation	Mass (Mt)	Av Cu %	Contained Cu Metal kt
Area A	Indicated	Oxide	—	—	—
		Sulphide	2.5	1.43	35
	Inferred	Oxide	—	—	—
		Sulphide	3	1.4	40
Area B	Indicated	Oxide	—	—	—
		Sulphide	—	—	—
	Inferred	Oxide	1	2.9	30
		Sulphide	1	1.1	10
Total	Indicated	Oxide	—	—	—
		Sulphide	2.5	1.43	35
	Inferred	Oxide	1	2.8	30
		Sulphide	4	1.4	50
Total	Indicated		2.5	1.43	35
	Inferred		5	1.6	80
		TOTAL	7.5	1.6	115

Notes:

- The MRE is reported at a cut-off grade of 0.3% Cu for oxide and 0.35% Cu for fresh.
- The Mineral Resource is contained within licence 200712071.
- The effective date of the estimate is 1 July 2022.
- Estimates are rounded to reflect the level of confidence, in accordance with the UMREK code. All Indicated Resources have been rounded to the nearest half million tonnes and all Inferred Resources have been rounded to the nearest million tonnes.
- The Mineral Resource is reported as a global resource.

Chapman (2022) further notes that:

> As an additional check on quality of the analytical data, RSC requested reanalysis for a selection of pulps by an independent (umpire) laboratory (ALS). Thirty samples from the 2018 programme and 30 samples from the 2021 programme were selected for reanalysis, each consisting of 15 samples from Area A, and 15 from Area B.
>
> The results of the umpire analysis suggest that the original 2018 and 2021 Cu results are conservative compared to the umpire results…and suggest that the 2018 Co concentrations are significantly higher than both the 2021 original and 2021 umpire results... Comparison of means… and review of Q-Q plots… suggest that Cu results obtained in 2018 are biased low by ~4% in Area A and ~17% in Area B compared to the umpire results. Moreover, the comparison suggests that Cu results obtained in 2021 are biased low by ~4% in Area A and ~17% in Area B compared to the umpire results. The comparison suggests that Cu results obtained in 2021 are reasonably comparable to the umpire results (~2% in Area A and ~4% in Area B).
>
> The Competent Person is concerned about the accuracy of Cu concentrations at Area B (which is primarily modelled on the 2018 data) and the 2018 drilling at Area A, and this has been taken into account in the classification

of the Mineral Resource. Overall, considering that biases are all low biases, the overall tonnage and grade in the estimation are therefore probably slightly conservative, and reflects a minor potential upside.

RSC notes that the 2022 MRE is the first to be constrained by open pit optimisation shells, for RPEEE classification purposes.

Bulk densities for the MRE are lower than previous estimates, at 2.4 t/m^3 for oxide and mixed material, and 2.8 t/m^3 for sulphide material. The change is due to the identification of significant differences in values between Archimedes method and core tray method density measurements. The core tray method was not adopted until the 2021 drilling programme. RSC has identified the differences as being due to possible core losses and inconsistencies when measuring highly broken runs of core. All Archimedes measurements were excluded from the model and the averages of the core tray method were assigned in the block model.

RSC notes that the estimated grades in the block model range from 1.1%–4.7% Cu in oxide, 1.1%–2.2% Cu in mixed, and 0.77%–2.2% Cu in fresh material. The lowest estimated grade in Area A is 0.79% Cu and in Area B is 0.77% Cu. These values are all well above the calculated cut-off grades.

8 Scoping Study

The Scoping Study referred to in this report is based on low-level technical and economic assessments and is insufficient to support estimation of Mineral Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

The Mineral Resources that are the subject of this Scoping Study have been evaluated at a preliminary technical and economic level and do not comprise Mineral Reserves. The level of evaluation, and confidence in the evaluation, is insufficient to convert the Minerals Resources to Mineral Reserves. Any references to the tonnes, grade, production targets or financial outcomes are based on what are believed to be reasonable grounds. However, they are not to be taken as implying that the assumptions, outcomes, estimates and parameters used in the evaluation will not change materially with further study, or that a positive economic outcome has been achieved. In addition to this, this Scoping Study must not be taken as implying certainty that the Mineral Resources will eventually be converted to Mineral Reserves.

The Scoping Study is partly supported by Inferred Mineral Resources. There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that these will convert to Indicated or Measured Mineral Resources.

In this section, the term 'potentially extractable tonnes' is used to differentiate the material reported in the Scoping Study from Mineral Reserves.

RSC has selected conventional Open Pit mining as the mining method evaluated by the Scoping Study, and has based the Scoping Study on outcomes from open-pit optimisation runs at various input scenarios in Geovia® Whittle software assuming conventional open-pit mining methods. Determination of reasonable input parameters for the optimisations has been guided by a combination of authors' industry experience, the MRE, information in the previous studies, and a number of publicly available reports regarding similar mines and prospects in Turkey and elsewhere, when deemed appropriate. The projects these reports refer to are labelled as 'comparable projects'. Information from the reports relevant to the Scoping Study is summarised in section 8.1.

8.1 Comparable Projects

8.1.1 Gögkirmak Copper Project

The report on this project (Acacia et al., 2017) is an Environmental and Social Impact Assessment (ESIA), a non-technical summary (NTS). It was prepared for Acacia Maden İşletmeleri A.Ş. (Acacia/AMI), by Acacia, AECOM Turkey and Social Risk Management Consultancy (SRM). The report date is 29th September 2017.

The report contains pertinent information and guidance regarding environmental and social studies, and permitting expected to be required at the Çorum Project. These are discussed further in section 8.7. It also contains useful summary information regarding mining and royalty aspects of the project.

The Gögkirmak Copper project is located in the Hanönü District of Kastamonu province, Turkey. The mine is planned to produce 22 Mt @ 1.5% Cu, from a single open pit. It has a mine life of 16 years, including two years pre-production, 11.3 years of production and two years for rehabilitation and closure. The processing plant has a capacity of 2 Mtpa, recovering 85% of the contained Cu to a 22% Cu concentrate. The mine is expected to employ 134 skilled and 362 unskilled personnel.

Of particular technical interest, is that the mine plan includes the diversion of 1.5 km of the Gögkirmak river via a pair of 750-m tunnels. The tunnelling project commenced two years before the report date, and was completed in 15 months.

8.1.2 Efemçukuru Gold Mine

The report on this project (Sutherland et al., 2020) is an NI-43-101 (2011) Mineral Resources and Mineral Reserves (MRMR) Technical Report. It was prepared for and by Eldorado Gold Corporation. The report date is 28th February 2020 and the effective date is 31st December 2019.

The Efemçukuru Gold mine is an underground operation, near Izmir in Turkey. In operation since 2011, it produces a gold-sulphide concentrate for off-site refining, at a production rate of 510 ktpa. Sutherland et al. (2020) contain useful information on processing and royalty costs as well as waste rock landform (WRL) and tailings storage facility (TSF) footprints. Environmental requirements are also well documented.

RSC notes that processing costs are USD 29.85/t, including USD 8.54/t for maintenance. General and administration (G&A) costs are USD 31.38/t, including UDS 3.59/t for 'risk management', possibly security, and USD 19.23/t for 'administration', which appears to be higher than other projects, but the breakdown of this cost centre is not provided. Average royalty, or state right, payments are 3.3%.

The process plant is rated to consume up to 6.5 MW of electrical power, with an average operating load of 3.5 MW.

The total mine workforce is 400.

8.1.3 Gediktepe project

The report on this project (Malhotra et al., 2016) is an NI-43-101 pre-feasibility study (PFS) Technical Report. It was prepared by Resource Development Inc, SRK Consulting (US) Inc, and Independent Mining Consultants Inc, for Polimetal Madencilik Sanayi ve Ticaret A.S. and Alacer Gold Corp. The effective date of the report is 1 June 2016.

The Gediktepe project is located in the Balikesir province, Turkey. The 25 Mt Mineral Reserve includes 3.2 Mt of oxide and 21.7 Mt of sulphide, or fresh, mineralisation and grades of 1.2 g/t Au, 41 g/t Ag, 0.88% Cu and 2.1% Zn. Mine life is 15 years, including two years pre-production, 12 years production and one year for closure.

Mining is by open pit methods, using small, contract equipment. Excavators are sized at 3–4 m^3 and trucks at 35–40 t. RSC has assumed the same sized fleet for the Scoping Study. Total scheduled ore and waste movement is up to 20 Mtpa. Pit walls have slope angles of 42° in oxide and 48° in fresh material.

Processing is planned to include three years of heap leach for Au and Ag, then sulphide flotation to produce Cu and Zn concentrates with Au and Ag credits. Plant throughput is 2.3 Mtpa. Metallurgical recovery of Cu is 69% to a 31% Cu concentrate, with 96.5% payable.

Mining costs average USD 1.45/t. Processing costs average USD 9.50/t for oxide and USD 11.88/t for fresh. G&A costs are USD 7.45/t. Royalties average 2.6% of net smelter return (NSR) revenues. Capital expenditure (capex) includes USD 120 M pre-production and USD 148 M post-commissioning, for a total of USD 268 M.

Treatment and refining costs (TC/RCs), at a copper price of USD 2.75/lb (USD 6,060/t), include allowances for 9% moisture content, TCs of USD 85/t, and RCs of USD 0.085/lb. Freight costs are USD 40 per wet metric tonne (wmt) for shipping, USD 10/wmt for port charges, USD 14.10/wmt for road haulage and 0.088% cost of insurance.

The mine is expected to employ approximately 120 skilled and 400 unskilled personnel.

8.1.4 Hod Maden project

The report on this project (Allen et al., 2021) is an NI-43-101 feasibility study (FS) Technical Report. The study was co-ordinated by GR Engineering Services, for Artmin Madencilik and Sandstorm Gold Royalties. The date of the report is 28th February 2021, with an effective date of 15th December 2021.

The Hod Maden project is an underground mine located in Artmin, Turkey. The 8.696 Mt Mineral Reserve has grades of 8.8 g/t Au and 1.5% Cu. Mine life is 16 years, including two years pre-production, 13 years production and one year closure.

Processing is by sulphide flotation to produce a copper-gold concentrate. Plant throughput is 800 ktpa with metallurgical recovery of 93% Cu to concentrates containing 22% Cu for 'regular' ore and 28% Cu for 'pyrite' ore. Copper in concentrate is 95% payable.

Processing costs are USD 24.26/t. G&A is USD 11.04/t. At a copper price of USD 3.20/lb (USD 7,050/t), TCs are USD 100/t, RCs USD 0.09/lb and freight USD 100/t. Royalties average 2.0% of NSR.

The mine is expected to employ 73 in the processing department and 114 in other departments.

8.1.5 Aği Daği and Çamyurt Projects

The report on this project (JDS, 2017) is an NI-43-101 Technical Report compilation of results from a FS and Preliminary Economic Assessment (PEA). The study was project managed by JDS Energy and Mining Inc for Alamos Gold Inc. The date of the report is 7th April 2017, with an effective date of 22nd February 2017.

The projects are heap leach gold mines with a combined potentially extractable tonnes of 54.361 Mt @ 0.67 g/t. The heap leach throughput has a capacity of 11 Mtpa and recovers between 65 and 87% of the gold. The mine life is eight years. Royalties are on a sliding scale of 2–16%, with deductions for cost and processing location potentially reducing the effective royalty to as low as 0.5%.

Mining costs are USD 1.45/t. Processing costs are USD 3.54/t. G&A costs are USD 1.71/t.

Due to scale, the project is less comparable to Çorum than others.

8.1.6 Yenipazar project

The report on this project (Armstrong et al., 2013) is an NI-43-101 Technical Report for a Feasibility Study. It was prepared by Jacobs Minerals Canada Inc. for Aldridge Minerals Inc. The date of the report is 16th May 2013, with an effective date of 3rd April 2013.

While Armstrong et al. (2013) is an older report, and not of comparable scale, it is relevant to the Çorum Scoping Study in that the project is located approximately 100 km from the Çorum project and 70 km south of Yozgat, and has similar mineralisation styles. The project is mined by open pit and has a Mineral Reserve of 29.166 Mt and grades of 0.89 g/t Au, 29.6 g/t Ag, 0.3% Cu, 0.96% Pb and 1.41% Zn. The project has a mine life of 13 years with 12 years production and one year closure. Construction is scheduled to take 2¼ years.

Mineralisation occurs in three forms: 3.2 Mt of oxide, 2.5 Mt of copper enriched and 23.5 Mt of sulphide ore. Plant throughput is 2.5 Mtpa. Metallurgical recovery is 72% of Cu from sulphide material, and 47% from copper enriched material. Concentrate grade is 26% Cu. Oxide material is scheduled to be processed at end-of-mine life due to a poor expected metallurgical recovery.

Mining costs are USD 2.22/t. Processing costs are USD 18.62/t for Cu enriched and sulphide, and USD 12.62/t for oxide material. Royalties are calculated to an effective rate of approximately 1.6% of net profits.

Concentrate TC/RC terms at a Cu price of USD 3.00/lb (USD 6,610/t) are: 97.5% payable, TC of USD 145/t and RC of USD 0.145/lb. Ocean freight is USD 35/wmt at 9% moisture content.

Armstrong et al. (2013) also contain pertinent information regarding geotechnical conditions, pit optimisation inputs, concentrate haulage options, environmental conditions and land acquisition requirements.

8.1.7 Other Turkish Projects

RSC reviewed reports on a number of other projects within Turkey, and deemed them to be either of the incorrect size or type, or containing insufficient detail, for comparison to Çorum. These included: The Kirazli 2017 FS report; the Kişladağ 2020 change in processing Technical Report; the Öksüt 2016 ESIA (Citrus Partners, 2016); a Salinbas 2019 fact sheet; and the Çöpler 2016 expansion project Technical Report.

8.1.8 Ex-Turkey Projects

RSC reviewed a number of additional reports for non-Turkish projects with similar-sized processing plants to that expected to be constructed at Çorum, including the following.

- Bluelake project in Sweden and Norway. The report is a press release of PEA results from May 2022 (Bluelake Mineral, 2022). The 750 ktpa Cu and Zn flotation plant is expected to have processing costs of USD 17/t and G&A costs of USD 5/t. Plant capital is USD 37 million.
- Hayes Creek in the Northern Territory of Australia. The report is a stock exchange announcement regarding PFS results from 2017 (PNX Metals, 2017). The 450-ktpa, Zn and Au flotation plant has a plant capital cost of AUD 58 (~USD 40) million.

- Mount Ida in Western Australia. In September 2021, GR Engineering announced the award of an Engineering, Procurement and Construction (EPC) contract for a 750-ktpa gold plant. The plant cost is AUD 73 (~USD 50) million. (https://www.australianmining.com.au/news/gr-engineering-to-start-construction-works-at-mt-ida/)
- The Achmach project in Morocco. The report is an August 2016 stock exchange announcement regarding FS results for a 500-ktpa tin mine (Kasbah, 2016). Processing costs are USD 16.52/t. G&A costs are USD 5.86/t. Plant capital is USD 62 million.
- The Olympias project in Greece. The February 2020 NI-43-101 Technical Report (Sutherland, et al., 2019) is for an operating underground mine, processing Pb and Zn with Au and Ag credits at 450 ktpa. Capital cost estimated to upgrade the plant to 650 ktpa is USD 25 million.
- Abra project in Western Australia. The July 2019 report (Galena, 2019) is a stock exchange announcement regarding FS outcomes. The capital cost estimate to construct a 1.2-Mtpa plant producing Zn concentrate with Ag credits is AUD 75 (~USD 52) million.
- Ai Karaaul project in East Kazakhstan. The 2019 report is a PowerPoint presentation regarding construction of a copper cathode solvent extraction and electrowinning (SX/EW) plant to produce copper cathode at a rate of 5,000 tpa (Deloitte, 2019). The soviet style reserves classification system estimates approximately 68 kt of contained copper from oxide ore at approximately 1.0% Cu. Capital costs to construct a heap leach plant are estimated as USD 27 million, of which USD 10.9 M is for the plant itself. The project also appears to include a copper flotation concentration plant; however, details of this are not included in the presentation.

8.2 Open Pit Optimisation

8.2.1 Open Pit Optimisation Inputs

RSC considered the information presented in section 8.1 and used it to guide and inform the selection of input parameters for open pit optimisation scenarios within Geovia® Whittle software assuming conventional open-pit mining methods.

Due to the preliminary nature of the Scoping Study and the range in key input parameters, two primary scenarios were evaluated: a base case and an upside (optimistic) case. The base case includes conservative cost and revenue inputs, while the upside case includes reasonably justifiable, but generally optimistic, input parameters.

The cases were then compared, to discern the Project's sensitivity to variations in the input parameters. The upside case, open-pit shells are also suitable for constraining the Area A and Area B block model, for RPEEE purposes.

RSC notes that not all of the input parameters discussed below are the same as those used for economic assessment. Adjustments were made to some parameters once the outputs of the optimisations became known.

Discount rate: 10% per annum. The discount rate is often presented as a precise figure, but it is still an estimate. It involves making assumptions about future developments without considering all of the variables. The value used provides a reasonable assumption for calculating net present values and discounted cashflows based on production rates.

Production rate: 750 ktpa. The range of processing plant throughput rates in comparable projects (section 8.1) is 250 ktpa to 12.6 Mtpa. The previous studies contained ranges of 250 ktpa to 1.5 Mtpa. The expected outcome from the optimisations was for an inventory in the range of 7–8 Mt. RSC regards an initial mine life of 5–10 years as a reasonable starting point, with a likely bias towards a longer life to maximise local employment opportunity expectations. Therefore, for the purposes of Whittle NPV and throughput calculations, the throughput rate was set at 750 ktpa.

Copper price: Base USD 3.00/lb, Upside USD 4.50/lb. The range of copper prices in the comparable projects (section 8.1) is USD 2.50–3.20/lb. Spot prices in the past five years have ranged from USD 2.00–4.80/lb (Figure 18). A base case price of USD 3.00/lb was selected, with an upside price of USD 4.50/lb.

Figure 18: Five-year copper prices, source: https://capital.com/copper-price-forecast.

Pit wall slopes: 30° oxide and 40° fresh. Geotechnical studies have yet to be completed. The only available data from comparable projects (section 8.1) were for the Yenipazar mine (Armstrong et al., 2013), with a range of slopes from 30°–35° in oxide and 40°–45° in fresh material. RSC regards these values as being within the expected ranges for similar projects. The Project is also near-surface and closed at depth. The Project is therefore unlikely to be sensitive to pit wall angles. RSC selected 30° in oxide and 40° in fresh material.

Bulk density: The density of each mining block were extracted from the MRE block model. Where the block model extents were inside the likely pit shells, the model was extended and a waste material density of 2.4 t/m³ for oxide and 2.9 t/m³ for fresh was assigned.

Dilution and ore losses: Rather than assign dilution and ore losses to each block, a re-blocking process was used.

The MRE block model uses a parent block size of 25 mX, 25mY and 5 mZ, with sub-blocks, around the boundaries of estimation domains, of 5 mX, 5m Y and 1 mZ. For the pit optimisations, these were re-blocked, or consolidated, to reflect a selective mining unit (SMU) of 5 mX, 5mY and 5mZ. The effect of the re-blocking process is to conserve the weathering status, tonnage and metal content of each sub-block into the consolidated block, resulting in a reduced grade where blocks contain a combination of waste and mineralised material, and a reduced tonnage where blocks contain a proportion of 'air', above the topographical surface.

The effective outcome of the re-blocking process is to only apply dilution around the boundaries of the mineralisation, rather than across the entire orebody. It therefore does not dilute the higher-grade cores of the estimation wireframes. Any resulting blocks having insufficient metal content (due to higher proportions of unmineralised material) and revenue to meet the cost of processing, are sent to waste. These rejected blocks effectively act as mining losses, but again, only around the boundaries of the estimation wireframes.

In practice, and as discussed further in section 8.2.2, some issues were encountered when re-blocking and, as a preliminary solution, additional optimisation scenarios were generated, with a grade factor of 0.8 applied to the copper grades. This provided RSC with a wider range of optimisation outputs from which to select the base and upside case 'potentially extractable tonnes'.

Metallurgical recovery: Oxide 70%, Mixed 60%, Fresh/sulphide 80%. Metallurgical testing has not occurred yet.

The range of oxide ore metallurgical recoveries in the comparable projects (section 8.1) was 47% to 70%, using non-flotation and heap-leach extraction methods. RSC considered the high grade of the oxide in the MRE and assumed that a vat leach, rather than heap leach, process would be used. Vat leaching is known to result in significantly higher metallurgical recoveries than heap leaching, and further research by RSC has identified that recoveries higher than 90% may be achievable. For the purposes of open pit optimisations, RSC assumed that 70% was a reasonable starting point.

The Area B orebody has a cap of sulphur-enriched rock that lies above the supergene oxide material. This made up 17% of the Area B resource in Hogg et al. (2020) and was assumed to be processed using a combination of flotation then heap leaching, resulting in a lower overall recovery than pure oxide or pure fresh material. RSC considers that metallurgical testing may determine that a combination of processing methods can actually result in improved overall recovery relative to oxide ore; however, for the purposes of pit optimisation inputs, a value of 60% was selected.

The range of copper recoveries for sulphide, or fresh, unweathered, ore in the reviewed reports was 69–93%. Hogg, et al. (2020) assumed a recovery rate of 80% to a flotation concentrate. RSC also used 80% as a reasonable starting point for pit optimisations.

Foreign exchange rates: TRY/USD 15.0. The value of the Turkish Lira has decreased in recent years (Figure 19) and is now lower than in the reviewed reports. For the purposes of open pit optimisations, all costs were denominated in USD and no foreign exchange considerations were required.

Figure 19: TRY/USD exchange rates 2014–2022. Source: tradingview.com.

Mining costs: USD 1.75/t for waste and oxide. USD 2.00/t for fresh and mixed. The range of mining costs in the review of comparable projects (section 8.1) is USD 0.46–2.76/t.

RSC considered a number of factors when selecting the costs to be used. These included: recent inflationary pressures in fuel and other costs; the likely relatively low production rates required, implying smaller equipment and therefore higher unit costs; expected differences in costs for oxide and fresh rock mining; the local topography; the shallow nature of the ore; and a number of other considerations. From these, it was determined that reasonable starting assumptions for mining costs were USD 1.75/t for oxide and waste material, and USD 2.00/t for fresh and mixed material. This is approximately equivalent to USD 4.20 per bank (in-situ) cubic metre (BCM) for oxide, mixed and waste material, and USD 5.60/BCM for fresh material. RSC regards these values as being on the conservative side of the expected range for similar projects internationally.

RSC has assumed that all mining costs are constant throughout the mine life, and there is no variation between Area A and Area B pits. The shallow nature of the orebodies and preliminary nature of the Scoping Study meant that allowing for changes in cost with depth for trucking, and similar localised variations, was deemed to be unnecessary.

Concentrate grade: RSC selected this to be 25% contained copper. The range of concentrate grades in the reviewed reports was 18%–31%.

Processing costs: USD 17.00/t for vat leaching and USD 20.00/t for flotation. The range in the comparable projects (section 8.1) was USD 2.54–15.00/t for heap leaching and USD 9.50-29.85/t for flotation. RSC expects that the cost of crushing and grinding will be lower for oxide material than for fresh material; therefore, the values are regarded as a reasonable starting point. Costs for rehandling ore from stockpiles to the run-of-mine (ROM) pad are assumed to be included in the processing cost.

General and administrative costs: USD 11.00/t. The range in the comparable projects (section 8.1) is USD 0.40–31.38/t. RSC has applied this as a fixed cost of USD 8 M/yr in the pit optimisations, and as a variable cost per tonne in the economic assessment.

Royalties: RSC has used a value of 3% of the NSR revenues. The Turkish 'state rights' system is complex, based on a number of sliding scales with deductions for various considerations. State rights are discussed further in section 0. The range in the comparable projects (section 8.1) is 0.5%–4.6%.

Treatment and refining costs: These apply to concentrate only. The sales costs for copper cathode are regarded as negligible, or otherwise captured in G&A costs.

Payability was set at 97.5% of contained copper in concentrate. The range in the comparable projects (section 8.1) is 94.5–97.5%.

Moisture content is assumed to be 10% weight for weight (W/W). The typical value in the comparable projects (section 8.1) is 9%.

Freight and insurance was set at USD 100/wmt of concentrate. The range in the reviewed reports is USD 64–100/wmt. This is the cost to deliver the concentrate to the refinery, inclusive of any port and shipping costs.

Treatment, or smelting cost (TC) was set at USD 100/dmt of concentrate. The range in the comparable projects (section 8.1) is USD 85–145. This value is typically higher when Cu prices are high and lower when Cu prices are depressed. RSC regards the value to be reasonable for the purposes of open pit optimisations.

Refining cost (RC) is set at USD 0.12/lb of contained Cu in concentrate. The range in the comparable projects (section 8.1) is USD 0.085–0.145/lb. TC/RC terms typically use a TC:RC ratio of 1000:1 (e.g. TC = 100/t and RC = 0.10/lb). RSC regards a slightly higher value for refining to be a conservative position.

RSC has assumed that there will be no credits for valuable elements or deductions for deleterious elements.

Net smelter return and in-situ value: The net smelter return (NSR) is the 'mine-gate' price received for copper cathode and concentrate. All costs beyond the mine-gate, including royalties, are treated as being a reduction in revenue, rather than on-site costs.

RSC used the input values above to calculate NSR values of USD 1,295/t.con for the base (USD 3.00/lb) case and USD 2,077/t.con for the upside (USD 4.50/lb) case (Table 14). This results in a 'realised' copper price of USD 5,182/t (USD 2.35/lb) for the base case and USD 8,308/t (USD 3.77/lb) for the upside case.

For the purposes of open pit optimisations, the realised copper prices were applied to all material, regardless of weathering status and expected processing method. RSC regards this as reasonable, given the preliminary nature of the study and that the Lerchs-Grossman algorithm extends a pit shell using incremental calculations, which, in the case of the Çorum deposits, would be applied to revenues from fresh, unweathered blocks.

RSC estimates that — when metallurgical recoveries, weathering status and processing method are considered — the equivalent NSR, per percent of Cu grade, per processed tonne, would be as indicated in Table 14.

Table 14: NSR values based on optimisation assumptions.

	NSR/t
NSR @ USD 4.50/lb (/t.con)	USD 2,077
NSR @ USD 3.00/lb (/t.con)	USD 1,295
NSR ox @ USD 4.50/lb (/t.%Cu.proc)	USD 67.34
NSR mixed @ USD 4.50/lb (/t.%Cu.proc)	USD 49.85
NSR fresh @ USD 4.50/lb (/t.%Cu.proc)	USD 66.47
NSR ox @ USD 3.00/lb (/t.%Cu.proc)	USD 44.90
NSR mixed @ USD 3.00/lb (/t.%Cu.proc)	USD 31.09
NSR fresh @ USD 3.00/lb (/t.%Cu.proc)	USD 41.46

Despite oxide ore having a lower assumed metallurgical recovery, Table 14 demonstrates that the revenue received for vat leached oxide material is higher than for fresh material of an equal grade. This is due to concentrate requiring off-site treatment, the cost of which is around 15–20% of the contained copper value.

Effective cut-off grades: RSC used the selected costs and calculated revenues above to estimate the cut-off grades to be applied when reporting mineral resources.

The calculated values for the USD 4.50/lb case are 0.28% in oxide, 0.44% in mixed and 0.33% in fresh. For the purposes of reporting, the cut-off grades used are 0.30% for oxide and 0.35% for fresh material.

The calculated cut-off grades for the USD 3.00/lb case are 0.42% in oxide, 0.71% in mixed and 0.53% in fresh. These values are not used for reporting or for economic modelling, as the outputs from the Whittle optimisations have already taken costs into account when determining which blocks are to be sent to ore and which blocks are sent to waste.

8.2.2 Pit Optimisation Process

The Whittle software package is used in conjunction with Geovia® Surpac software to generate open-pit optimisations. The calculations performed by Whittle use the Lerchs-Grossman (LG) algorithm to calculate the cost of mining a particular block, and the incremental blocks not already mined and required to expose it, relative to the revenue from that block, plus the revenue from any incremental blocks that would generate value but were not previously mined.

This is done in four dimensions, taking into account the time effect of production rates, variations in costs and sales prices over time, the timing of cut-backs or staged pits, and the effect of discounted cashflows. However, due to the preliminary nature of the Scoping Study and the relatively small size of the deposits, no staging of pit cut-backs or variation in costs or sales prices were included in the optimisation process.

Once all the blocks that can be sent for processing were determined, a three-dimensional wireframe was generated from the outlines of the resulting boundary blocks. This is referred to as a pit 'shell'. For each optimisation or LG 'run', there are many shells generated; each corresponding to a different revenue factor (RF). For example, at RF = 1.0, the shell corresponds to an optimisation where the revenue from each block is the same as the base price for that run. Lower RF shells have the revenue for each block factored down and higher RF shells have the revenue factored up.

Revenue factors are similar to, but not the same as, lowering or raising the effective metal price by the same factor; i.e. a RF = 0.9 shell for a USD 1.00/lb copper price will be similar to, but not exactly the same as, a RF = 1.0 shell for a USD 0.90/lb copper price.

If an economic pit shell cannot be generated at a particular RF, then no shell is saved. In some projects therefore, there may only be a few shells generated, in others there may be dozens per run.

Once all of the shells were generated, an 'optimum' pit is selected manually. The effect of fixed costs and discounted cashflows means that higher RF shells, or shells that generate the most tonnes and most revenue, are not necessarily the best value for the project. The outcomes from each run are therefore charted and compared, with consideration for factors such as capital expenditure, inflections due to stepped increases in stripping ratio, maximum undiscounted and discounted cashflow, and other parameters before an optimised shell was selected. This can often be a subjective process, with several possible shells having equally valid justifications for selection.

RSC used revenue factors ranging from 0.5–1.5 for the Scoping Study, and generated optimisations at RF increments of 0.02, or 2% changes in revenue.

During the optimisation process, the re-blocking of the 5 mX, 5 mY, 1 mZ block model to 5 mX, 5 mY, 5 mZ was found to be generating more metal than the original model. The cause of this (the unmineralised portion of the 5 mX, 5 mY, 5 mZ blocks was being assigned the grade of the mineralised portion) was identified and rectified; while the issue was being investigated, however, RSC determined that an adequate initial solution was to run additional optimisations, so that the metal content was maintained. A grade factor of 0.8 was used for this process.

In total, six optimisation cases were generated, rather than just the original base and upside cases. Once the outcomes were available and able to be compared, it was found that the Project was relatively insensitive to metal prices, revenue factors or grades. Therefore, RSC determined that running optimisations with a corrected re-blocked model was unlikely to result in materially different outcomes, and would not be necessary for the purposes of preliminary economic evaluation.

8.2.3 Pit Optimisation Outcomes & Selection of Inventory Shells

The six optimisation runs differed from each other as indicated in Table 15.

Table 15: Case list.

	Cu sales price	Cell Size (x,y,z(m))	Cu grade factor
Case 1	USD 4.50	5x5x1	1.0
Case 2	USD 3.00	5x5x1	1.0
Case 3	USD 4.50	5x5x5	1.0
Case 4	USD 3.00	5x5x5	1.0
Case 5	USD 4.50	5x5x5	0.8
Case 6	USD 3.00	5x5x5	0.8

In each case, the undiscounted gross profit, or surplus revenue, for each revenue factor shell was charted against total ore and waste tonnages. All cases were found to be relatively insensitive to revenue factor, with only marginal differences between each shell. As can be seen in the example of case 1 outcomes (Figure 20), the undiscounted revenue only varies by USD 4 M (0.8%) from RF = 0.5 to RF = 0.84, and then begins to slowly drop away by less than USD 1 M up to RF = 1.5. Similarly, the total ore tonnage only increases from 7.09 Mt to 7.37 Mt (4%) from RF = 0.5 to RF = 1.5, and the waste tonnage increases from 11.7 Mt to 15.9 Mt (36%) across the same range. There are also no apparent 'steps' in the waste quantities where the amount to be mined increases significantly between shells. RSC therefore selected the RF =1.0 shell for each case and then compared the six outcomes.

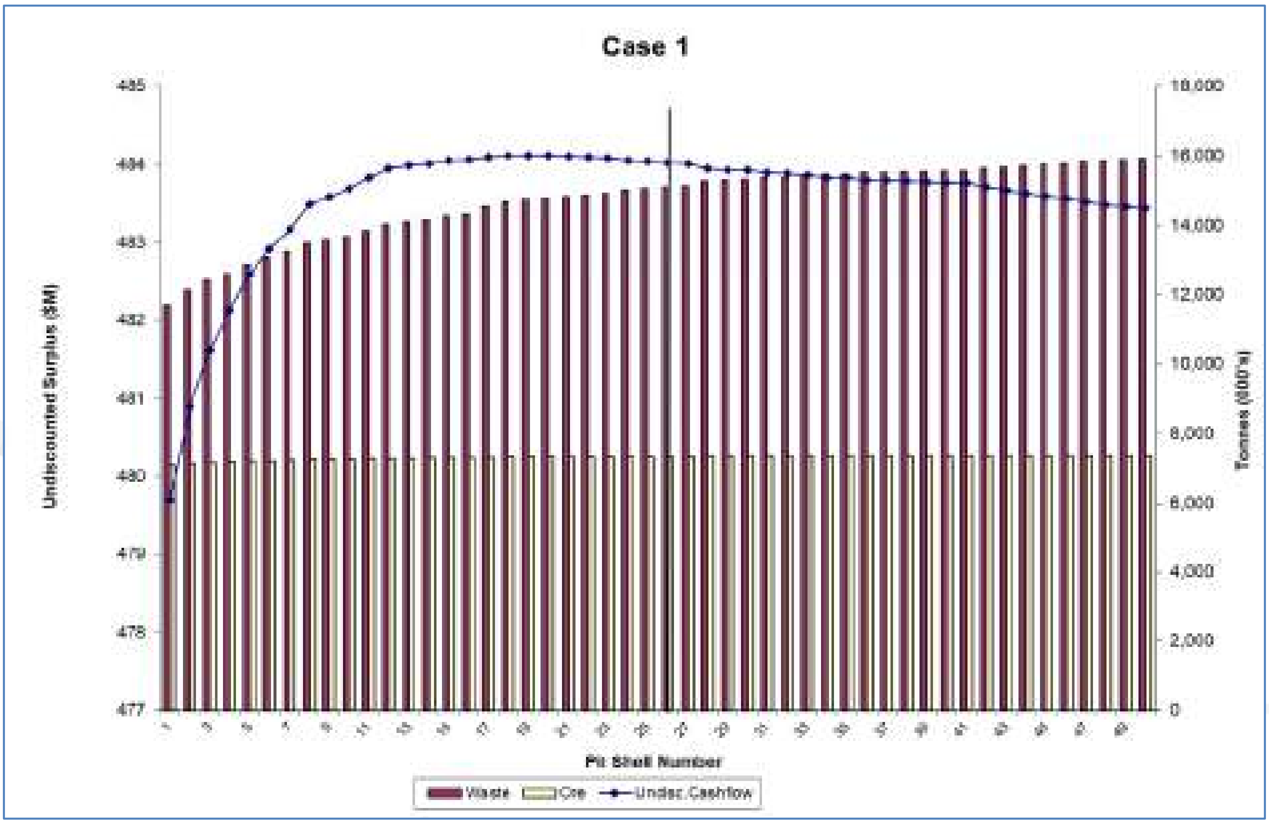

Figure 20: Example shell selection chart, Case 1.

The Whittle inventories for each RF = 1.0 shell are as per Table 16.

Table 16: Whittle RF = 1.0 outcomes.

	Ore tonnes (kt)	Cu %	Contained Cu (kt)	Waste tonnes (kt)	Total Rock (kt)	Stripping ratio (w:o)
Case 1	7,344	1.60	117	15,100	22,445	2.06
Case 2	7,250	1.60	116	13,350	20,600	1.84
Case 3	9,284	1.56	145	14,997	24,281	1.62
Case 4	9,224	1.56	144	13,892	23,116	1.51
Case 5	9,213	1.27	117	14,230	23,443	1.54
Case 6	8,413	1.34	113	11,798	20,211	1.40

It is to be noted that the case 3 and case 4 outcomes are without grade factoring and contain copper metal that does not actually exist. These cases have therefore not been used in evaluations.

The key reasons for the relative insensitivity of each case, and within each case, are due to the shallow mineralisation and near-surface nature of the deposits, resulting in low stripping ratios. The fact that the calculated cut-off grades are much lower than the minimum estimated grades also means that the great majority of the unconstrained MRE is converted to potential mining inventories.

When case 1 and case 5 are compared, it is apparent that the effect of a 5 m x 5 m x 1 m SMU, vs a 5 m x 5 m x 5 m SMU, is approximately 25% in additional dilution. When case 2 and case 6 are compared, the difference is 16%. This is because the main difference between the base and upside cases is the inclusion of two small lenses of mineralisation below the main Area B ore zone. These thin lenses can be extracted without dilution using one-metre benches, but incur significant dilution when a five-metre bench is assumed. In practice, it is likely that 1.5 m to 2.0 m high benches, and visual ore spotting, will be practically achievable and so the dilution can be expected to be somewhere in the middle of this range.

As the goal of preparing two cases for economic evaluation is for a conservative and an optimistic case respectively, RSC selected the pit shells for cases 1 and 6 for further evaluation.

The final mining inventories were determined by reporting block-model interrogation results for the case 1 (upside case) and case 6 (base case) pit shells via the 5 m x 5 m x 5 m block model (rectified for correct contained copper metal and grade). Cut-off grades of 0.3% for oxide and 0.35% for fresh material were used for the case 1 pit shell, and 0.4% and 0.5% for the case 6 pit shell. In the base case scenario, the difference in Cu metal between no cut-off and cut-off was 4 kt (3.6%), for the upside case it was less than 1%.

The tonnage and grade values were reported by pit and weathering status, and the remainder of the shell tonnage was set as the waste tonnage. The final potential mining inventories are therefore slightly different to the Whittle inventories, as per Table 17 and Table 18.

Table 17: Final potentially extractable tonnes, base case (Whittle case no.6).

Pit	Oxide-Sulphide	Mass (Mt)	Cu %	Cu cont (kt)
Area A	Fresh	5.82	1.31	77
	Total	5.82	1.31	77
Area B	Fresh	0.58	1.04	6
	Mixed	0.15	1.04	2
	Oxide	0.97	2.68	26
	Total	1.69	1.98	34
Total	Fresh	6.4	1.29	83
	Mixed	0.15	1.04	2
	Oxide	0.97	2.68	26
	Total	7.52	1.46	110
	Waste	12.691		

Table 18: Final potentially extractable tonnes, upside case (Whittle case no.1).

Pit	Oxide-Sulphide	Mass (Mt)	Cu %	Cu cont (kt)
Area A	Fresh	5.99	1.29	77
	Total	5.99	1.29	77
Area B	Fresh	1.06	0.85	9
	Mixed	0.13	1.11	1
	Oxide	0.99	2.63	26
	Total	2.18	1.67	36
Total	Fresh	7.05	1.22	86
	Mixed	0.13	1.11	1
	Oxide	0.99	2.63	26
	Total	8.17	1.39	114
	Waste	14.275		

The tonnes in the upside case outcomes are typically higher, with lower grades, than the base case. This is a result of the higher metal price in the pit optimisation inputs resulting in more marginal material reporting to ore. However, for mixed material, the tonnes are lower and grade is higher. This is a function of larger re-block sizes in the base case resulting in more mixing, or dilution, between both oxide and mixed material, and waste and mixed material. It is also a function of the mixed material being located at the top of the Area B deposit, and there being the same amount of mixed material available to both cases.

RSC notes that the proportion of mixed material in Hogg et al. (2020) was approximately 7% of the MRE. RSC's changes to how the modelling wireframes were extended beyond drillholes, and the results of infill drilling, mean that the proportion has now reduced to less than 2%. Uncertainties around being able to use both processing streams to process mixed material ore are therefore no longer as significant as they were. This is illustrated in Figure 21, where the black blocks represent the updated mixed material model.

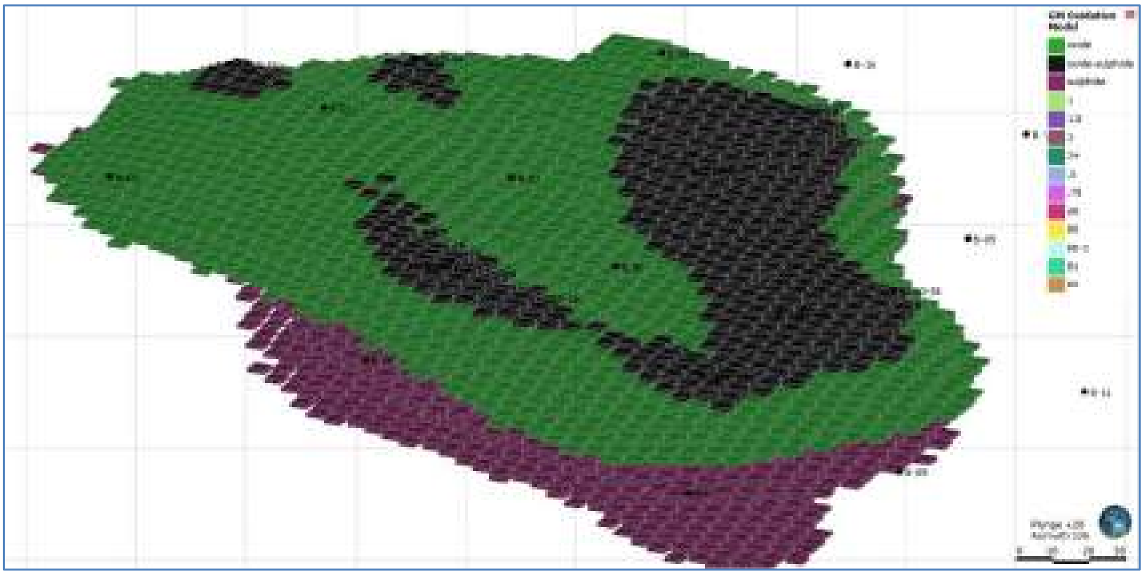

Figure 21: Area B block model by weathering status.

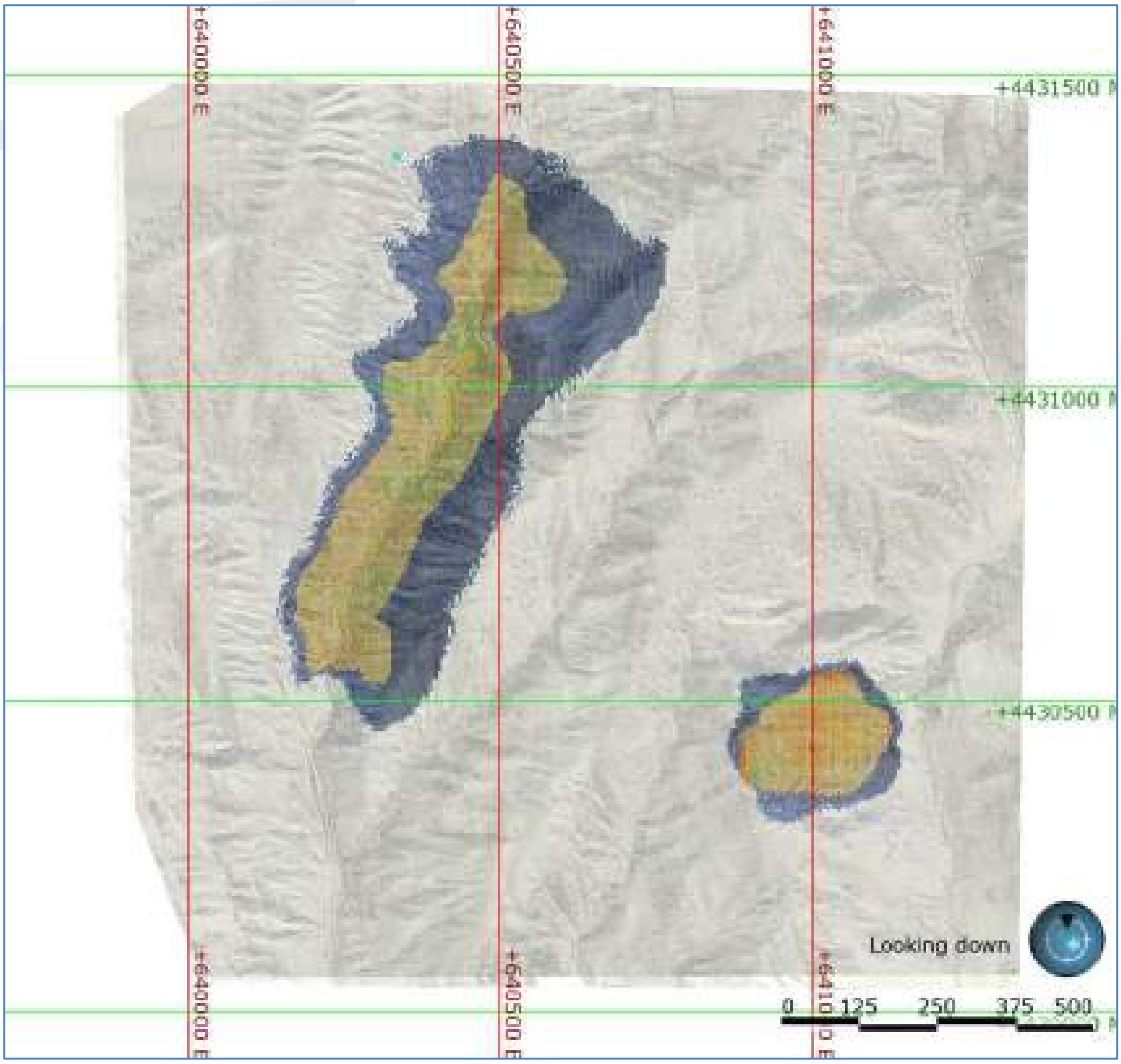

Figure 22: Upside case pit shells and block models, plan view.

Figure 22 reveals the extent of the upside case pit shells relative to the extents of the block model mineralisation.

Figure 23: Long section through Area A pit.

Figure 23 is a long section through the approximate line of the watercourse that runs along the pit valley. The near-surface and shallow nature of the deposit is apparent, and the near-complete conversion of the unconstrained block model to inventory within the pit. As the long section approaches the northern end, the watercourse bends to the west, as indicated here where the mineralised blocks start to become overlain by waste material. Of note is that a significant portion of the deposit is elevated above the lowest part of the valley, which RSC regards as potential for mining without pumping or stream diversion, and for backfilling with non-acid-forming (NAF) waste.

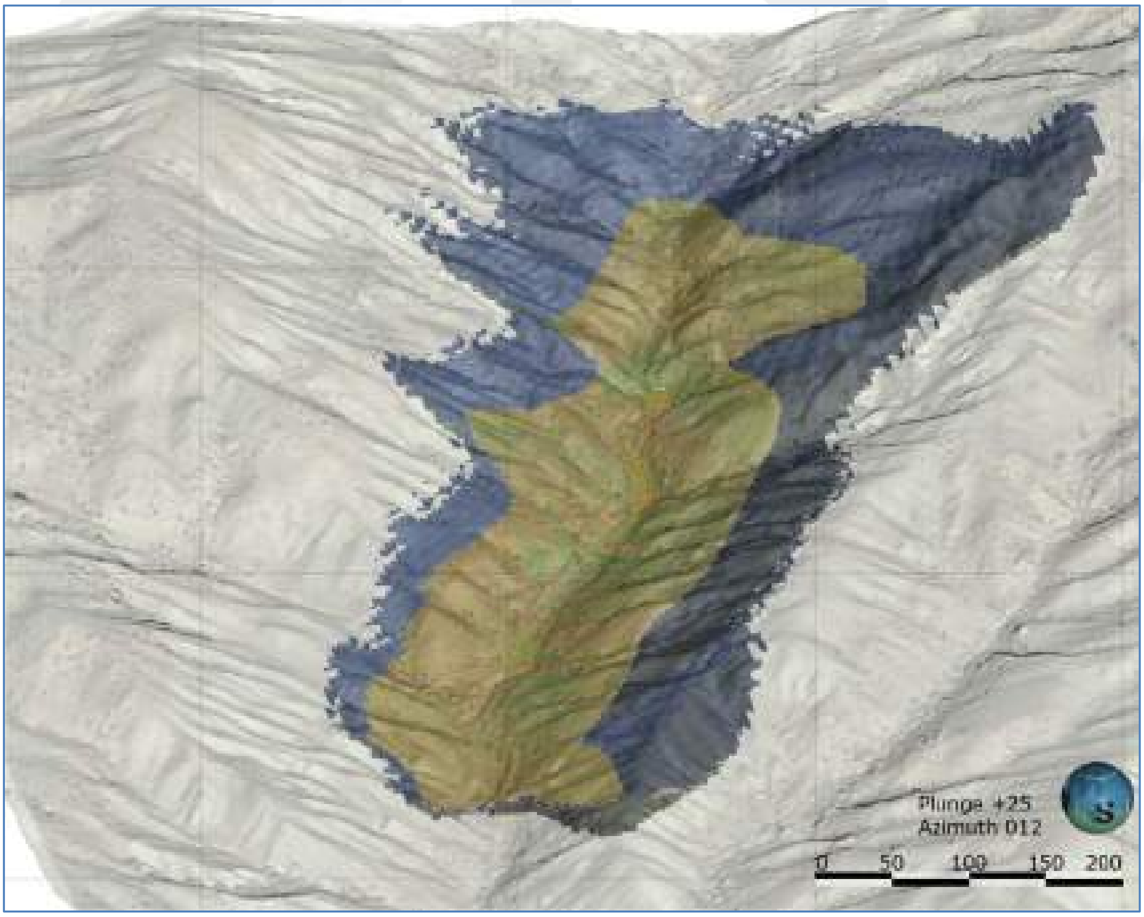

Figure 24: Area A pit, looking up the valley, to the north.

The gully to the east of the Area A pit, indicated in Figure 24, has potential to serve as a location for a tailings storage facility (TSF), and for a waste rock landform (WRL), with low visual impact, that can buttress the TSF (Figure 32), which would also reduce seismic risk. RSC regards this gully as a priority area for future sterilisation drilling.

The location, design and size of the TSFs and WRLs will depend greatly on the outcomes of rock characterisation geochemical testing of both the ore and expected waste rock types. A rock characterisation study will be a priority, prior to commencing any pre-feasibility studies, as the outcomes will be required to inform aspects of the mining, processing and environmental portions of the PFS.

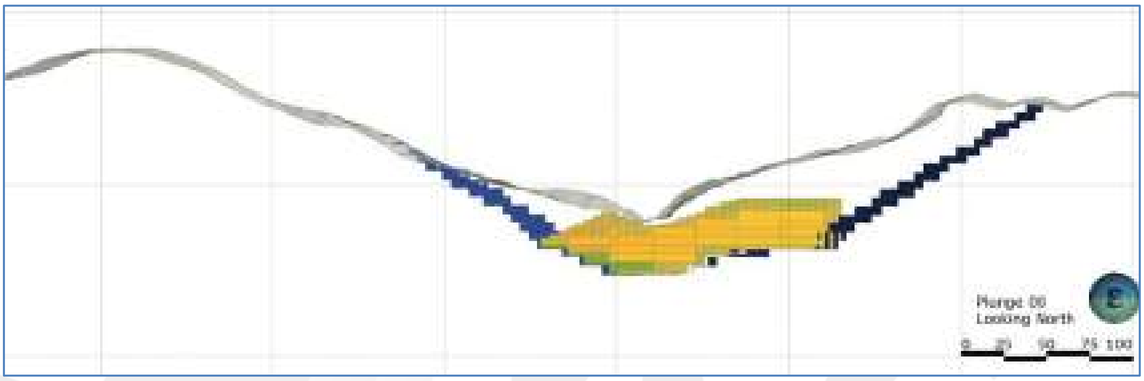

Figure 25: Area A pit, section through 4431200N.

Figure 25 is a section through the northern end of the Area A pit. Of note is the relatively shallow wall angle. RSC has identified opportunity for minor improvements to project economics, should the outcomes of future geotechnical studies allow steeper wall angles to be mined. Detailed geotechnical logging, to a level of detail beyond that typically gathered as part of exploration drilling programme, and a subsequent preliminary geotechnical study, will be required prior to commencing pre-feasibility study optimisations and designs. This may require diamond drilling of additional geotechnical holes in order to obtain un-crushed and un-disturbed core that is representative of both the ore and the waste rock types. This core can be both logged, and used to generate a preliminary data set of uniaxial and triaxial compressive strength test results.

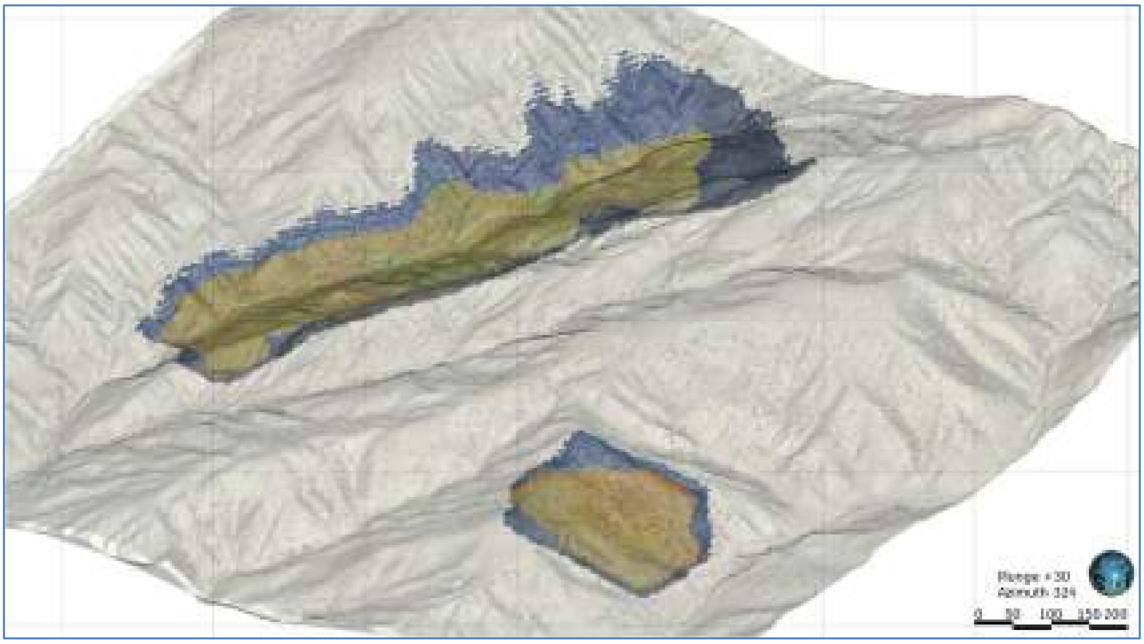

Figure 26: Area A and B pits, oblique view looking down and northwest.

The watershed to the west and topographically above the Area B pit, as indicated in Figure 26, may also be suitable for a WRL; although, this may be visible from the Boğazkale-Yozgat Road. A location with a lower visual impact may be the sloped area to the immediate north of the Area B pit.

The relatively flat area at the top end of the gully, north of the Area B pit and west of the northern end of the Area A pit, may be suitable for the processing plant location (Figure 32).

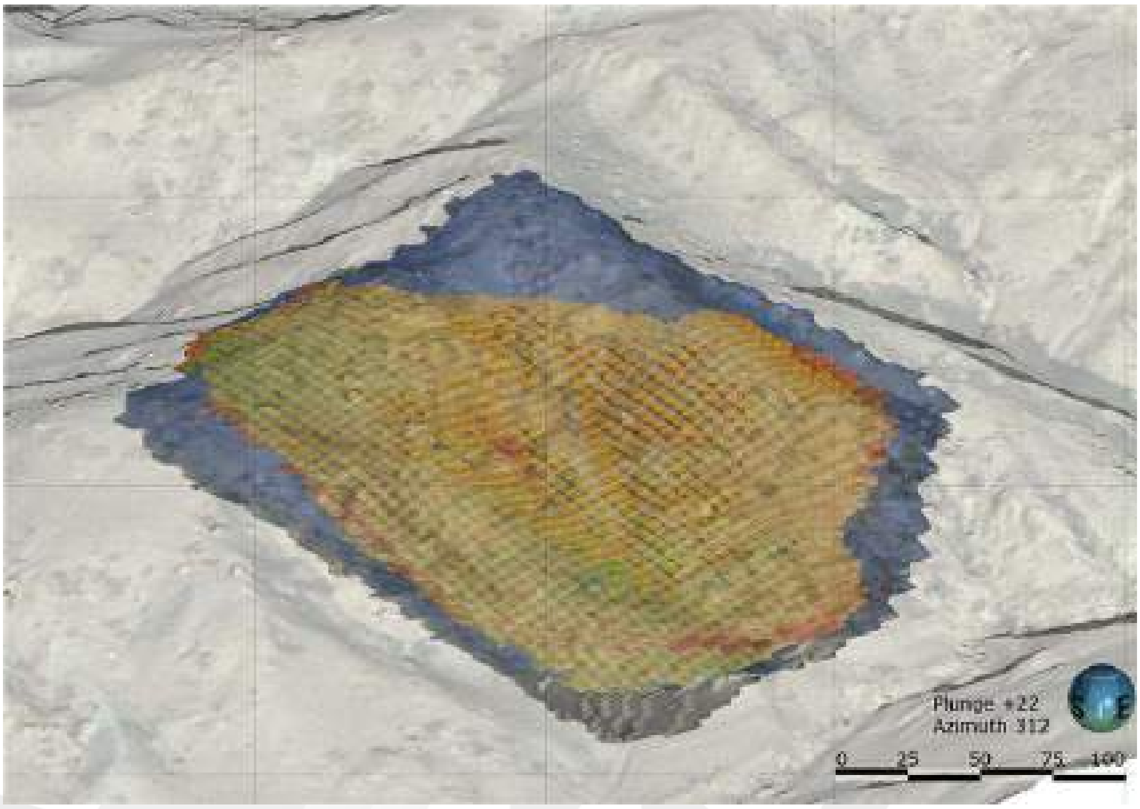

Figure 27: Area B pit, oblique view looking down and northwest.

Figure 27 and Figure 29 demonstrate how the Area B pit does not extend all of the way to the watercourse to the west of the pit. Due to the known oxidation depth in this region, the completed Area B pit is a possible site for storing a small amount of potentially acid-forming (PAF) tailings. This would require scheduling the base of the pit to be completed early in the project, which may not be desirable and would depend on the throughput capacity of the SX/EW plant. It could also be used as a reservoir for process water storage during periods of low rainfall, and as a capture mechanism for any acid rock drainage (ARD), should that become a problem.

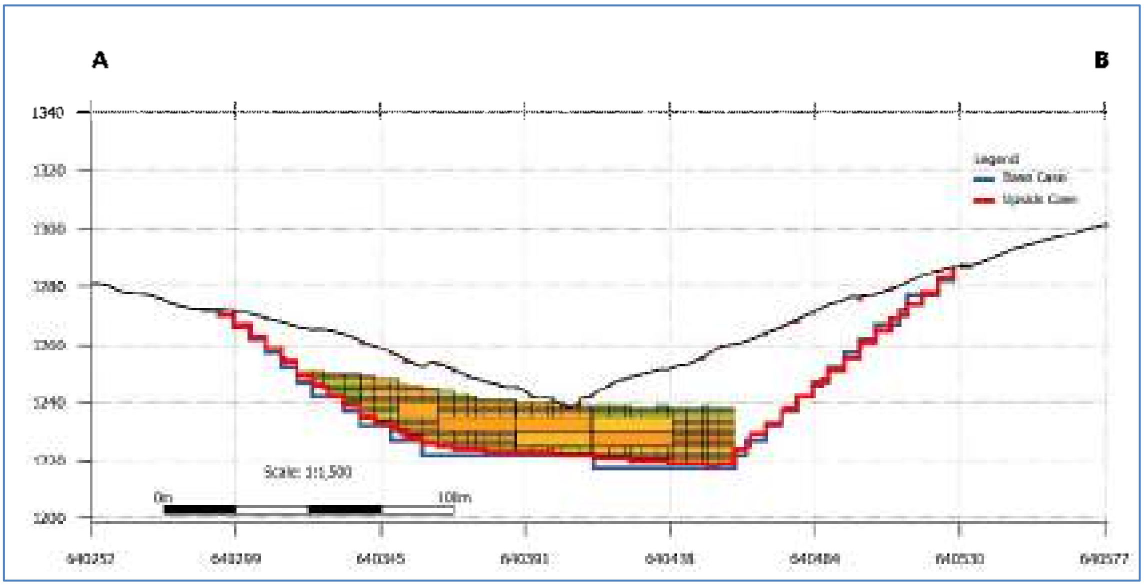

Figure 28: Area A, section through 4430900N with base and upside case pit shells.

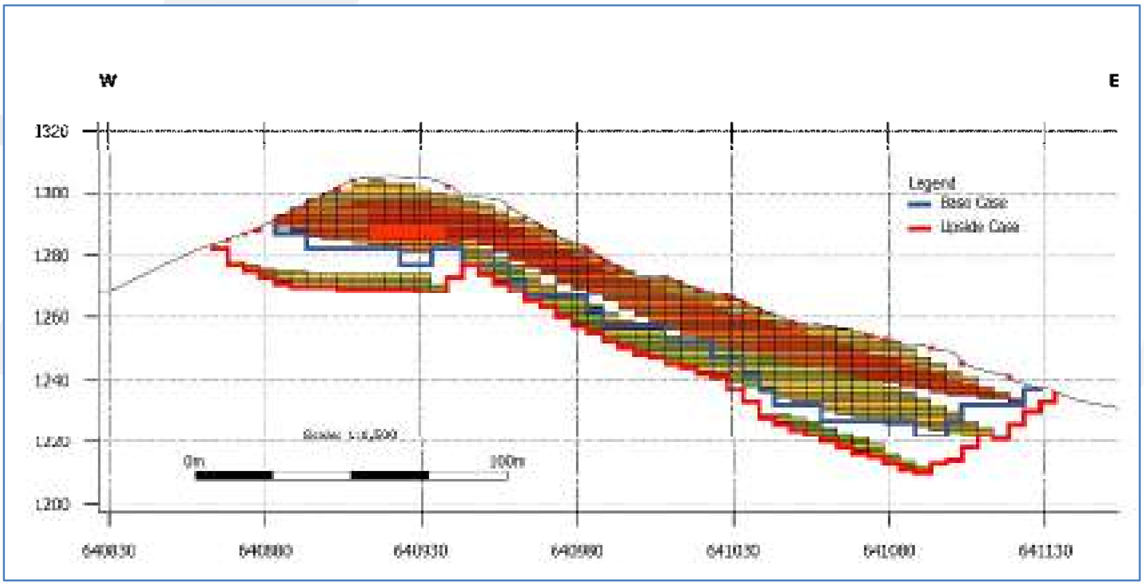

Figure 29: Area B, section through 4430400N with base and upside case pit shells.

When Figure 28 and Figure 29 are examined, the differences between the base and upside cases can be observed. The primary difference in Area A is the higher resolution in the pit bench floors for the upside case, reducing the amount of dilution, or mixing of ore. In Area B this can also be seen; however, the primary difference is that the higher metal price in the upside case allows for inclusion of some lower grade fresh material, as well as the two small lenses that lie below the main mineralised zone.

8.3 Mining Systems Equipment Selection & Mine Plan(s)

Due to the preliminary nature of the Scoping Study, no mining equipment selection process has taken place, or mine designs prepared. Multiple possibilities exist for operational hours, rosters, fleet sizes and other considerations. RSC has therefore not presented any tabulated fleet estimates in order to prevent implication that estimates have been through a detailed calculation process.

RSC expects that the pit designs will include:

- batter heights of 10–15 m;
- safety berms at least 5 m wide;
- ramp gradients of 10%, with occasional ramps up to 15% gradient;
- two-lane ramps and roads in most areas; and
- bench heights will vary from around 1.5 m to 3.0 m.

Waste rock landform designs will typically include:

- lift heights of 10 m;
- final slope angles of 15°, with anti-erosion berms in-between lifts; and
- ramp gradients of 10–14%.

Mining fleet, labour and maintenance are expected to be provided by a mining contractor. RSC does not consider owner-operator mining to be viable for such a small operation. Contract miners are specialists and able to draw upon resources, support, flexibility and experience that cannot be matched by a small operation.

Some ancillary vehicles and equipment used in the processing plant would be owned by AVOD. This could be maintained separately or under an arrangement with the mining contractor.

RSC's preliminary mining schedules assume that the total material movement per annum will be around 2.4 Mtpa. This equates to approximately 200 kt per month or 50,000 tonnes per week. In volumetric terms, the rate is equivalent to approximately 20,000 BCM/week.

For a seven-day per week, day and night-shift operation, the daily and hourly movements would be 3,000 BCM, or around 150 BCM/hr for a 20-hour day. For a seven-day per week, single-shift operation, the rate would be 300 BCM/hr for a 10–12 hour day.

For a five-day week, the production target would be 4,000 BCM/d, or 250 BCM/hr for two, eight-hour shifts per day.

A relatively small, 65 tonne class, excavator can be expected to move, on average, around 300–350 BCM/hr, inclusive of tramming and set up times. Alternately, two 35–50 tonne, civil construction type excavators could meet a 250 BCM/hr production rate. Daily excavator servicing can take place during shift breaks or between shifts. Programmed maintenance can take place on weekends.

RSC has assumed that the excavator/s would be matched to 40–50 t articulated dump trucks. RSC estimates that approximately four loads per hour per truck can be expected (60 BCM/hour per truck). In total, five to six trucks should be more than sufficient to meet the trucking requirements.

Bulldozers can be used for ripping oxide and mixed material, as well as waste land forming and general clean-up work. One dozer should be sufficient to meet the requirements; however, due to the separation between the pits, RSC is of the opinion that one small dozer or track loader, in the Cat D7 or equivalent range, and one medium-sized dozer in the Cat D9 to D10 equivalent range, should be included in the fleet allowances.

Two front end loaders, in the 4–5 m^3 bucket size range, should be included. One for ROM loading and one for concentrate handling, backup and general work around the site. A mobile rock breaker, or backhoe with rock-breaking attachment, will also be required.

Drilling and blasting using ANFO or emulsion-type explosives will be required in fresh and transitional rock. One blasthole drill, working two eight-hour shifts or one 10–12 hour shift per day, should be sufficient to meet the needs of the operation. A telehandler or similar machine should be sufficient for loading explosives and stemming of blastholes. Rather than requiring on-site manufacturing, or a bulk-explosives loading truck, explosives can be delivered and stored in boxes and 500–1000 kg woven polythene bags, or 1000 litre IBC (intermediate bulk container) pods.

One 14–16 ft grader should be sufficient for site requirements.

Various ancillary light vehicles and trucks will be required for management and supervision, technical services, site security, blast crew, service crew, maintenance crew, workforce transportation, forklifts, tool carriers, telehandlers, service trucks, cranes, light busses and similar functions. RSC estimates that the total number of these vehicles will be in the order of 25–30 machines. Some will probably be EVs, rather than fossil-fuel powered.

Haulage of concentrate to port or refinery is expected to average 500–600 dmt/week. This will be undertaken by external contractors using on-highway trucks. Copper cathode production will be 50–75 t/week. Shipments can be back-loaded on trucks bringing in stores and consumable supplies.

8.4 Processing Systems, Flowsheets, Plant Capital & Operating Costs

No metallurgical testing has been undertaken on the various types of Çorum ore. To build up a comprehensive understanding of the ore performance and response characteristics, several testing programmes on each ore type will be required prior to finalisation of a plant design. There will also be ongoing test programmes during the mine's operational life, including both metallurgical recovery and comminution (crushing and grinding).

No conceptual plant designs have been prepared for the Project. These will be required as part of any pre-feasibility work and will depend on the outcomes of at least one round of metallurgical testing, rock characterisation geochemical study and minerographic study.

Run-of-mine (ROM) pad stockpile capacity will need to be at least five to ten days of production (10–20 kt), and possibly more. This will allow for differences between a five-day per week mining roster and seven-day per week processing roster, as well as any major mining fleet equipment breakdowns and/or the need to move excavators from one pit to the other. Allowance will need to be made for blending of ore, in order to maintain a relatively steady feed grade. Areas for separation of oxide, mixed and sulphide material will also need to be maintained.

RSC has assumed that the plant flowsheet will include two, essentially separate, processing/beneficiation streams. One for the solvent extraction and electrowinning (SX/EW) of oxide material, and one for the froth-flotation concentration of sulphides. The flotation circuit may also be configured to allow tailings to be reprocessed via the SX/EW circuit. A surge tank, stockpile or storage pond may be required for this, as the throughput capacity of the flotation circuit is expected to be significantly greater than the SX/EW circuit.

Both beneficiation circuits can be fed by the same crushing circuit, which will probably consist of a single-toggle, jaw type crusher, as the ore is not expected to be very hard, followed by an array of screens and secondary crushers, as required. These will feed separate fine ore stockpiles: one for the SX/EW plant and one for the flotation plant. These will need to be relatively large as crushing of oxide and non-oxide material will need to take place in campaigns of several hours to several days at a time. The throughput capacity of the crushing circuit will most likely be 1.5 to 2 times greater than the milling circuits. This will allow for breakdowns and to quickly build up stockpiles when required to do so.

Each of the processing streams will most likely have their own grinding or milling circuit. The different hardnesses and optimal grind sizes, as well as the need to maintain a consistent feed rate to the circuits, will make separate mills a necessity.

RSC has assumed that the SX/EW circuit will be of the vat leach, rather than heap leach, type. This is due to the high grade of the oxide ore and typical higher metallurgical recovery achieved from a vat leach. Following leaching, the pregnant copper-loaded solution will be used to plate copper onto stainless steel electrodes, producing near-pure cathode copper. The remaining leached rock will then be thickened and pumped to the relevant TSF.

The capacity of the SX/EW circuit will be determined by the rate at which copper can be plated onto the cathodes and tonnage throughput will therefore vary with feed grade. RSC has assumed that an electrowinning circuit with a capacity of approximately 2,500 t per year will be installed, which equates to an average rock throughput rate of 125 ktpa. This rate will result in the circuit operating for the first nine years of the mine life. As the oxide material in Area B generates the most revenue per tonne, an opportunity to bring forward revenue and improve the project NPV may exist if a larger circuit is installed and run for a shorter time. This circuit could continue to be used if regional exploration identifies economic oxide deposits near the Çorum plant.

The froth flotation circuit will consist of several stages of rougher, cleaner, scavenger and possibly re-cleaner flotation. Tailings will be either re-processed via the SX/EW circuit, or thickened and pumped directly to the TSF, where process water will be recovered back to the plant. The concentrate will also be thickened and then filtered to remove as much water as practicably achievable, then stored in a concentrate shed. Storage may be in the form of loose concentrate or possibly in woven polythene bags for shipping in containers.

The flowsheet described above is summarised graphically in Figure 30.

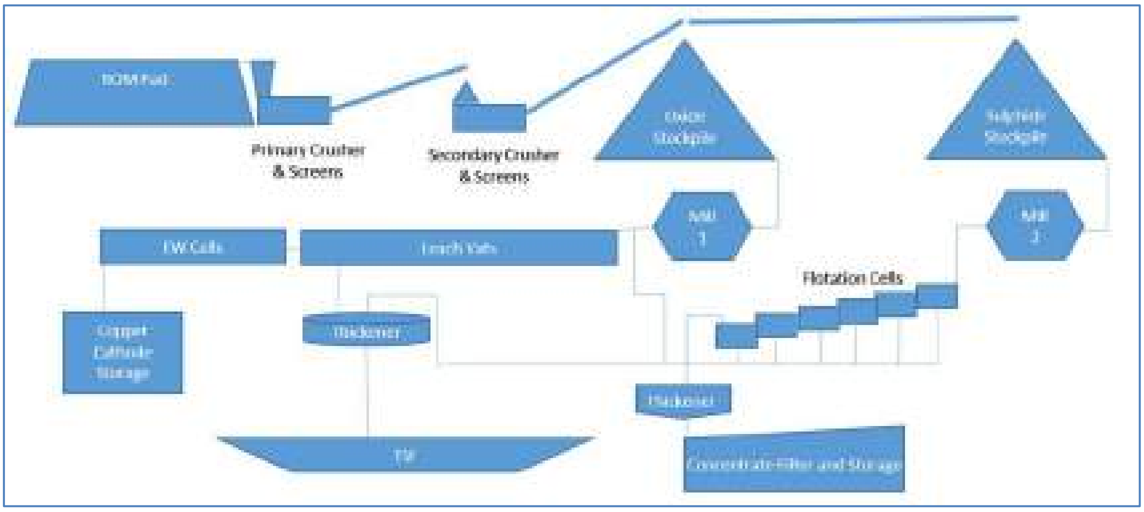

Figure 30: Conceptual simplified processing flowsheet

RSC has selected a plant throughput capacity of 650 ktpa for the flotation circuit. This would result in a life of 10 years for the base case and 11 years for the upside case.

The suggested flowsheet results in the following simplified diagram of mass balances, both annually and over the life-of-mine (Figure 31):

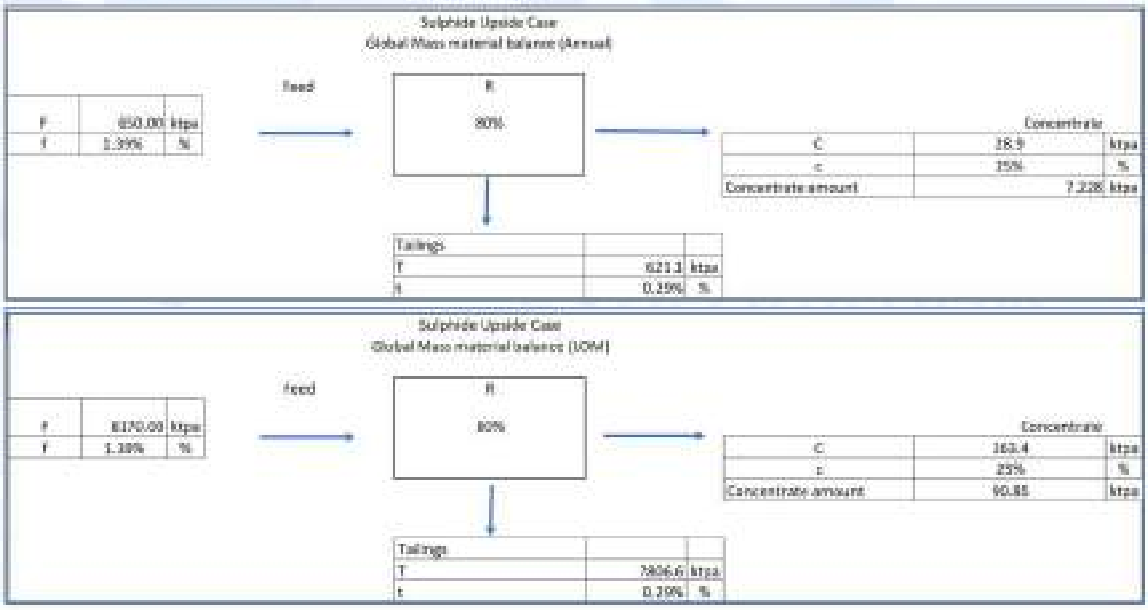

Figure 31: simplified diagram of mass balances for the suggested processing flowsheet.

Concentrate would be trucked off site, most likely to the port or refinery at Samsun, using standard on-highway trucks.

RSC expects tailings storage alternatives to include conventional storage dams constructed across gullies, and possibly some capacity in the Area B pit. Several TSFs may be required over the life of mine. Dam walls would be constructed from open-pit waste rock and dams would be lined with a suitable membrane to prevent drainage through the walls or into surrounding rocks. Once filled, TSFs may be capped as part of mine closure rehabilitation activities, using non-acid forming rock or oxide leach tailings purposely stockpiled earlier in the mine life.

Overall plant capital cost has been estimated at USD 40 M, out of a total project capex of USD 61 M. The same value has been used for both the base and upside cases. The estimate is based on information obtained from the comparable projects reports (section 8.1), which included USD 29.8 M for a 250-ktpa Çorum project (Wagner, 2018); USD 37 M for the 750-ktpa Bluelake project in Sweden (Bluelake Mineral, 2022); USD 40 M for the 450-ktpa Hayes Creek project in Australia (PNX Metals, 2017); USD 50 M for the 750-ktpa Mount Ida project in Australia (https://www.australianmining.com.au/news/gr-engineering-to-start-construction-works-at-mt-ida/); USD 62 M for the 750-ktpa Achmmach project in Morocco (Kasbah, 2016); USD 52 M for the 1.2-Mtpa Abra project in Australia (Galena, 2019); and USD 27 M for the 5,000-tpa SX/EW Ai Karaaul plant in Kazakhstan (Deloitte, 2019).

Operating costs have been estimated at USD 17.00/t for oxide, and USD 20.00/t for mixed and fresh material. This is also based on information from the comparable projects' reports, which included costs of USD 2.54–15.00/t for heap leaching and USD 9.50–29.85/t for flotation. RSC expects that the cost of crushing and grinding will be lower for oxide material than for fresh material; therefore, the selected values are regarded as reasonable. Any costs for rehandling ore from stockpiles to the ROM pad are assumed to be included in the processing cost.

8.5 Infrastructure Requirements & Costs

Due to the high-level and preliminary nature of the Scoping Study, no quotations, detailed estimates or design concepts have been prepared.

Figure 32: Possible infrastructure locations.

Figure 32 indicates the approximate pit outlines (yellow outlines) and a possible layout for the site, relative to local settlements.

RSC has assumed that electrical power would be supplied from the national grid. A USD 2.0 M capital allowance has been included in the cost estimates for connections and reticulation around site.

RSC has not determined the cost of local electricity or typical commercial terms, the capacity of existing supplies to Boğazkale, or the power requirements for the Project; however, the capacity requirement is expected to be less than 10 MW. The largest load centre will be the grinding mills, and the supply capacity will need to be sufficient to meet the starting, rather than normal operating, load of these, which will be several times higher than the rated motor load. Diesel generator backup may be required, to maintain essential systems when power cuts occur, and/or to make up the difference in starting loads if the national grid does not have sufficient capacity.

RSC notes from Google Earth satellite imagery that there is a 1.2 hectare solar farm located approximately 400 m to the west of the Area A pit limit, and that it was built in mid-2019 (Figure 32, red outline). This location will need to be considered when blasting around Area A. Data from this site can be used to evaluate how local solar installations can be expected to perform. There may be scope to expand the size of the solar farm via a long-term contract with the owner. RSC's online research indicates that 1 MW of solar power requires around 2–3 ha of area.

The site power supply may potentially include battery backup, which can be charged from both the grid and solar power, instead of diesel generator backup. Instead of upgrades to the Boğazkale grid supply (if they are needed), this would be sized large enough to meet the plant starting loads. It may be possible to generate income from such a battery, by re-charging when power costs are low and selling back to the grid when demand is high.

Water supply for processing and dust suppression will be required. RSC has not determined a reliable source for water; however, it is expected, with multiple villages in the area, that a groundwater supply may be available. The region has relatively low annual rainfall (450 mm/year, section 2.6) and, with winter snowfall and summer droughts, RSC expects that watercourses will only flow seasonally. Water could be extracted from the nearby Büyükkale river, which passes through the exploration lease. A significant portion of the water required for processing will be recycled via reclamation of water from the TSF. Some water may require treatment for human consumption.

Pumping will be required once the open-pit floor levels are below the level of the local topography. No hydrogeological studies have yet taken place. Ponded water may require treatment to remove any contamination from hydrocarbons, acid rock drainage and sediment, prior to discharge into local waterways. The degree of treatment required will be determined by the results of hydrogeological, environmental and rock characterisation studies. It may be possible to excavate long-term water storage ponds inside the pits themselves, early in the mine-life, and then drain any run-off or groundwater into these.

A number of mine buildings will be required. These will include workshops, offices, warehouses, storage sheds, ablutions and eating areas. A number of laydown areas for stores and equipment will also be required. RSC has included USD 2.0 M in the capital cost allowances for buildings other than those included in the plant construction.

The mine site would need to be ring-fenced for security purposes (Figure 32, green outline). RSC estimates that the site boundary perimeter length would be around 6–7 km.

Fuel and chemical storage areas will be required.

An explosives magazine location is yet to be determined. The location would need to meet local regulatory standards, which RSC has not yet investigated. It would need to take into account security concerns and proximity to residential and other infrastructure.

Some land acquisitions would be required. RSC has included a nominal USD 2.0 M in the capital allowances for these. AVOD advises that preliminary investigations have resulted in the expectation that the purchases should be welcomed in the local community and that the cost allowance should be more than adequate. RSC estimates that the area within the site boundary perimeter would be 225–275 hectares.

Some residential purchases or construction of new houses may be required in order to attract skilled professionals to the operation. The cost of these is assumed to be part of the capital contingency allowance. The total contingency allowance is USD 12.25 M (25% of the defined capital total).

8.6 Human Resource Requirements

Due to the preliminary and high-level nature of the Scoping Study, RSC has not prepared any workforce size estimates, or investigated local labour laws and requirements. RSC has operated on the following assumptions.

The majority of non-technical workers would be sourced locally. All employees would be expected to reside locally. Turkey, and the Çorum and Yozgat provincial areas, have established mining industries, so sourcing suitable personnel is not expected to present any difficulties.

Mining would take place on a two-shift, eight-hours-per-shift basis, five days per week. Some maintenance may take place outside these times. This may change to another roster, depending on the outcomes of future studies and local workforce and contractor agreements. Equipment operators, maintenance personnel and supervisors would be contractors. They would be supported by various technical disciplines such as mining engineers, geologists, samplers and surveyors; most of these would be working dayshift, five days per week, with occasional shift work for ore-spotting and call-outs for surveying. Technical and management personnel would be employees of the mine owner.

Processing would take place on a three-shift, eight-hours-per-shift, seven-days-per-week basis. It is likely that four or six crews would be required in order to rotate the shifts. An alternative would be to employ either three or four crews on 12-hour shifts, as is more usual in countries such as Australia. Most personnel would be employed by the mine owner, with various contractors and sub-contractors, such as shutdown maintenance crews, crane operators and similar roles, coming to site as required. Some functions, such as light vehicle maintenance, site security and cleaning, may be undertaken by local contractors.

Administrative, safety and training, environmental, social engagement, logistics and other support would be on a five-days-per-week basis.

Mine security would be required at all times.

Various consultants would be required to come to site on an occasional basis.

Some support functions, such as corporate management, would take place remotely.

A higher number of workers would be required during the construction stage. These would be mostly short-term contractors.

8.7 Environmental Consents, Approvals & Land Access

Environmental studies regarding mining at Çorum are yet to take place. Due to the preliminary nature of the Scoping Study, RSC has not undertaken any detailed investigation into what will be required, or what issues may be expected at a local level. RSC has been guided in this area by the comparable projects' reports, and in particular the Environmental and Social Impact Assessment (ESIA) reports for the Gökirmak Copper project (Acacia et al., 2017) and Öksüt Gold Mine (Citrus Partners, 2016).

Land access is not expected to present any difficulties.

Initial studies and reports will need to be undertaken prior to commencing a pre-feasibility study. These will then need to be developed in more detail as the mine progresses toward commencing operations. Ongoing studies and monitoring would be required throughout the mine life. Organisations from government, educational, non-government and consulting entities would need to be engaged to undertake the required studies.

Some of the studies will require a certain amount of data to be collected over time. For example, some studies may require a minimum of four seasons worth of data (Salinbas fact sheet https://arianaresources.com/component/rsfiles/download-file/files?path=Media%252Fmm-aau-report-final-18122019a.pdf&Itemid=188).

A preliminary list of possible studies and permitting requirements includes:

- a National Environmental Impact Assessment for the approval of the Ministry of Environment and Urban Planning and receipt of an EIA Positive Certificate — parts of the requirements for this may be bypassed by application for one or more 'EIA Not Required' certificates;
- a socio-economic survey of the local area — to provide a baseline against which socio-economic impacts and opportunities can be considered during the Project planning process;
- an Environmental and Social Impact Assessment (ESIA);
- an ESIA disclosure package;
- environmental sampling and analysis;
- surface and groundwater monitoring;
- stakeholder engagement activities with a range of key stakeholders, including representatives of local communities (i.e. village headmen, affected landowners/users, wider community members including women), employees from the local area, local governmental bodies, media, non-governmental organisations, local business enterprises and cooperatives (including meetings with public institutions, focus groups and community meetings);
- biodiversity studies;
- studies on land use and livelihoods;
- studies on groundwater and geochemical modelling;

- studies on archaeology;
- visual impact and social amenity studies;
- the development of an Environmental and Social Management System, including a/an:
  - Air Emissions Management Plan
  - Biodiversity Management Plan
  - Biodiversity Offsets Strategy
  - Community Health, Safety and Security Management Plan
  - Community Development Framework
  - Contractor Control Management Plan/Procedure
  - Conceptual Mine Closure Framework
  - Contractor Management Framework
  - Cultural Heritage Management Plan
  - Emergency Response Plan
  - Emergency Action Plan
  - Emergency Preparedness Plan
  - Fire Prevention and Fire Protection Plan
  - Hazardous Materials Management Plan
  - Labour Management Plan
  - Livelihood Restoration Framework
  - Local Procurement Plan
  - Erosion and Sediment Control Plan
  - Influx Management Plan
  - Mineral Waste Management Plan
  - Noise and Vibration Management Plan
  - Occupational Health and Safety Plan
  - Oil and Chemicals Spill Response Plan
  - Non Mineral Waste Management Plan and Pollution Prevention Plan
  - Stakeholder Engagement Plan (SEP) and Grievance Procedure
  - Supply Chain Management Plan
  - Transport Management Plan
  - Water Resources Management Plan;
- Biodiversity Action Plan (BAP); and
- Environmental and Social Action Plan (ESAP).

Various audits would also be required in order to verify that the plans have been prepared adequately and are being complied with.

A number of permits would be required in order to undertake various Project activities. A preliminary list of some of the permits that may be required is included in Table 19. The list is not comprehensive.

Table 19: Possible permits required.

Permit	Related Authority/Entity
Permit for Use of Forest Land for Mining Related Activities and Facilities	Provincial Directorate of Forestry
Permit for Use of Agricultural Land for Non-Agricultural Purposes	Provincial Directorate of Food, Agriculture and Livestock
Special Permit for use of WRL area	General Directorate of Mining Affairs
Waste Storage Project Approval for TSF	Ministry of Environment and Urbanisation
Temporary Activity Permits	Provincial Directorate of Environment and Urbanisation
Environmental Permit	Ministry of Environment and Urbanisation
Workplace Opening and Operating Permit	Special Provincial Administration
Groundwater Use Permits	State Hydraulic Works (DSI)
Surface Water Use Permit	State Hydraulic Works (DSI)
Positive Opinion of Ministry of Culture and Tourism	Ministry of Culture and Tourism
Permit for Purchasing and Using Explosives	Governorship of Çorum/ Yozgat
Packaging Waste Disposal Agreement	Entity not specified
Right of Way Agreements for Electrical Transmission Lines	Energy Market Regulation Authority (EMRA)
Electricity Licence	BEDAŞ

8.8 Markets & Pricing for the Product(s) Produced

Due to the preliminary nature of the Scoping Study, RSC has not undertaken detailed market analysis or sought any forward price estimates for copper cathode or concentrate sales, terms or conditions.

Copper is one of the most widely used and traded commodities in world markets. RSC has examined the historical price of copper, based on prices at the London Metals Exchange (LME) over the past five years, as indicated in Figure 18.

Two market prices for copper have been assumed for the preliminary economic assessment. The base case has used a price of USD 3.00/lb and the upside case has used a price of USD 4.50/lb.

For the purposes of the economic assessment in section 8.10, RSC has modified the initial assumptions for treatment and refining (TC/RC) terms and conditions, from those used in the open pit optimisation inputs of section 8.2. The updated assumptions are outlined in Table 20.

Table 20: TC/RC assumptions for economic assessment.

TC/RCs	Base Case	Upside Case
Moisture Content (% w/w)	10%	10%
Freight & Insurance (/wmt)	USD 100	USD 80
Smelting (/dmt)	USD 100	USD 145
Refining (/lb)	USD 0.100	USD 0.145
Payable Copper (% in con)	97.5%	97.5%

8.9 Mine Capital & Operating Costs

RSC emphasises that, while care has been taken in determining capital and operating costs, the Scoping Study is a high-level study and primarily based on conceptual rather than designed or tested assumptions. The outcomes approximately conform to AACE guideline 18-R97 Class 5 expected accuracy ranges, or -20% to -50% and +30% to +100% (AACE, 2005). The Competent Person regards this as being appropriate for a Scoping Study.

8.9.1 Capital Costs

The capital cost estimates have been guided by a combination of industry experience and information available in the comparable projects reports (section 8.1). The UMREK Code (2018) Table 2 includes guidance that Scoping Studies should allow a typical contingency factor of 25% for capital estimates. RSC has therefore used this factor in financial modelling of both the base and upside cases. The capital costs allowances are summarised in Table 21.

Table 21: Summary of capital cost allowances.

Item	Capital Costs (USD)
Processing Plant & TSF	40,000,000
Land Acquisitions	2,000,000
Electrical Infrastructure	2,000,000
Workshops, Offices, Warehouses, Fuel, Explosives, Other Buildings	2,000,000
Earthworks	1,000,000
Rehabilitation/Closure	2,000,000
Contingency, 25%	12,2550,000
Calculated Total	61,250,000
Total used for Assessment	61,000,000

The estimates in Table 21 do not include costs for pre-feasibility or feasibility studies, or the associated studies required to inform them. They also do not include costs for permitting, further exploration drilling or sterilisation drilling programmes.

Rehabilitation and closure costs are a nominal figure, and RSC expects that there will be some revenue from sales of buildings and equipment that will contribute to the closure costs. The economic evaluation model assumes that all expenditure on rehabilitation and closure takes place at the end of the mine life; however, in practice some activities will take place progressively throughout the mine life.

8.9.2 Operating Costs

The derivation of the mine operating costs has been discussed throughout this report. The costs used are summarised in Table 22. The UMREK Code (2018) Table 2 includes guidance that Scoping Studies should allow a typical contingency factor of 25% for operating cost estimates. RSC has used this factor in financial modelling of the base case but not the Upside case.

Table 22: Summary of operating costs.

Mining and Processing Costs (USD/t)	Base Case	Upside Case
Waste Mining	2.19	1.75
Ore Mining, Oxide	2.19	1.75
Ore Mining, Mixed	2.50	2.00
Ore Mining, Sulphide	2.50	2.00
Processing Oxide	21.25	17.00
Processing Mixed	25.00	20.00
Processing Sulphide	25.00	20.00
G&A	13.75	11.00

RSC has not applied any contingency to the treatment, refining or freight and insurance cost assumptions.

8.9.3 Royalties/State Rights

Royalty allowances in the model are as per section 8.2, set at 3% of NSR revenues. Royalties are treated as a reduction in revenue rather than a cost to the project. There are no private rights royalties applicable to the Project.

The Turkish royalty system, or system of state rights, is complex. It is RSC's understanding that the following conditions apply.

- Rates are set on sliding scales according to the commodity and the prevailing London Metals Exchange (LME) price over a period of time. Copper is classed as a group 4 commodity and the current percentage royalties are applied as per Figure 33. Copper's designation is IV(c), 'bakir'.

  From this table, for an LME copper price of USD 3.00/lb, or USD 6,600 t, the applicable rate is 7%. For a copper price of USD 4.50/lb (USD 9920/t), it is 15%.
- The point at which the sales price is applied is variable, with deductions for the cost of production and the cost of TC/RCs. RSC has not determined the exact method by which these are calculated.
- There are also deductions for how the commodity is processed and where it is sold.
  - If it is upgraded or refined in Turkey then it is eligible for a 75% reduction in the rate or, according to Google Translate, 75% of the state right is not collected. RSC understands that cathode and concentrate production will both be able to be classified as upgrading.
  - If it is mined from underground, then there is a further 50% reduction in the rate.
- There is also scope, at the discretion of the President, for a variation of up to 25% of the applicable rate. This can be either upward or downward.

(Ek: 4/2/2015 tarihli ve 6592 sayılı Kanun ile) (Değişik:14/2/2019-7164/14 md.)

(3) SAYILI TABLO

Devlet Hakkı Oranı (%)	ALTIN $/oz	GÜMÜŞ $/oz	PLATİN $/oz	BAKIR $/t	KURŞUN $/t	ÇİNKO $/t	KROM $/t	ALÜMİNYUM $/t	URANYUM OKSİT $/lb
1	<800	<10	<500	<5000	<1000	<1000	<100	<1000	<20
2	801-900	11-12	501-600	5001-5300	1001-1175	1001-1250	101-170	1001-1150	21-30
3	901-1000	13-14	601-700	5301-5600	1176-1350	1251-1500	171-240	1151-1300	31-40
4	1001-1100	15-16	701-800	5601-5900	1351-1525	1501-1750	241-310	1301-1450	41-50
5	1101-1200	17-18	801-900	5901-6200	1526-1700	1751-2000	311-380	1451-1600	51-60
6	1201-1300	19-20	901-1000	6201-6500	1701-1875	2001-2250	381-450	1601-1750	61-70
7	1301-1400	21-22	1001-1100	6501-6800	1876-2050	2251-2500	451-520	1751-1900	71-80
8	1401-1500	23-24	1101-1200	6801-7100	2051-2225	2501-2750	521-590	1901-2050	81-90
9	1501-1600	25-26	1201-1300	7101-7400	2226-2400	2751-3000	591-660	2051-2200	91-100
10	1601-1700	27-28	1301-1400	7401-7700	2401-2575	3001-3250	661-730	2201-2350	101-110
11	1701-1800	29-30	1401-1500	7701-8000	2576-2750	3251-3500	731-800	2351-2500	111-120
12	1801-1900	31-32	1501-1600	8001-8300	2751-2925	3501-3750	801-870	2501-2650	121-130
13	1901-2000	33-34	1601-1700	8301-8600	2926-3100	3751-4000	871-940	2651-2800	131-140
14	2001-2100	35-36	1701-1800	8601-8900	3101-3275	4001-4250	941-1010	2801-2950	141-150
15	>2101	>37	>1801	>8901	>3276	>4251	>1011	>2951	>151

Devlet hakkının oluştuğu döneme ait Londra Borsası ortalama değeri esas alınır.
Devlet hakkının oluştuğu döneme ait Türkiye Cumhuriyet Merkez Bankası ortalama döviz kuru

Figure 33: Table outlining current royalty rates, extract from the mining law, Article-14; Appendix-3.

The comparable projects (section 8.1) reported applicable royalty rates that varied from 0.5%–4.6% of revenue. RSC estimates that, if the above considerations are taken into account, then the applicable rate for the base case could be less than 1.75%, and for the upside case it could be less than 3.75%. It should be noted that the rates may change over time and/or be adjusted at The President's discretion. As such, in RSC's opinion, at a Scoping Study level, allowing 3% of NSR revenue is an appropriate course of action.

8.10 Financial Analysis

The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Mineral Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

For preliminary scheduling purposes, RSC has assumed processing throughput rates of 125 ktpa for the vat leach SX/EW, and 650 ktpa for the flotation circuit. Mixed ore is processed prior to processing of oxide ore. Waste movement is set at 1.5 Mtpa, other than where it reduces in the final years of mining.

For discounted cashflow and net present value (NPV) purposes, the discount rate is 8% per annum. This is the rate most commonly used for international studies of this type.

RSC adjusted the metallurgical deportments from those in the pit optimisations so that, for the base case, recovery for oxide is 70% to cathode, recovery for mixed material is 40% to cathode and 20% to concentrate (60% in total), and recovery for unweathered, fresh material is 80% to concentrate. For the upside case, recovery for oxide is 80% to cathode, recovery for mixed is 55% to cathode and 25% to concentrate (80% in total) and recovery for fresh material is 80% to concentrate.

A construction, or pre-production, period of two years would be followed by 9.8 years of production in the base case, and 10.8 years of production in the upside case. This would be followed by one year of rehabilitation and closure.

A summary of the outcomes of the preliminary financial modelling is presented in Table 23.

Table 23: Summary financial model outcomes.

Headline Outcomes	Base Case	Upside Case
Ore Tonnes Mined (dmt)	7,520,000	8,170,000
Cu % Processed (%)	1.46	1.39
Concentrate Shipped (dmt)	265,440	276,675
Copper Cathode Produced (t)	18,821	21,623
Sold Copper (t)	83,522	89,063
Sold Copper (Mlb)	184	196
Pre-Tax Revenue (USD M)	466	771
Net Cashflow, Pre-Tax (USD M)	71	419
Project Duration, Nominal (years)	9.8	10.8
NPV, Pre-Tax, Y1 dollars (USD M)	27	255
IRR, Pre-Tax, Y-2 (%)	15	59

RSC notes that the NPV figures in Table 23 are based on 'year one' cashflows, while the internal rate of return (IRR) estimate is based on 'year minus-two' cashflows. Due to the preliminary nature of the Scoping Study, all cashflows are calculated pre-tax and are in nominal (un-escalated) rather than real (inclusive of inflation) dollars. The UMREK code does not require escalated estimates for Scoping Studies (UMREK, 2018. Table 2).

It is RSC's experience that post-tax cashflows and enterprise values can be expected to be in the range of 65–80% of the pre-tax equivalents. However, based on Duzgun (2018), and the treatment of Value Added Taxes (VAT) in that report, it is possible that a tax credit of around 20% of the operating margin may be applicable, which could offset corporate taxes by a similar amount. RSC has not investigated this possibility.

Charts of estimated pre-tax cashflows for the base and upside cases are found in Figure 34 and Figure 35.

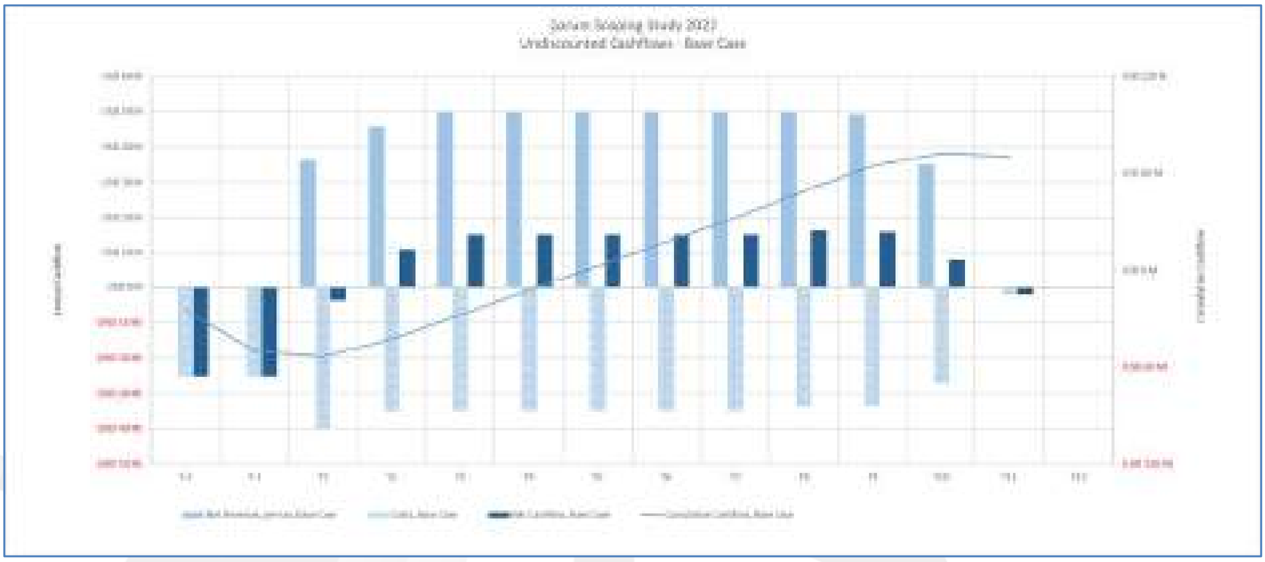

Figure 34: Project cashflows, Base Case.

For the base case, the Project capital payback period would be approximately 4.8 years.

Figure 35: Project cashflows, Upside Case.

For the upside case, the Project capital payback period would be approximately 1.6 years.

Secondary outcomes of the Scoping Study are found in Table 24.

Table 24: Secondary Scoping Study outcomes.

Secondary Outcomes	Base Case	Upside Case
Waste Tonnes (dmt)	12,691,000	14,275,000
Waste:Ore Stripping Ratio (t.w/t.o)	1.7	1.7
Oxide Tonnes (dmt)	970,000	990,000
Oxide Grade (%Cu)	2.68	2.63
Mixed Tonnes (dmt)	150,000	130,000
Mixed Grade (%Cu)	1.04	1.11
Sulphide Tonnes (dmt)	6,400,000	7,050,000
Sulphide Grade (%Cu)	1.29	1.22
Pre-Production Capital (USD M)	61	61
AISC/lb Payable (USD/lb)	2.15	1.70

The estimated all-in sustaining cost (AISC) is approximately USD 2.15/lb payable, or USD 44/t processed for the base case, and USD 1.70//lb payable, or USD 35/t processed for the upside case. The effective, or realised, copper sales price, after TC/RCs and royalties, varies from year to year due to the differing waste tonnages and proportions of oxide and sulphide grades processed. Over the life of mine (LOM), it is USD 2.48/lb for the base case and USD 3.85/lb for the upside case. This equates to an approximate LOM break-even ROM grade of 0.57% Cu for the base case and USD 0.38% Cu for the upside case. Pre-production capital costs would add approximately USD 0.25–0.30/lb (15–20%) to the LOM costs.

RSC notes that oxide material contributes approximately 15% of the tonnes and 26% of the contained copper to the MRE, and 25–27% of revenue to the economic evaluation. All oxide material in the MRE is classified as Inferred. Approximately 61% of sulphide tonnes and 68% of sulphide contained copper is also classified as Inferred. In total, approximately 65% of tonnes and 70% of contained copper for the Project is classified as Inferred. There is a lower level of confidence associated with Inferred Mineral Resources and there is no certainty that these will convert to Indicated or Measured Mineral Resources.

Due to the preliminary nature of the Scoping Study, RSC has not performed any sensitivity analyses on the outcomes of the financial outcomes. Comparison of the base and upside cases illustrates parameters to which the Project can be expected to be sensitive.

9 Risk analysis

RSC has used the subject headings from the UMREK code Table 1, section 1 and section 4, as a template for analysing the risks associated with the Project and how they relate to the Scoping Study. The risks are rated according to the requirements of the UMREK code (2018), the amount, accuracy and precision of current information, and the potential impact that the item in question could have on the Scoping Study assumptions and outcomes in the event that future studies, or actual mining and processing, differ materially from those outcomes. Some topics can be given multiple ratings, based on differences between relevant sub-topics.

The overall risks and scores consider the relative standards required or expected for a Scoping Study, Pre-Feasibility Study or Feasibility Study (Table 25; Figure 36).

Each topic and risk rating is discussed and commented upon to an extent appropriate to the ratings (Table 26, Table 27).

Table 25: Guide to risk analysis used in this report.

Compliance with UMREK Code/Status of Information	
Absent	Entirely absent
Poor	Information not yet available
	Briefly addressed in report
Adequate	Complies with minimum requirement
	Preliminary information available
Good	Exceeds requirements
	Preliminary studies complete, detailed studies in progress
Excellent	Industry best practice
	Final studies/permits/contracts well advanced or complete

Performance Score Card	
0	Complete failure or erroneous
0–3	Information is conceptual
3–5	Preliminary designs/studies complete
5–8	Information sufficient to make an investment decision
8–10	Exceeds industry standard and constitutes best practice

Impact **Rating**		
None	1	No risk
Low	2	Minimal risk to MRE, Reserves or project viability, within the ranges of Measured or Proved
Moderate	3	Moderate risk, within the ranges of Indicated or Probable
High	4	Notable or consequential risk, within the ranges of Inferred
Critical	5	Significant risk, ranges of error could result in a non-viable project.

			Impact Score				
	Score	Risk*	1	2	3	4	5
Performance Score	10	1	1	2	3	4	5
	9	2	2	4	6	8	10
	8	3	3	6	9	12	15
	7	4	4	8	12	16	20
	6	5	5	10	15	20	25
	5	6	6	12	18	24	30
	4	7	7	14	21	28	35
	3	8	8	16	24	32	40
	2	9	9	18	27	36	45
	1	10	10	20	30	40	50

Combined Score	0-12.5	12.5-25	25-37.5	37.5-50
Risk Rating	Low	Moderate	High	Extreme

* Performance Risk is the inverse of the Performance Score

Figure 36: Risk score matrix.

Table 26: Risk Analysis, UMREK Table 1, section 1.

Assessment Criterion	Information Status	Performance Score (1–10)	Impact Score (1–5)	Risk Rating	Comments
Purpose of Report	Excellent	9	1	Low	Cover page, Table of Contents, Table of Tables, Table of Figures all complete. Section 1 outlines the project subject and purpose. The report is prepared for AVOD Altın Madencilik Enerji İnş.San.ve Tic A.Ş. (Cover page & section 1.1) The report purpose is a full Scoping Study assessment. Effective date is 30th June 2022 (Cover page) Recommendations are contained in section 11. The Competent Person confirms that the report conforms to the UMREK code.
Nd purpose	Excellent	9	1	Low	Project general summary is in section 2. Summary information on study type, geology, deposit type, commodity, project area, infrastructure and business agreements are contained in the executive summary. Key technical factors are summarised in the executive summary. Mining, processing/beneficiation and other key technical factors are summarised in the executive summary.
History	Good	9	1	Low	Project background is discussed in section 2.10. All data from other sources is referenced. Historical estimates and reports are discussed in section 6. There are no relevant former mining activities and therefore no former achievements or failures. Reasoning for why the project is considered potentially economic is discussed in section 0. There are no historical Mineral Reserves estimates.
Critical Plans, Maps, Diagrams	Good	8	1	Low	Plans, maps and diagrams are included throughout the report. All are legible, clearly labelled and discussed. Sources are referenced. Co-ordinates, scale-bars and north arrows are included where appropriate.
Project Location & Explanation	Good	8	1	Low	Project location is discussed in section 2.1. Includes country, province and closest town, co-ordinate system, and relevant distances to key locations. Co-ordinate system is UTM ED50 Zone 36N (section 2.1) Locations of mining lease boundaries are presented in section 2.1 Previous and current work is discussed in sections, 2.10, 3 & 6. Exploration and main geological characteristics are discussed in section 4 and section 5.

Assessment Criterion	Information Status	Performance Score (1–10)	Impact Score (1–5)	Risk Rating	Comments
Topography & Climate	Good	8	1	Low	Physiography is discussed in section 2.2. Climate is discussed in section 2.6. The area has been examined by RSC using Google Earth satellite imagery, and multiple figures of satellite and aerial imagery are included in the report. The CP does not regard it as necessary to include a detailed topographic-cadastral map presenting weather, ground conditions, dense vegetation and/or high-altitude areas.
Legal Aspects & Tenure	Adequate	6	2	Low	The Competent Person confirms that legal tenure is current. Tenure and tenure status is discussed in section 2.2. Type of licensing body and rights of use are not discussed other than mention that it is an exploration licence. Exploration licence terms and conditions are discussed in section 2.2. Historical and cultural areas are discussed in section 2.1. There are no known nature or national parks in the area. There are no known environmental conditions, non-state royalties, consents, permits approvals or authorisations, other private or public investment areas currently applicable. Future permits and environmental requirements are discussed in section 8.7. Security of the tenure is current, as discussed in section 2.2. There are no known legal cases that could affect mineral exploration rights, or a suitable negative statement.
Personal Introduction in Projects and Verification of Data	Good	7	1	Low	Site visits are discussed in section 1.5. Members of the team preparing the Scoping Study have not visited the site but have discussed the project with associates who have visited the site. Detailed research into the Turkish mining industry and the Project itself is discussed throughout the report. People responsible for the reported project, and their areas of responsibility, are discussed in section 1.2. Observations on site visits are discussed in sections 1.5 & 2.10. All areas of the site are accessible for individual confirmation. References for all data used for public reporting is included in section 12.

Sections 2 & 3 of the UMREK Code Table 1 are not included here as they do not apply to a Scoping Study. Discussion of the relevant criteria is included in Chapman (2022) and in Appendix A.

Table 27: Risk Analysis, UMREK Table 1, section 4.

Assessment Criterion	Compliance/ Status	Performance Score (1–10)	Impact Score (1–5)	Risk Rating	Comments
Database Integrity	Good	7	2	Low	Details of "Measures taken to ensure data are not corrupted between first collection of data and being used to estimate Mineral Resource" are included in Chapman (2022), section 7 'Data Quality'. This information has been reviewed by the Competent Person and is confirmed to be appropriate to the Scoping Study being undertaken.
Geological Interpretation	Excellent	7	3	Low	Summaries of the geological model, inferences and estimation procedures are included in sections 4.4 and 7. Details of these topics are contained in Chapman (2022) sections 4, 6 & 9. This information has been reviewed by the Competent Person and is confirmed to be appropriate to the Scoping Study being undertaken.
Estimation and Modelling Techniques	Excellent	8	2	Low	Details of estimation and modelling techniques are contained in Chapman (2022) section 9. This information has been reviewed by the Competent Person and is confirmed to be appropriate to the Scoping Study being undertaken.
Metal Equivalents (or other combined representation of other multiple components)	N/A	-	-	-	Metal equivalents are not used.
Cut-Off Grades and Parameters	Excellent	9	2	Low	Cut-off grades used for MRE are discussed in section 8.2. Input parameters for open pit optimisations, used in place of cut-off grades, are also discussed in section 8.2. The derivation of these parameters is discussed in sections 8.1 and 8.2. Final project outcomes and break-even grades are discussed in section 0.
Tonnage Factor/In-Situ Bulk Density	Good	7	2	Low	Bulk density is discussed in section 7. Density is determined rather than assumed. Bulk density values have been reduced for the 2022 MRE, relative to previous estimates, using only core-tray measurements taken since 2021. RSC regards the estimates to be appropriate and conservative.

Assessment Criterion	Compliance/ Status	Performance Score (1–10)	Impact Score (1–5)	Risk Rating	Comments
Mining factors or assumptions	Good	8	2	Low	Methods and assumptions made for converting the Mineral Resource into potentially extractable tonnes estimates are discussed in sections 8.2, 8.3, 8.4, 8.5 and 8.6. The MRE is the first to be constrained by mining concepts for RPEEE purposes. The difference between constrained and unconstrained volumes is relatively low. Two estimates have been evaluated, from a selection of alternatives. The selection process is discussed in detail. The base case presented uses conservative inputs while the upside case modifies some of the assumptions into generally optimistic but reasonably justifiable inputs. No designs have been prepared. The Scoping Study relies upon the outcomes of open-pit optimisation shells. Geotechnical parameters are based on assumptions. The project is yet to be the subject of a geotechnical testing or logging programme and no geotechnical study has been prepared. No hydrogeological measurements or studies have taken place. Potential considerations are discussed in sections 8.2.3 and 8.5. The Competent Person regards the inputs used to be appropriate to a Scoping Study.
Metallurgical Factors or Assumptions	Good	7	2	Low	The metallurgical factors and assumptions have been guided by comparison to similar projects and commonly used processing techniques. These are discussed in detail in sections 8.1, 8.2 and 8.4. Discussions include metallurgical recoveries and upgrading factors. No metallurgical testing programme have taken place. Processing flowsheet assumptions are conceptual. They have not been reviewed by a professional metallurgist. RSC regards the range of assumptions used to be generally conservative and that future test programme and flowsheet optimisations may result in material improvements over those assumed for the Scoping Study. RSC is not aware of any by-product or deleterious elements. Discussion of potential environmental issues such as rock geochemistry, acid rock drainage and acid-forming minerals, and mitigation alternatives, is included in sections 8.2.3 and 8.4. Tonnes and grades of the reported mining inventories are for material delivered to the processing plant. Quantities of recovered material are included in section 0. The Competent Person regards the assumptions used to be appropriate to a Scoping Study.

Assessment Criterion	Compliance/ Status	Performance Score (1–10)	Impact Score (1–5)	Risk Rating	Comments
Mineral Resource Estimation for Mineral reserve Conversion	Good	8	1	Low	The declared Mineral Resource is included in section 7. No Mineral Reserves have been declared. The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Mineral Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised. The Scoping Study is partly supported by Inferred Mineral Resources. There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that these will convert to Indicated or Measured Mineral Resources.
Cost & revenue Factors	Good	3	3	Moderate	All currency values for inputs and outputs are in United States Dollars (USD). The derivation of assumptions made in relation to the project capital and operating costs is detailed in sections 8.1, 8.2 and 8.9. Estimates have been guided by research and industry experience. The research has included review of multiple comparable projects, both in Turkey and elsewhere for relevant projects. Details of the data used in the review are discussed in section 8.1. Commodity prices for two cases have been selected. These are based on conservative and optimistic market LME copper price levels over the past five years. Freight, treatment and refining charges for two cost regimes have been used and are discussed in sections 8.2 and 8.8. The proportion of royalties payable is discussed in sections 8.2 and 0. RSC's assumption is that royalties will equate to 3% of net smelter return revenues. The Competent Person regards the estimates used as being appropriate to a Scoping Study.
Market Assessment	Good	4	2	Moderate	Copper and copper concentrates are some of the most widely used and traded commodities worldwide. Marketing of product is not expected to present any risks to the project. Detailed market analysis has not been undertaken. The Competent Person regards the estimates used as being appropriate to a Scoping Study.
Other	Good	5	2	Low	Environmental, land access and other permitting is discussed in section 8.7. Location plans of mineral rights and titles are presented and discussed in sections 2.1 and 2.2. Impacts of natural risk, infrastructure, environmental, legal, marketing, social or governmental factors on the possible viability of the project and/or classification and estimation of Mineral Reserves are discussed at levels appropriate to a Scoping Study. Conditions of important ownerships and approvals related to the construction of the project, mining leases, discharge permits, government or statutory approvals etc. and Environmental obligations are discussed at levels appropriate to a Scoping Study.

Assessment Criterion	Compliance/ Status	Performance Score (1–10)	Impact Score (1–5)	Risk Rating	Comments
Classification	Good	7	3	Moderate	The basis of classification of the Mineral Resources into varying confidence categories is discussed in Chapman (2022), section 9. The contribution of Inferred Mineral Resources to the evaluation is discussed in section 8.10. This information has been reviewed by the Competent Person and is confirmed to be appropriate to the Scoping Study being undertaken. No Mineral Reserves have been declared.
Audits and reviews	Adequate	7	1	Low	Reviews of previous estimates are included in section 6. These are commented on in section 6.6. The MRE and Scoping Study reports have been subjected to extensive internal and external peer reviews but have not been audited.
Discussion of relative accuracy/confidence	Adequate	8	2	Low	Relative accuracy and confidence in the MRE are discussed in Chapman (2022), section 9. Relative accuracy and confidence in the Scoping Study is discussed in section 8.9. The outcomes are regarded as being to approximately AACE guideline 18-R97 Class 5 expected accuracy ranges, or -20% to -50% and +30% to +100% (AACE, 2005). The Competent Person regards this as meeting the requirements of the UMREK code, Table 2, for a Scoping Study.

10 Interpretation & Conclusions

The results of the Scoping Study are indicative that mining and processing of the Çorum copper deposit may represent an economically viable project, that a pathway to mining and processing exists, and that current mineral resources are likely to be able to be converted to mineral reserves. The project warrants progression towards a pre-feasibility study.

The deposits appear to be suitable for open-pit mining. The mining industry in Turkey is well-established. Based upon the available information, site conditions are such that no unusual technical, environmental or regulatory difficulties regarding mining of the deposits, have been identified.

The outcomes of open-pit optimisations indicate that the deposits are relatively insensitive to variations in assumed input parameters. In each case assessed, the great majority of the unconstrained MRE converted to the potentially extractable tonnes. This is due to the shallow nature of the deposits, the relatively low proportions of overburden or waste material, and the fact that the lowest estimated mineralised Cu grades in the MRE are several times higher than the calculated cut-off grades.

Testing programmes for metallurgical recovery, material work indexes and abrasion estimates, and rock characterisation have yet to be undertaken. The outcomes of such programmes may have a material impact on the assumptions used in the Scoping Study; however, the input assumptions are regarded as having presented a sufficient range of outcomes to indicate that the Project would remain economic through the likely range of possibilities. Processing of copper ores also uses well established technologies and it is likely that a viable processing flowsheet for the deposits can be determined.

The terrain is likely be suitable for locating infrastructure such as processing plant, waste rock landforms and tailings storage facilities. Minimising visual impact is possible. Alternatives exist for provision of electrical power, water and other services. Some land purchases will be required and have been considered in estimates. It is RSC's understanding that such purchases will be welcomed in the local community.

A number of alternatives for employment rosters have been identified. Sourcing suitable skilled and unskilled labour is not expected to present any difficulties.

Multiple environmental test programmes and studies will be required in order to obtain permits to commence operations, and to progress pre-feasibility and feasibility studies. These will take time and may become a deciding factor in timing of operational commencement.

11 Recommendations

RSC recommends that the project advances towards a pre-feasibility study. A number of programmes of work will be required, in order to inform a PFS. These include.

- in-fill and extensional exploration drilling, to define the extents of the deposits and upgrade the MRE classifications;
- an updated MRE;
- geotechnical testing of core samples;
- geotechnical logging and a geotechnical study — this may require drilling of specific geotechnical holes;
- sterilisation drilling, or other method, to eliminate potential for mineralisation beneath possible infrastructure locations;
- rock mass characterisation testing and study, for geochemistry and metallurgy;
- metallurgical testing, for recovery, comminution, minerography, mineralogy and conceptual process flow;
- a TSF design and risk study;
- a hydrogeology study (surface and groundwater);
- biodiversity, stakeholder engagement, archaeology, climate and other surveys;
- visual impact, noise, dust, vibration, pollution and other studies;
- an environmental impact assessment; and
- a social-impact study.

Additional work to that described above may be required.

Once the above-mentioned information is available, work can commence on:

- updated optimisations and preliminary mine designs;
- a process flowsheet and plant design;
- preliminary electrical power supply arrangements;
- traffic and other external impact modelling;
- sourcing preliminary costings, budget pricings, marketing research; and
- regulatory permitting.

The results of a PFS will inform the requirements for further refinement of all of the above programme of work, in order to progress to a feasibility study and decision to mine.

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APPENDIX A: The UMREK Code, 2018 Edition, Table 1

Table 28: UMREK Table 1, section 1, General.

Assessment Criterion	Code Guidance	Comments
Purpose of Report	Report should include a cover page and a Table of Contents, including a list of figures and tables. Indicate for whom the report is prepared, specify whether the purpose is a partial or full assessment or other purpose, what scopes of work were carried out, effective date of the report and what is left to do. The Competent Person must specify whether the document conforms to the UMREK Code. If a reporting standard or code other than the UMREK Code is being used, the Competent Person shall add an explanation of differences.	Cover page, Table of Contents, Table of Tables, Table of Figures all complete. Section 1 outlines the project subject and purpose. The report is prepared for AVOD Altın Madencilik Enerji İnş.San.ve Tic A.Ş. (Cover page & section 1.1). The report purpose is a full Scoping Study assessment. Effective date is 30th June 2022 (Cover page) Recommendations are contained in section 11. The Competent Person confirms that the report conforms to the UMREK code.
General Information on Project	Summary explanation of project scope (for instance, historical sampling, advanced exploration, conceptual, Pre-Feasibility or Feasibility Study, Mining schedule for a future or ongoing mining facility shall include the geological condition, deposit type, commodity, project area, infrastructure and business agreements. Brief explanation of key technical factors that have been considered. Brief explanation of mining, processing/beneficiation and other key technical factors.	Project general summary is in section 2. Summary information on the Scoping study, geology, deposit type, commodity, project area, infrastructure and business agreements are contained in the executive summary. Key technical factors are summarised in the executive summary. Mining, processing/beneficiation and other key technical factors are presented in sections 8.3, 8.4 and 8.5 and summarised in the executive summary.
History	Indicate the background of the project and/or related adjacent areas, include known results (type, quantity and development), former owners and changes for past exploration and/or mining activities. Quote references for all data from other sources. Discuss the known or existing historical Mineral Resource estimates, reconciliation for the actual production updates to reported resources/reserves for past and current operations, and include their reliability and how they are related to the UMREK Code.	Project background is discussed in section 2.10. All data from other sources is referenced. Historical estimates and reports are discussed in section 6. There are no relevant former mining activities and therefore no former achievements or failures. Reasoning for why the project is considered potentially economic is discussed in section 0. There are no historical Mineral Reserves estimates.

Assessment Criterion	Code Guidance	Comments
	Compare the known or existing historical Mineral Reserve estimates and performance statistics with past and current operations, include their reliability and how they are related to UMREK Code.	
Critical Plans, Maps, Diagrams	Include and quote reference to all important, more detailed maps and all related cadastral and other infrastructure properties, described in a site location map or map index and article. If the adjacent areas or urban areas have a significant effect on the report, their location and their sections containing joint mineral tenure must also be indicated on the maps. All information taken from other sources must be referenced. All maps, plans and sections indicated in this check list must be legible and should include explanations, coordinates, coordinate system, scale bar and north arrow. Diagrams and illustrations must be readable, with notes and explanations where necessary.	Plans, maps and diagrams are included throughout the report. All are legible, clearly labelled and discussed. Sources are referenced. Co-ordinates, scale-bars and north arrows are included where appropriate.
Project Location & Explanation	Explanation of Project location (country, province and closest town, coordinate systems and distances etc.). For each property, diagrams, maps and plans must be provided such that they indicate the locations of mineral exploration/mining rights, any previous or current work, any exploration and all main geological characteristics.	Project location is discussed in section 2.1. Includes country, province and closest town, co-ordinate system, and relevant distances to key locations. Co-ordinate system is UTM ED50 Zone 36N (section 2.1) Locations of mining lease boundaries are presented in section 2.1 Previous and current work is discussed in sections, 2.10, 3, 4 & 6. Exploration and main geological characteristics are discussed in section 4 and section 5.
Topography & Climate	All issues related to the mining project (such as topography and climate), issues that could possibly affect mining activities must be indicated and explained. A detailed topographic-cadastral map. Where possible, weather and ground conditions that must be mitigated, particularly for difficult ground conditions, dense vegetation and/or high-altitude areas.	Physiography is discussed in section 2.2. Climate is discussed in section 2.6. The area has been examined by RSC using Google Earth satellite imagery, and multiple figures of satellite and aerial imagery are included in the report. The CP does not regard it as necessary to include a detailed topographic-cadastral map presenting weather, ground conditions, dense vegetation and/or high-altitude areas.
Legal Aspects & Tenure	Included in the explanations below, the Competent Person should confirm legal tenure.	The Competent Person confirms that legal tenure is current. Tenure and tenure status is discussed in section 2.2. Type of licensing body and rights of use are not discussed other than mention that it is an exploration licence.

Assessment Criterion	Code Guidance	Comments
	Type of the licensing body (e.g. exploration and/or mining) and the right of use for the properties related to these rights; Main terms and condition of all existing agreements/protocols and the details of prospective ones (for instance, and not to be limited to these, privileges, partnerships, joint ventures, access rights, rents, historic and cultural areas, nature or national parks and environmental conditions, royalties, consents, permits, approvals or authorizations, other private or public investment areas; Security of the tenure held at the time of reporting or reasonably expected to be granted, any obstacle to obtain the right of operation on site, and Notification of any legal case that could affect mineral exploration rights, or a suitable negative statement.	Exploration licence terms and conditions are discussed in section 2.2. Historical and cultural areas are discussed in section 2.1. There are no known nature or national parks in the area. There are no known environmental conditions, non-state royalties, consents, permits approvals or authorisations, other private or public investment areas currently applicable. Future permits and environmental requirements are discussed in section 8.7. Security of the tenure is current, as discussed in section 2.2. There are no known legal cases that could affect mineral exploration rights, or a suitable negative statement.
Personal Introduction in Projects and Verification of Data	Visiting dates of the designated prospect, mine site, laboratories or relevant infrastructure. Meetings with people responsible for the reported project, their areas of responsibility and project related experiences. Visit to the project site, preparing a report that lists observations. What sections of the project are accessible for individual confirmation? Lists of data used or referenced when preparing public reporting.	Site visits are discussed in section 1.5. Members of the team preparing the Scoping Study have not visited the site but have discussed the project with associates who have visited the site. Detailed research into the Turkish mining industry and the Project itself is discussed throughout the report. People responsible for the reported project, and their areas of responsibility, are discussed in section 1.2. Observations on site visits are discussed in sections 1.5 & 2.10. All areas of the site are accessible for individual confirmation. References for all data used for public reporting is included in section 12.

Sections 2 & 3 of the UMREK Code Table 1 comments are extracted from Chapman (2022).

Table 29: UMREK Table 1, section 2, Sampling Techniques and Data.

Assessment Criterion	Code Guidance	Comments
Sampling types	Sampling type, location and time, leading to the results to be reported, must be indicated. Sampling types include stream sediment, soil and heavy mineral concentrate samples, trench and pilot pit results, rock breaking and channel sample, drilling and boring, handheld XRF devices etc. Ground samples include previous works, mine dumps etc. Where possible, distance between samples must be indicated, and locations must be shown on coordinate maps, plans and sections with proper scales.	• The MRE was completed using data collected by AVOD during the 2018 and 2021 drilling campaigns. In 2018, AVOD drilled 20 PQ diamond drillholes for a total of 1,380.5 m. In 2021, AVOD drilled 42 PQ diamond drillholes for a total of 1,855 m. Plan maps and cross-sections of drillholes are provided in the report.
Drilling techniques	Drilling techniques may include core drilling, reverse circulation, percussion, rotary auger, down-the-hole hammer etc. These should be indicated in the report, and their details (e.g. core diameter) should be given. Measures taken to keep sampling at a maximum level of recovery and quality assurance of the samples must be indicated.	• Diamond drilling was completed using triple tube, PQ core. The large sample size recovered with PQ drilling generally provides lower sampling variance than those collected using smaller core diameters (HQ, NQ) and percussion sampling methods. • The drill core was not orientated
Drilling sampling	A detailed explanation must be given to indicate sampling is being properly recorded and results are being assessed. The report should particularly indicate if there is a relationship between grade and quality, acquired through sample collection, and sample bias (for instance, preferential gain/loss of fine/coarse material).	• Recovered run lengths were measured against the expected run lengths. RSC considers the core recoveries to be acceptable, with an average of >80% for 2018 samples and >90% for 2021 samples. • Drill core in the mineralised zone was very incompetent, PQ core was used to ensure recoveries remained high. • There is no relationship between sample recovery and grade.
Logging	It must be confirmed whether the samples have been recorded with sufficient details to assist suitable Mineral Resource estimation, mining tests and metallurgy tests, and it must also be indicated whether record keeping is qualitative or quantitative. Core (or channel, trench etc.) photographs must be attached.	• The core has been logged for lithology, mineralisation and alteration. 100% of the retrieved core has been logged. • The logging is qualitive in nature. • Core photography has been completed. • RSC reviewed the logging in 3D and considered it to be consistent. Downhole lithological logging was used to define the geological model. • The level of detail is sufficient to support the classification of the Mineral Resource.
Other sampling techniques	Sampling type and quality (for instance, cut channels, grab samples etc.) and the measures taken to ensure representative capability of the samples must be indicated. By quoting reference to	• Not discussed in Chapman (2022) since AVOD has not undertaken other sampling techniques.

Assessment Criterion	Code Guidance	Comments
	a coordinate system (to be indicated), precise location and unique numbering of each sample must be ensured.	
Sub-sample techniques and sample preparation	For sampling of drill core, it must be indicated whether sampling was taken from cut or sawn or quarter, half or whole core. If sampling was done without a core, production pipes, sample or rotary split etc. and wet or dry split procedures must be indicated. For all sample types, the nature, quality and appropriateness of sample preparation techniques must be defined, and quality- control procedures adopted at all sub-sampling stages to maintain the representative capability of samples at a maximum level must be indicated. The measures taken to ensure representative capability of the material at the place of sampling must be indicated. Appropriateness of the sample sizes to the particle sizes of the material must be defined. A statement is advised with regards to the security measures taken to ensure sample consistency.	• The Competent Person (for Mineral Resources) considers the large sample size derived from PQ drilling appropriate for obtaining a representative sample within the incompetent rock of the deposit. • Initial sample preparation was undertaken by AVOD at the company's core shed in Manisa. • Entire 1 m intervals of core were removed from the core tray, crushed to <5 mm with a jaw crusher, and split using a riffle splitter (50/50). Half the core mass was collected as a sample, the other half was placed as a crushed sample back into the core box. • After the preparation and splitting of each sample, the gear was cleaned with compressed air and brushes to avoid cross contamination between samples. Samples were weighed and placed into labelled plastic bags. After every 20 samples during the 2018 campaign and every 10 samples during the 2021 campaign, a second sample was taken from the riffle splitter to monitor the quality of the sample preparation and to assess inherent sample variability. RSC considers the precision and accuracy of the first-split duplicates to be acceptable. • Samples were sent to the laboratory, Argetest, for the remainder of sample preparation and analysis. • Upon arrival at the laboratory, samples were labelled and tracked using an inhouse barcode tracking system. Samples were processed according to Argetest methods DRY 02, PREP-O2. Samples were dried at 80°C, then crushed to 70% passing 2 mm using a Hira Laboratory jaw crusher. The sample was split (second split) to approximately 0.5 kg using a bench top riffle splitter. The sample was then pulverised to 85% passing 75 µm in a Hira Laboratory disc mill. • The second and third splits were undertaken at Argetest, Ankara. Quality control of the second and third split was undertaken through the collection of sample weights and collection of duplicate samples (1:50 second split and 1:20 third split). • There are no issues with the tracking of sample results to core trays, sample bags to metre intervals and all data in the database accurately reflects the interval it was drilled from.

Analysis data and laboratory research	The type, quality and appropriateness of the assay and laboratory procedures and whether the technique has been accepted in full or partially must be indicated. Attention must be paid to how the presented assay results relate to the estimated extractable metal or mineral content of the reserve. Sample preparation and analysis can be carried out by internal or independent laboratories. The	• All samples were analysed at an independent laboratory, Argetest, Ankara. Argetest applies a quality management system that complies with international standards;
		  ○ TS EN ISO/IEC 17025 - Accreditation of Testing and Calibration Laboratories,
		  ○ ISO 9001:2015 - Quality Management Systems,
		  ○ ISO 14001:2015 - Environmental Management Systems, and
		  ○ OHSAS 18001:2007 Occupational Health and Safety System
		• The 2018 samples were analysed by Multi Acid Digestion(total)/ICP-MS (GAR05) and

Assessment Criterion	Code Guidance	Comments
	laboratories actually used for this must be defined in all reports. In any case, the accreditation of the laboratory (e.g., ISO standards, ISO 9000:2001 and ISO 17025, TÜRKAK etc.) and actual procedures used, including use of random distribution, internal and external standard samples and monitoring procedures for blank analysis and systematic deviation must be taken into consideration. In particular, a short note must be added to indicate whether sample analyses, used to support resource estimation, have been repeated by other laboratories.	the 2021 samples analysed by Multi Acid Digestion (total)/ICP-OES (GAR03). The reason for the change in method is not known to RSC. • Before the samples were sent to the lab, AVOD inserted QC samples. After every 20 samples for the 2018 drilling and every ~10 mineralised samples for the 2021 drilling, a certified reference material (CRM) and a blank were inserted. These were used to monitor the quality of the laboratory's sample preparation and analysis. • The results from the single CRM (OREAS 623) used in the 2018 programme indicate that at the 95% confidence the results were precise and accurate. For the 2021 programme, results from two CRMs (OREAS 623 and OREAS 908) indicate that the results were precise; and had a small bias (95% confidence) of <3%. The Competent Person has considered the magnitude and low nature of the bias and determined the accuracy of the results to be acceptable. The data are fit for the purpose of estimation and classification with respect to the data quality objective. • RSC considers the precision and accuracy of the laboratory split duplicates to be acceptable with respect to the data quality objectives. • The results of the umpire reanalysis, completed by an independent laboratory, indicates that the original 2018 and 2021 Cu results are conservative compared to the umpire reanalysis results. A mean-grade comparison and review of QQ plots between the original assay data and the reanalysis data reveals that the 2018 Cu concentrations are biased 4% low in Area A and ~17% low in area B compared to the umpire results. The comparison suggests that Cu results obtained in 2021 are reasonably comparable to the umpire results (~2% low in Area A and ~4% low in Area B). The Competent Person (for Mineral Resources) has some concerns about the accuracy of Cu concentrations at Area B (which is primarily modelled on the 2018 data) and the 2018 drilling at Area A, and this has been considered in the classification of the Mineral Resource. Overall, considering that biases are all low biases, the overall tonnage and grade in the estimation are therefore probably slightly conservative, and reflects a minor potential upside.
Verification of the results	It is recommended that independent or alternative personnel confirm the selected intersection points and twinned holes, deflections or duplicate samples are used.	• All sample intersections were selected by AVOD's Geologist. For the 2021 programme, a further check was conducted by RSC who reviewed the core photographs and geological logs in 3D software to approve sample intervals. • No twinned holes have been used.
Data location	A statement is required with regards to the quality and reliability of certainty of surveys used to locate drillholes, trenches, mining works and other locations. Quality and adequacy of topographic control should be explained, and site plans should be given. The quality and adequacy of down-hole surveys should be explained.	• All drill collar locations were recorded by handheld GPS of unknown type; hand-held GPS have a typical accuracy of ±5 m. The grid system used is (UTM ED50 Zone 36 North). Upon the completion of drilling the 2021 drill collar locations were recorded by a professional surveyor by means of a Differential Global Positioning System (DGPS). • The 2021 drillhole, angles and azimuth were set and recorded by field staff in accordance with AVOD SOP's and drilling operations supervised by the rig geologist. Down-hole surveys were collected by the drill crew using Reflex EZ-Trac survey tool.

Assessment Criterion	Code Guidance	Comments
		• The 2018 Drillhole angles and azimuth were set by field staff using unknown tools. No downhole surveying was undertaken. • A digital terrain model (DTM) was collected during December 2019 by Ünal Harita Engineering. The DTM covered both Areas A and B and resulted in significant improvements to topographical surface control for the project. The DTM has an approximate accuracy of ±10 mm vertical and ±5 mm horizontal at the control points. High-definition photography was also collected and captured the position of drill pads of 2018 drill collars. • A review in January 2020 of the drillhole collars of the 2018 programme, using high resolution images and an updated DTM, revealed significant issues with collar locations. Following this review, RSC repositioned the 2018 collar locations based on the location of drill pads visible in the high-resolution photogrammetry collected in December 2019. The DTM and photogrammetry has an approximate accuracy of ±10 mm vertical and ±5 mm horizontal at the control points. The accuracy reduces away from these points. Considering the relatively simple, flat-lying geometry of the mineralisation, limited structural complexity, and generally good lateral continuity of the mineralisation, RSC considers the risk associated with the collar locations for the 2018 programme a low-to-moderate risk with respect to the data quality objective. • No quantitative data or check surveys are available to confirm accuracy of the 2021 collars. Taking into account the specified precision for the DGPS instrument (+/- 10 cm), RSC considers the risk associated with the 2021 collar locations low with respect to the data quality objective.
Data density and distribution	Data density must be given to report Exploration Results. A statement must be given to indicate whether data density and distribution is sufficient enough to ensure geological and grade or quality continuity for Mineral Resource and/or Reserve estimation procedure and the applied categorizations, and if sample compositing has been made. With regards to the deposit type, it must be explained if sampling is sufficient to define the mineralization.	• The drill spacing is not evenly spaced. The Competent Person (for Mineral Resources) considers the drill spacing and distribution to be sufficient to support the classification of the resource. • No sample composting has occurred. All samples were taken over 1 m intervals.
Reporting Archives	Primary data documentation, data input procedures, data confirmation, data storage (physical and electronic) must be provided to support report preparation.	• RSC retrieved the database from AVOD in 2018. The data was appropriately structured, and checks were made between original assay sheets for transcription errors. RSC updated the database in 2021 and 2022 with the 2021 drilling data. • There are no issues with the tracking of sample results to core trays, sample bags to metre intervals and all data in the database accurately reflects the interval it was drilled from. A comprehensive review of Avod's quality assurance procedures is detailed in

Assessment Criterion	Code Guidance	Comments
		section 6 of Chapman (2022).
Audits or Reviews	Results of any audit or review of sampling techniques and data should be presented and discussed.	• The data verification process included site visits in 2019 and 2021. During these site visits, RSC noted that several discrepancies were identified between the 2018 collar locations provided by AVOD and survey points collected by RSC staff in 2019 using handheld GPS. RSC completed a review of the drillhole collar locations of the 2018 programme, using high resolution photogrammetry images and an updated DTM, which revealed significant issues with the supplied collar locations. RSC repositioned the 2018 collar locations based on the location of drill pads visible in the high-resolution photogrammetry collected in December 2019. • RCS completed spot checks of both the 2018 and 2021 Cu results against the original laboratory certificates and noted no transcription errors relating to the data. Sample results in the database were able to be tracked back to core trays, sample bags and metre intervals. • RSC requested reanalysis for a selection of pulps by an independent (umpire) laboratory (ALS) following a comparison of Cu and Co distributions within the modelled mineralised domains revealed poor correlation between the two datasets. The umpire reanalysis, completed by an independent laboratory, indicates that the original 2018 Co concentrations are significantly higher than the umpire results and the 2018 and 2021 Cu results are conservative compared to the umpire reanalysis results. A comparison of Cu mean-grade and QQ plots between the original assay data and the reanalysis data reveals that the 2018 Cu concentrations are biased 4% low in Area A and ~17% low in area B. The 2021 Cu concentrations are biased marginally low, with ~2% in Area A and ~4% in Area B. The Competent Person (for Mineral Resources) has concerns about the accuracy of the 2018 Argetest laboratory results and this has been considered in the classification of the Mineral Resource.

Table 30: UMREK Table 1, section 3, Reporting of Exploration Results.

Assessment Criterion	Code Guidance	Comments
Mining rights and land ownership	Type, reference name/no., location and ownership, joint ventures, partnerships and similar agreements with third parties or material issues, historical areas, wildlife or national park and environmental conditions, conditions of other investment areas. Security of the right of use at the time of reporting or reasonably expected to be given, known obstacles preventing the right of operating on site. Layout plans of mining rights and ownership. Definition of a mine ownership in a technical report is not expected to be a legal opinion; it should rather be a brief and clear explanation of ownership, as perceived by the author.	• AVOD controls 100% of the Çorum Project through its ownership of exploration licence 200712071, which covers 1,375 ha and expires 6 March 2024.The project can be accessed via the Boğazkale-Yozgat Road which transects the south of the project area. Areas A and B, discussed in this report, are situated in the hills east of this road and are 2.5 km to 4 km from Boğazkale. Much of the wider project area is accessible via several unsealed roads and farm tracks. • The licence applies to mineral Group 4 (c) and includes the following: ○ sub-section (a): industrial minerals, including boron, sodium, lithium and calcium; ○ sub-section (b): energy source minerals including lignite and anthracite resources; ○ sub-section (c): precious metals, including gold (Au), silver (Ag), Cu and iron (Fe); and ○ sub-section (ç): radioactive minerals and other radioactive substances containing elements such as uranium, thorium and radium. • RSC understands that the land where the project is situated is privately owned, and AVOD expects that purchasing the land required to undertake mining operations will not present any significant issues.
Exploration works carried out by other parties	Acknowledgement and appraisal of surveys carried out by other parties.	• Some mining occurred in the 1950s; however, no information is available about the location, extent, or historical production. RSC inspected a mine site in the Project area during a 2019 site visit and noted only very minor excavations and no evidence of mine infrastructure. • No exploration was carried out in the area between the 1950s and when AVOD acquired the licence (200712071) in 2013.
Geology	Explanation of the nature, details and reliability of geological information (related to rock types, structure, alteration, mineralization, and areas known to be containing mineralization etc.). Explanation of geophysical and geochemical data. Reliable geological maps and sections should be available to support comments.	• The project is located within the IAESZ, which is a regionally extensive zone of ophiolite rocks and seafloor sediments. IAESZ extends from west to east through Turkey and represents a major structural deformation zone and includes complex subduction-accretion zones like the Ankara mélange, west of the project. These regional suture zones host significant mineral deposits, including VMS deposits throughout Turkey. • The main lithologies within the project area are basalt lava flows and seafloor sediments (radiolarites). These lithologies are typical of those found near surface in semi-active spreading ridges and probably within water less than 4,000 m in depth and likely related to the regional tectonic shortening and shallowing of the Tethys.
Mineralogy /Mineralization	Definition, frequency, size and other characteristics of the minerals inside the ore. Effect of the secondary and economically non-valuable minerals on the steps of beneficiating the main mineral and the variability of each significant mineral within the deposit should be indicated.	• The project is considered to be a volcanogenic massive sulphide (VMS) deposit. VMS deposits form when seawater is heated by submarine volcanism and flows through the volcanic rocks using a network of conduits including cooling cracks and joints and interconnected pore spaces in permeable rocks such as in volcanic breccias. The hydrothermal fluids mobilise metals including Cu, Zn, Pb, Au and Ag. Changes in temperature can cause the metal-laden hydrothermal fluids to precipitate the dissolved metals as sulphide minerals forming deposits. The shape of VMS deposits varies and

Assessment Criterion	Code Guidance	Comments
		could be pod or sheet-like. • Cu Mineralisation at Çorum is associated with lava flows, which may suggest that it formed below the seafloor, either in the lower part of a vent (i.e. in the alteration halo) or along conduits some distance away from any main vent.
Data compositing (accumulation) methods.	In exploration result reporting, weighted average techniques, maximum and/or minimum grade cut (e.g. cutting of high grades), cut-off grades are generally important and must be stated. In places where composited intersections yield high-grade results over short lengths and low-grade results over longer lengths, the procedure used for such compositing must be specified, and some typical examples of such intersections should be given in detail. The Modifying Factors used for any type of reporting on metal equivalents should be clearly indicated.	• Exploration drilling intersections from the Corum project are reported in the Appendix section of the report. • No metal equivalents are used.
Relationship between mineralization widths and intercept lengths	These relationships are particularly important when reporting Exploration Results. If the relative geometry of the mineralization to drillhole angle is known, its nature should be reported. If it is not known and only drillhole dimensions have been reported, this effect must be clearly stated (e.g. 'drillhole length, actual true width not known').	• Drilling was well-orientated perpendicular to the sub-horizontal mineralisation. • Drilling intervals are reported as down hole widths.
Diagrams	Where possible, if the maps, plans and sections (scaled) and charts of intersections significantly clarify the report, then they should be included for any material survey being reported.	• Cross-sections illustrating intersections of mineralisation and estimated block model grades are included in the body of the report text.
Balanced reporting	If it is not practical to report in depth all Exploration Results, one should try to report both low and high grades and/or widths, so that Exploration Results will be representative.	• All analytical results have been reported in a balanced manner.
Other available exploration data	If other exploration data are meaningful and tangible, they should be reported as follows (not limited to them): geological observations, geophysical exploration results, geochemical exploration results, bulk samples - size and method of development, metallurgical test results, bulk density, underground water, geotechnical and rock characteristics, moisture content, potentially	• AVOD commissioned Aktif Yerbilimleri A.S. (AY) to carry out an aerial magnetics survey over what is now Area A. Drilling to date in Area A has been confined to the region of the magnetic (low) anomaly. • AVOD contracted the governmental institution, General Directorate of Mineral Research and Exploration (MTA), to undertake a ground geophysics survey using induced polarisation (IP), which produced maps and sections of chargeability and resistivity. The raw data and the processed maps in .kmz file format were provided to RSC. The IP studies carried out by MTA were undertaken over seven profiles on the field over Area A with electrodes spaced at 50 m. A progressive dipole-dipole electrode array was used.

Assessment Criterion	Code Guidance	Comments
	deleterious or contaminating conditions and characteristics.	The total survey length was 8,000 m and eight levels of measurements were taken. The results from the IP survey identified a continuous zone of high resistivity and high chargeability anomalies which extended northeast 600–700 m, with an average east-west width of 100 m. MTA (2013) estimated the IP anomaly could extend to a depth of 150 m.
Additional works	Nature and dimension of the planned future development (e.g. additional exploration). Descriptions of estimated environmental liabilities	• The Competent Person (for Mineral Resources) notes that an approved environmental impact assessment (EIA) must be obtained before commencing mining activities and it is a prerequisite for the issuance of any other licence or permit that could be legally required • RSC recommends the following work be completed: ○ Complete additional independent validation of samples by sending 5% of the 2018 and 2021 samples to an independent (umpire) laboratory for additional independent validation of the Cu grade followed by an in-depth review. ○ Complete a programme of metallurgical sampling to assess the metallurgical properties of each domain. ○ Carry out step-out drilling in Area A, to test for extensions of mineralisation. ○ Investigate further VMS opportunities within trucking distances of the project. • Undertake wider geological and structural mapping of the Project, and undertake a surface geochemical programme.

Table 31: UMREK Table 1, section 4, Mineral Resource and Mineral Reserve Estimations and Reporting.

Assessment Criterion	Code Guidance	Comments
Database Integrity	Measures taken to ensure data are not corrupted between first collection of data and being used to estimate Mineral Resource, e.g., recording and database errors. Data verification and/or validation procedures used.	Details of "Measures taken to ensure data are not corrupted between first collection of data and being used to estimate Mineral Resource" are included in Chapman (2022), section 7 'Data Quality'. This information has been reviewed by the Competent Person and is confirmed to be appropriate to the Scoping Study being undertaken.
Geological Interpretation	Definition of geological model and the inferences made from this model. Estimation procedure used to ensure continuity of mineralization, and discussion of the sufficiency of the given database. Discussing alternative interpretations and their potential impact on the estimation	Summaries of the geological model, inferences and estimation procedures are included in sections 4 and 7. Details of these topics are contained in Chapman (2022) sections 4, 6 & 9. This information has been reviewed by the Competent Person (for Mineral Resources) and is confirmed to be appropriate to the Scoping Study being undertaken.
Estimation and Modelling Techniques	Nature and appropriateness of the applied estimation techniques and key assumptions, including treatment of extreme grade values, compositing (included with length and/or density), interpolation parameters, maximum projection distance from data points and the final area of the estimation. Interpolation refers to estimation supported by sample data. Extrapolation refers to estimation stretching beyond areal borders of sample data. Validation refers to the existence of previous estimations and/or mining production losses and whether Mineral Resource estimation is taking these data properly into consideration. Assumptions made with regards to the recovery of by-products and other minerals which could possibly affect beneficiation of the ore. If block model interpolation is done, block size with relation to average sampling spacing and applied exploration. All assumptions used to establish selective mining units (e.g., non-linear kriging) modelling. Validation process, the checking process used, comparing model data with drillhole data, and use of reconciliation data, if any. Detailed explanation of tonnage and grade estimation (section, polygon, inverse distance, geo-statistical or other methods) and the methods used. Explaining how geological interpretation was used to control resource estimation. Discussing the basis	Details of estimation and modelling techniques are contained in Chapman (2022) section 9. This information has been reviewed by the Competent Person (for Mineral Resources) and is confirmed to be appropriate to the Scoping Study being undertaken.

Assessment Criterion	Code Guidance	Comments
	of using or not using grade cutting or capping. If a computer method has been selected, explanation of the program and parameters used. Geo-statistical methods have multiple variations; therefore, these need to be explained in detail. The selected method has to be justified. Geo-statistical parameters (including variogram) and conformity to geological interpretation need to be discussed. Experience from geo-statistical methods applied to similar deposits must be taken into account. Variation of length (along the layer/seam direction or the other way), plan width and upper and lower limits of mineral resource as a sub-surface depth to the Mineral Resource. All metals (or other components) to be treated (including those deemed to be dump material) must be indicated. A statement must be added to indicate that there are no other deleterious minerals that need to be separated or if otherwise describe a mitigation plan	
Metal Equivalents (or other combined representation of other multiple components)	In any report containing reference to metal equivalents (or other content equivalents), the following minimum data must conform to these principles: o Individual assays for all metals included in the metal equivalent calculation; o Assumed commodity prices for all metals. (Companies should declare the actual assumed sales prices.) Discussion of the spot price is not sufficient when declaring the price used for calculating metal equivalent.) o For all metals, metallurgical test results and basis from which assumed recoveries have been derived (metallurgical test study, detailed mineralogy, similar deposits etc.); o A clear statement indicating it is the company's opinion that all the elements involved in metal equivalent calculation have a reasonable potential of recovery and sale; and o Calculation formula.	Metal equivalents are not used.

Assessment Criterion	Code Guidance	Comments
	In many cases, the metal selected for equivalent based reporting, should be the one that has contributed most to the metal equivalent calculation. If this is not the case, a clear explanation for choosing another metal must be included in the report. Estimations of metallurgical recoveries for each metal are particularly important. In many projects, metallurgical test data may not be available during the Exploration Results stage or may not be estimated with reasonable confidence. In general, overall metal recoveries are calculated on the basis of a flowsheet showing the mass balance. This should be indicated by the testwork, and it should be shown that results are related to the ore body in question and is not just the sample treated.	
Cut-Off Grades and Parameters	The basis of the applied cut-off grades or quality parameters must be included (if possible, including the basis of the equivalent metal formula). The cut-off grade parameter can also be expressed as economic value per block, instead of grade.	Cut-off grades used for MRE are discussed in section 8.2. Input parameters for open pit optimisations, used in place of cut-off grades, are also discussed in section 8.2. The derivation of these parameters is discussed in sections 8.1 and 8.2. Final project outcomes and break-even grades are discussed in section 0.
Tonnage Factor/In-Situ Bulk Density	Must indicate whether assumed or determined. If assumed, the basis of assumptions. If determined, the method used, frequency of measurements, nature, size and representation reliability of samples.	Bulk density is discussed in section 7. Density is determined rather than assumed. Bulk density values have been reduced for the 2022 MRE, relative to previous estimates, using only core-tray measurements taken since 2021. RSC regards the estimates to be appropriate and conservative.
Mining factors or assumptions	Appropriateness of the recommended mining method and mineralization type, minimum mining dimensions and internal (or external, if applicable) mining dilution to be indicated. It is not always possible to make detailed assumptions related to mining factors, when estimating Mineral Resources. Basic assumptions are required to determine reasonable prospects for eventual economic extraction. These would include access issues (boreholes, inclined shafts etc.), geotechnical and hydrogeological parameters (pit slopes, stope dimensions etc.), infrastructure	Methods and assumptions made for converting the Mineral Resource into potentially extractable tonnes estimates are discussed in sections 8.2, 8.3, 8.4, 8.5 and 8.6. The MRE is the first to be constrained by mining concepts for RPEEE purposes. The difference between constrained and unconstrained volumes is relatively low. Two estimates have been evaluated, from a selection of alternatives. The selection process is discussed in detail. The base case presented uses conservative inputs while the upside case modifies some of the assumptions into generally optimistic but reasonably justifiable inputs. No designs have been prepared. The Scoping Study relies upon the outcomes of open-pit optimisation shells. Geotechnical parameters are based on assumptions. The project is yet to be the subject of a geotechnical testing or logging programme and no geotechnical study has been prepared.

Assessment Criterion	Code Guidance	Comments
	requirements and estimated mining costs. All assumptions must be clearly indicated. Methods and assumptions made for converting the Mineral Resource into a Mineral Reserve (through application of appropriate factors, through optimization or through preliminary or detailed design). Relevant design issues, selection, nature and appropriateness of mining parameters including pre-strip, access etc. and mining method. Geotechnical parameters and hydrogeological regime (e.g., pit slopes, stope sizes, dewatering methods and requirements etc.), grade control and assumptions made through drilling prior to production. Main assumptions made and the Mineral Resource model used for pit optimization (if appropriate). Mining dilution factors, mining recovery factors and minimum mining widths used and the infrastructure requirements of the mining methods selected. Historic reliability of performance parameters, if applicable.	No hydrogeological measurements or studies have taken place. Potential considerations are discussed in sections 8.2.3 and 8.5. The Competent Person regards the inputs used to be appropriate to a Scoping Study.
Metallurgical Factors or Assumptions	The proposed metallurgical process and its appropriateness to the style of mineralization. It is not always possible to make detailed assumptions related to metallurgical factors, when estimating Mineral Resources. Basic assumptions are required to determine reasonable prospects for eventual economic extraction. Availability of metallurgical tests, recovery factors, allowances for by- product credits or deleterious minerals or elements, infrastructure requirements and estimated processing costs can be given as examples. All assumptions should be clearly indicated. The exact definition of minerals, or the required assays to ensure appropriateness of the process, and all unwanted or possible by-products should be revealed, and appropriate process steps should be included in the flowchart. The proposed flowsheet and the appropriateness of these processes to the mineralization of the deposit. Whether the process is unique or incorporates well-tested technology previously	The metallurgical factors and assumptions have been guided by comparison to similar projects and commonly used processing techniques. These are discussed in detail in sections 8.1, 8.2 and 8.4. Discussions include metallurgical recoveries and upgrading factors. No metallurgical testing programme have taken place. In order to build up a comprehensive understanding of the ore performance and response characteristics, several testing programmes on each ore type will be required prior to finalisation of a plant design. There will also be ongoing test programmes during the mine's operational life, including both metallurgical recovery and comminution (crushing and grinding). Processing flowsheet assumptions are conceptual. They have not been reviewed by a professional metallurgist. RSC regards the range of assumptions used to be generally conservative and that future test programme and flowsheet optimisations may result in material improvements over those assumed for the Scoping Study. RSC is not aware of any by-product or deleterious elements. Discussion of potential environmental issues such as rock geochemistry, acid rock drainage and acid-forming minerals, and mitigation alternatives, is included in sections 8.2.3 and 8.4. Tonnes and grades of the reported mining inventories are for material delivered to the processing plant. Quantities of recovered material are included in section 0.

Assessment Criterion	Code Guidance	Comments
	used on the type of mineral deposit. Nature, quantity and representativeness of the metallurgical tests. Existence of bulk samples or pilot-scale test studies, and the capability of these tests and test results to represent the whole ore characteristics. Metallurgical recovery and any upgrading factors used and their relevance to those defined in test studies. All assumptions and allowances for deleterious minerals or elements affecting the process or their variability within the mine must be indicated. Environmental, health and safety risks for each section of the flowsheet and the planned mitigations to overcome these risks must be detailed. Tonnages and grades reported for Mineral Reserve, and whether they are related to the material delivered to the facility or to the resulting recovered material, must be indicated. Comments must be made with regards to the appropriateness of usage of the existing equipment in the facility within the recommended life of the mine.	The Competent Person regards the assumptions used to be appropriate to a Scoping Study.
Mineral Resource Estimation for Mineral reserve Conversion	Declaring the Mineral Resource estimation used as a basis for Mineral Reserve conversion. Clear statement whether Mineral Reserves have been reported as part (inclusive) of Mineral Resources.	The declared Mineral Resource is included in section 7. No Mineral Reserves have been declared. The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Mineral Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.
Cost & revenue Factors	State basis for assumptions. Currency, exchange rates and dates of estimates. See Table 2. The derivation of the assumptions made in relation to the project capital and operating costs. Assumptions made for revenues including the main grade(s), metal or commodity prices, foreign exchange rates, transportation and treatment charges, penalties etc. The allowances made for royalties payable according to state and private rights. Basic cash flow inputs for a given period. See Table 2.	All currency values for inputs and outputs are in United States Dollars (USD). The derivation of assumptions made in relation to the project capital and operating costs is detailed in sections 8.1, 8.2 and 8.9. Estimates have been guided by research and industry experience. The research has included review of multiple comparable projects, both in Turkey and elsewhere for relevant projects. Details of the data used in the review are discussed in section 8.1. Commodity prices for two cases have been selected. These are based on conservative and optimistic market LME copper price levels over the past five years. Freight, treatment and refining charges for two cost regimes have been used and are discussed in sections 8.2 and 8.8. The proportion of royalties payable is discussed in sections 8.2 and 0. RSC's assumption is that royalties will equate to 3% of net smelter return revenues. The Competent Person regards the estimates used as being appropriate to a Scoping Study.

Assessment Criterion	Code Guidance	Comments
Market Assessment	Demand, supply and stock situation for a particular mineral, consumption trends and factors that could possibly affect supply and demand. Defining the market framework, and following customer and competitor analysis, possible price and volume estimations for products and the basis for these estimations. Market assessment may indicate that minerals cannot be sold in the produced quantities; hence reserve estimations might be needed to be revised.	Copper and copper concentrates are some of the most widely used and traded commodities worldwide. Marketing of product is not expected to present any risks to the project. Detailed market analysis has not been undertaken. The Competent Person regards the estimates used as being appropriate to a Scoping Study.
Other	All obstacles such as land access, environmental or legal permits, potentially affecting mining. Location plans of mineral rights and titles. Impacts of natural risk, infrastructure, environmental, legal, marketing, social or governmental factors on the possible viability of the project and/or classification and estimation of Mineral Reserves. Conditions of important ownerships and approvals related to the construction of the project, mining leases, discharge permits, government or statutory approvals etc. Environmental obligations. Site plans of Mine State rights and ownership.	Environmental, land access and other permitting is discussed in section 8.7. Location plans of mineral rights and titles are presented and discussed in sections 2.1 and 2.2. Impacts of natural risk, infrastructure, environmental, legal, marketing, social or governmental factors on the possible viability of the project and/or classification and estimation of Mineral Reserves are discussed at levels appropriate to a Scoping Study. Conditions of important ownerships and approvals related to the construction of the project, mining leases, discharge permits, government or statutory approvals etc. and Environmental obligations are discussed at levels appropriate to a Scoping Study.
Classification	Basis of classification of the Mineral Resources into varying confidence categories. Whether all relevant factors have been properly included in the calculation, e.g., relative confidence in tonnage/grade calculations, continuity of geology and distribution of metal values, quality, quantity and data. Does the resultant categorization properly reflect the Competent Person's opinion of the deposit? Basis of classifying Mineral Reserves into various confidence classes. Does the resultant classification properly reflect the Competent Person's opinion on the deposit? The portion of the Probable Mineral Reserves derived from Measured Mineral Resources (if any).	The basis of classification of the Mineral Resources into varying confidence categories is discussed in Chapman (2022), section 9. Whether all relevant factors have been properly included in the calculation is discussed in this table (Table 26 and Table 27). The contribution of Inferred Mineral Resources to the evaluation is discussed in section 8.10. This information has been reviewed by the Competent Person and is confirmed to be appropriate to the Scoping Study being undertaken. No Mineral Reserves have been declared.
Audits and reviews	Audit or review results of Mineral Resource estimations.	Reviews of previous estimates are included in section 6. These are commented on in section 6.6.

Assessment Criterion	Code Guidance	Comments
	Audit or review results of Mineral Reserve estimations.	The MRE and Scoping Study reports have been subjected to extensive internal and external peer reviews but have not been audited.
Discussion of relative accuracy/confidence	Where applicable, a statement for relative accuracy and/or confidence for the Mineral Resource and Mineral Reserve estimation, by using an approach or procedure deemed to be appropriate the Competent Person. As an example, application of statistical or geo-statistical procedures to quantify the relative accuracy of the reserve within the stated limits of a confidence category or, if such an approach is not possible, qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimation. Is the statement related to global or local estimations, and if local, indicate the tonnages and volumes which need to be related to technical and economic assessment? Documentation should include the assumptions made and the procedures used. Where the statements of relative accuracy and confidence of the estimation are accessible, estimation should be compared to production data. Discussing the tests of the production sequence by conditional simulation on the uncertainty of the tonnages and grades of production increments.	Relative accuracy and confidence in the MRE is discussed in Chapman (2022), section 9. Relative accuracy and confidence in the Scoping Study is discussed in section 8.9. The outcomes are regarded as being to approximately AACE guideline 18-R97 Class 5 expected accuracy ranges, or -20% to -50% and +30% to +100% (AACE, 2005). The Competent Person regards this as meeting the requirements of the UMREK code, Table 2, for a Scoping Study.

SECTION 5, Estimation and Reporting on Mineralization of Diamond and Other Precious Stones, is not included in this report.