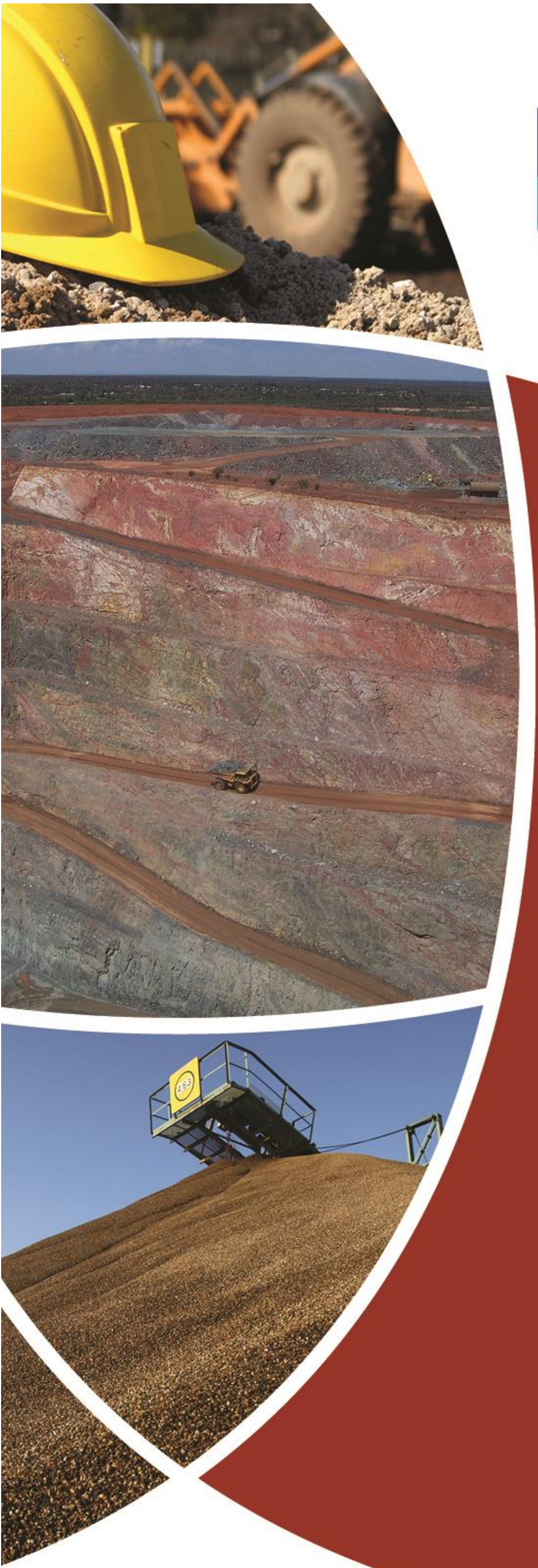

CSA Global
Mining Industry Consultants

NI 43-101 TECHNICAL REPORT

Preliminary Economic Assessment – Rozino Project, Tintyava Property, Bulgaria

CSA Global Report № R448.2018
26 October 2018

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Report prepared for

Client Name	Velocity Minerals Ltd
Project Name/Job Code	Rozino Project – VLCPEA01
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Date and Signature Page

Certificate of Qualified Person – Karl van Olden

As a Qualified Person of this Technical Report covering the Rozino Project located in the Tintyava Property of Velocity Minerals Ltd, Bulgaria, I, Karl van Olden do hereby certify that:

1) I am the Manager – Mining for CSA Global Pty Ltd, and carried out this assignment for CSA Global (UK) Ltd, Suite 2, First Floor, Springfield House, Springfield Road, Horsham, West Sussex, RH12 2HD, UK, Tel: +44 1403 255 969, csauk@csaglobal.com
2) The Technical Report to which this certificate applies is titled NI43-101 Technical Report, Preliminary Economic Assessment, Rozino Project, Bulgaria and is dated 26 October 2018 with an effective date of 17 September 2018 ("The Technical Report").
3) I hold a BSc Engineering degree in Mining from the University of Witwatersrand, Johannesburg and am a registered Fellow in good standing of the Australasian Institute of Mining and Metallurgy. I am familiar with NI 43-101 and, by reason of education, experience in the mining of epithermal gold deposits, and professional registration; I fulfil the requirements of a Qualified Person as defined in NI 43-101. My experience includes 28 years in the mining industry.
4) I have not visited the project that is the subject of this Technical Report.
5) I am responsible for the following sections of this Technical Report; Sections 1.13,1.15,1.16,1.18,1.19,1.21.4,1.22.3,15,16,18,19,21,22,25.4 and 26.3.
6) I am independent of the issuer as described in Section 1.5 of NI 43-101.
7) I have not had prior involvement with the property that is the subject of this Technical Report.
8) I have read NI 43-101 and the parts of the Technical Report I am responsible for have been prepared in compliance with N1 43-101.
9) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 26th day of October 2018.

"signed and sealed"

Karl van Olden, BSc (Eng.) (Mining), GDE, MBA, FAusIMM

Manager – Mining

CSA Global Pty Ltd

Certificate of Qualified Person – Jonathon Abbott

As an author of the report titled "NI43-101 Technical Report, Preliminary Economic Assessment, Rozino Project, Tintyava Property, Bulgaria" prepared for Velocity Minerals Ltd. (the "Issuer") dated the 26 October 2018 with an effective date of 17 September 2018 (the "Technical Report"), I, Jonathon Abbott, BASc, MAIG, do hereby certify that:

1) I am a Consulting Geologist with MPR Geological Consultants Pty Ltd, 19/123A Colin Street, West Perth, Western Australia, Australia.
2) I graduated with a Bachelor of Applied Science in Applied Geology from the University of South Australia in 1990.
3) I am a member of the Australian Institute of Geoscientists. I have worked as a geologist for a total of 28 years since my graduation from university. My experience includes mine geology and resource estimation for a range of commodities and mineralization styles. I have been involved in preparation and reporting of resource estimates in accordance with JORC guidelines for 23 years, and National Instrument 43-101 ("NI 43-101") guidelines for approximately 15 years.
4) I have read the definition of "qualified person" set out NI 43-101 and certify that by reason of my education, affiliation with a recognized professional association and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.
5) I have been involved with the Rozino Project since December 2017 and visited the project site on the 25th of February 2018.
6) I am responsible for sections 1.6,1.7,1.8,1.9,1.12,1.21.2,1.22.2,6,7,8,9,10,11,12,14,25.2 and 26.2 of the Technical Report.
7) I am independent of the Issuer (within the meaning of Section 1.5 of NI 43-101).
8) I have had prior involvement with the Rozino project. Between December 2017 and April 2018, I prepared Mineral Resource estimates for Velocity Minerals Ltd and authored a Technical Report titled "NI 43-101 Technical Report Mineral Resource Estimation for the Rozino Gold Deposit, Republic of Bulgaria" with an effective date of the 21st of March 2018.
9) I have read NI 43-101 and Form 43-101F1, and the parts of the Technical Report I am responsible for has been prepared in compliance with that instrument and form.
10) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 26th day of October 2018

"signed and sealed"

Jonathon Abbott, BASc. MAIG

Consulting Geologist

MPR Geological Consultants

Certificate of Qualified Person – Len Holland

As a Qualified Person of this Technical Report covering the Rozino Project located in the Tintyava Property of Velocity Minerals Limited, Vancouver, Canada, I, Len Holland do hereby certify that:

1) I am an Independent Mineral Processing Consultant of Holland & Holland Consultants, England, and carried out this assignment for Velocity Minerals Limited, 10551 Shellbridge Way, Richmond, British Columbia, V6X 2W9, Canada, Tel: +1 604 689 7411
2) The Technical Report to which this certificate applies is titled NI43-101 Technical Report, Preliminary Economic Assessment, Rozino Project, Bulgaria and is dated 26 October 2018 with an effective date of 17 September 2018 ("The Technical Report").
3) I hold a C. Eng., B.Sc. and am a registered Fellow in good standing of the Institution of Materials, Minerals and Mining (#41918). I am familiar with NI 43-101 and, by reason of education, experience in exploitation, exploration, evaluation and mining of low sulphidation epithermal gold deposits, and professional registration; I fulfil the requirements of a Qualified Person as defined in NI 43-101. My experience includes 59 years in world-wide locations.
4) I visited the project that is the subject of this Technical Report, in July 2018 for a total of 3 days.
5) I am responsible for Section 13 of this Technical Report.
6) I am independent of the issuer as described in Section 1.5 of NI 43-101.
7) I have not had prior involvement with the property that is the subject of this Technical Report.
8) I have read NI 43-101 and the parts of the Technical Report I am responsible for have been prepared in compliance with N1 43-101.
9) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 26th day of October 2018.

"signed and sealed"

Len Holland C. Eng., B.Sc. FIMMM. FMES

Consulting Metallurgist

Holland & Holland Consultants

Certificate of Qualified Person – Carl Nicholas

As a Qualified Person of this Technical Report covering the Rozino Project located in the Tintyava Property of Velocity Minerals, Bulgaria, I, Carl Nicholas do hereby certify that:

1) I am a qualified Environmental Consultant with Mineesia Ltd (4 Mace Farm, Cudham, Kent, TN14 7QN, UK), and carried out this assignment for CSA Global (UK) Ltd, Suite 2, First Floor, Springfield House, Springfield Road, Horsham, West Sussex, RH12 2HD, UK, Tel: +44 1403 255 969, e-mail: csauk@csaglobal.com.
2) The Technical Report to which this certificate applies is titled "NI 43-101 Technical Report, Preliminary Economic Assessment, Rozino Project, Bulgaria and is dated 26 October 2018 with an effective date of 17 September 2018 ("The Technical Report").
3) I am a Chartered Environmentalist and am a registered Member in good standing of the Institute of Materials, Minerals and Mining (Professional Member #477471). I am familiar with NI 43-101 and, by reason of education, experience in exploration, evaluation and mining of gold, and professional registration; I fulfil the requirements of a Qualified Person as defined in NI 43-101. My experience includes 13 years practical experience in Environmental Impact Assessments for mining projects.
4) I visited the project that is the subject of this Technical Report, between 5th to 8th June 2018 for a combined total of 4 days.
5) I am responsible for the following sections of this Technical Report; Sections 1.17,1.21.5,1.22.5,20, 25.5 and 26.5.
6) I am independent of the issuer as described in Section 1.5 of NI 43-101.
7) I have not had prior involvement with the property that is the subject of this Technical Report.
8) I have read NI 43-101 and the parts of the Technical Report I am responsible for have been prepared in compliance with N1 43-101.
9) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 26th day of October 2018

"signed and sealed"

Carl Steven Nicholas, M.Sc., B.Sc. (Hons), DIC, C.Env, MIMMM

Environmental Consultant

Mineesia Limited

Certificate of Qualified Person – Gary Patrick

As a Qualified Person of this Technical Report covering the Rozino Project located in the Tintyava Property of Velocity Minerals Limited, Vancouver, Canada, I, Gary Patrick do hereby certify that:

1) I am a Senior Associate Metallurgist of CSA Global (UK) Ltd and carried out this assignment for CSA Global (UK) Limited, First Floor, Suite 2, Springfield House, Springfield Road, Horsham, West Sussex, RH122RG, UK, Tel: +44 (0)1403 255 969, galen_white@csaglobal.com.
2) The Technical Report to which this certificate applies is titled "NI43-101 Technical Report, Preliminary Economic Assessment, Rozino Project, Bulgaria and is dated 26 October 2018 with an effective date of 17 September 2018 ("The Technical Report").
3) I hold a BSc. (Chemistry/Extractive Metallurgy) and am a registered Member in good standing of the Australasian Institute of Mining and Metallurgy (MAusIMM (CP), #108090). I am familiar with NI 43-101 and, by reason of education, experience in exploration, evaluation and mining of low sulphidation epithermal deposits, and professional registration; I fulfil the requirements of a Qualified Person as defined in NI 43-101. My experience includes 25 years in operations, metallurgical testwork supervision, flowsheet development and study work.
4) I visited the project that is the subject of this Technical Report, between 02 October 2018 and 03 October 2018 for a combined total of 2 days.
5) I am responsible for the following sections of this Technical Report; Sections 1.10,1.11,1.14,1.21.3,1.22.4,17,25.3 and 26.4.
6) I am independent of the issuer as described in Section 1.5 of NI 43-101.
7) I have not had prior involvement with the property that is the subject of this Technical Report.
8) I have read NI 43-101 and the parts of the Technical Report I am responsible for have been prepared in compliance with N1 43-101.
9) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 26th day of October 2018.

"signed and sealed"

Gary Patrick, BSc. MAusIMM (CP)

Senior Associate Metallurgist

CSA Global (UK) Limited

Certificate of Qualified Person – Galen White

As a Qualified Person of this Technical Report covering the Rozino Project located in the Tintyava Property of Velocity Minerals Ltd, Bulgaria, I, Galen White do hereby certify that:

10) I am a Director of CSA Global (UK) Ltd, and carried out this assignment for CSA Global (UK) Ltd, Suite 2, First Floor, Springfield House, Springfield Road, Horsham, West Sussex, RH12 2HD, UK, Tel: +44 1403 255 969, csauk@csaglobal.com
11) The Technical Report to which this certificate applies is titled NI43-101 Technical Report, Preliminary Economic Assessment, Rozino Project, Bulgaria and is dated 26 October 2018 with an effective date of 17 September 2018 ("The Technical Report").
12) I hold a BSc (Hons) degree in Geology from the University of Portsmouth, UK and am a registered Fellow in good standing of the Australasian Institute of Mining and Metallurgy (FAusIMM). I am familiar with NI 43-101 and, by reason of education, experience in the evaluation of epithermal gold deposits, and professional registration; I fulfil the requirements of a Qualified Person as defined in NI 43-101. My experience includes 22 years in the mining industry.
13) I have not visited the project that is the subject of this Technical Report.
14) I am responsible for the following sections of this Technical Report; Sections 1.1,1.2,1.3,1.4,1.5,1.20,1.21.1,1.21.6,1.22.1,1.22.6,2,3,4,5,23,24,25.1,25.6,26.1,26.6,27 and 28.
15) I am independent of the issuer as described in Section 1.5 of NI 43-101.
16) I have not had prior involvement with the property that is the subject of this Technical Report.
17) I have read NI 43-101 and the parts of the Technical Report I am responsible for have been prepared in compliance with N1 43-101.
18) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 26th day of October 2018.

"signed and sealed"

Galen White, B.Sc. (Hons), FAusIMM, FGS

Director

CSA Global (UK) Ltd

Notice

The notices in this section do no apply to sections 1.6, 1.7, 1.8, 1.9, 1.12, 1.21.2, 1.22.2, 6, 7, 8, 9, 10, 11, 12, 14, 25.2 and 26.2 of this Technical Report.

Purpose of this document

This Report was prepared exclusively for Velocity Minerals Limited ("the Client") by CSA Global (UK) Ltd ("CSA Global"). The quality of information, conclusions, and estimates contained in this Report are consistent with the level of the work carried out by CSA Global to date on the assignment, in accordance with the assignment specification agreed between CSA Global and the Client.

Notice to third parties

CSA Global has prepared this Report having regard to the particular needs and interests of our client, and in accordance with their instructions and the requirements of NI43-101 Technical Reporting. This Report is not designed for any other person's particular needs or interests. Third party needs and interests may be distinctly different to the Client's needs and interests, and the Report may not be sufficient nor fit or appropriate for the purpose of the third party.

Results are estimates and subject to change

The interpretations and conclusions reached in this Report are based on current scientific understanding and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for absolute certainty.

The ability of any person to achieve forward-looking production and economic targets is dependent on numerous factors that are beyond CSA Global's control and that CSA Global cannot anticipate. These factors include, but are not limited to, site-specific mining and geological conditions, management and personnel capabilities, availability of funding to properly operate and capitalize the operation, variations in cost elements and market conditions, developing and operating the mine in an efficient manner, unforeseen changes in legislation and new industry developments. Any of these factors may substantially alter the performance of any mining operation.

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1 Summary

1.1 Introduction

This Technical Report has been prepared by CSA Global (UK) Ltd ("CSA Global") in accordance with National Instrument 43-101 *Standards of Disclosure for Mineral Projects* ("NI 43-101"), with input from several Qualified Persons including those from CSA Global in the areas of Mining and Mineral Processing, MPR Geological Consultants Pty Ltd ("MPR") in the area of Mineral Resources, Holland & Holland Consultants ("H&H") in the area of Metallurgy and Mineesia Ltd ("Mineesia") in the area of Environmental Assessment. This document has been prepared for Velocity Minerals Ltd ("Velocity" or the "Company") to disclose updated material information comprising an updated Mineral Resource estimate and Preliminary Economic Assessment ("PEA") for the Rozino Project ("Rozino" or the "Project"), located within the Tintyava Prospecting Licence ("Tintyava Property" or the "Property"). The effective date of the Technical report is 26 October 2018.

MPR completed the updated Mineral Resource estimate, H&H completed the metallurgical studies and CSA Global were responsible for the mining components and overall study lead in relation to evaluating the Rozino Project and ensuring the required technical evaluations, verification and review works were completed to facilitate disclosure of the PEA.

In addition, and following the estimation of Mineral Resources, CSA Global was commissioned to produce a Life-of-Mine ("LOM") Schedule and prepare a financial model for the Project.

The Mineral Resource estimates have been disclosed in accordance with NI 43-101. All technical works have been undertaken under the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") report, "*CIM Definition Standards for Mineral Resources and Mineral Reserves*" prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

1.2 Reliance on other Experts

The report relies on Velocity for the description of Tintyava Property tenure and ownership. These aspects are detailed and referenced in relevant sections of the report.

The authors of this report are not qualified to comment on any legal considerations relating to the status of the Tintyava Property and expresses no opinion as to the ownership status of the property.

The authors have not independently verified the status of Velocity's agreements with Gorubso Kardzhali AD ("Gorubso") or Velocity's option to earn a 70% interest in the Tintyava Property as described in an "Option Agreement between Gorubso Kardzhali AD and Kibela Minerals AD" dated 19 July 2017 (Velocity, 2017). Kibela Minerals AD ("Kibela") is a wholly-owned subsidiary of Velocity.

No warranty or guarantee, be it express or implied, is made by CSA Global or the authors with respect to the completeness or accuracy of the legal aspects of the property. Neither CSA Global nor the authors accept any responsibility or liability in any way whatsoever to any person or entity in respect to these parts of this Technical Report, or any errors in or omissions from it, whether arising from negligence or any other basis in law whatsoever.

1.3 Property Description

The Rozino deposit is located within the Tintyava Property, which lies within the municipalities of Ivaylovgrad and Krumovgrad in southeast Bulgaria around 350 kilometres (km) by road east-southeast of the capital, Sofia. In 2016, Gorubso, won a competitive tender to acquire the Tintyava Property, which is held by Tintyava Exploration EAD ("Tintyava Exploration"), a wholly-owned subsidiary of Gorubso. In 2017, Gorubso signed an option agreement under the terms of which Velocity has the right to acquire an undivided 70% legal and beneficial interest in the Tintyava Property. Velocity can exercise the option through delivery of a PEA.

1.4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Tintyava Property is approximately 350 km by road east-southeast of Sofia. It is accessible year-round by sealed roads with forestry roads and historical drill tracks providing year-round access within the Property by four-wheel drive vehicle.

Evaluation of the Project is at an early stage and details of labour sources and infrastructure, power and water for future potential mining have not yet been established.

The Project area's average annual temperature is around 12°C, ranging from around 2°C in January to 24°C in July. Maximum rainfall occurs during November and December, with rainfall of up to 100 millimetres (mm) per day. Snow cover is sporadic usually lasting generally only five to 10 days per year. Exploration activities can be undertaken throughout the year.

The local terrain is characterized by low mountains and predominantly levelled hills and is cut by steep valleys with an altitude ranging from 70 m to 700 m and averaging around 320 m. The Rozino Project area is bounded to the south by steep cliffs at Tashlaka and is segmented by the White River and its tributaries.

In the deposit area, elevation averages around 470 mRL in the north, reducing to approximately 300 mRL in the south, where the topography falls away towards the White River.

Small villages are dispersed widely throughout the licence area and the inhabitants are primarily involved in subsistence farming, particularly livestock and the growing of tobacco. The other main land use within the licence area is state controlled forestry. Rozino village is largely deserted. There is a 20 kV power transmission line 2.5 km from the Project and while the villages have electrical power, additional power will be required for the development of the Project. All villages have access to fresh water through a network of reservoirs.

1.5 History

Modern exploration of the Tintyava Property commenced by GeoService Engineering AD ("Geoengineering") in the 1980s. Exploration activities since that time have included diamond core drilling, surface mapping, trenching and rock chip sampling. Geoengineering drilled 86 vertical diamond holes for 14,289 m. Geoengineering did not document drilling, sampling and assaying protocols. Previous exploration activities have been described in detail within Addison Mining Services' NI 43-101 "Technical Report for the Rozino Project, Republic of Bulgaria" (Hogg, 2017).

Hereward began exploration in 2001 and completed three phases of drilling between 2004 and 2007 totalling 7,995 m, of which 2,733 m was completed in joint venture ("JV") with Asia Gold. Additional work completed during this time included surface mapping, trenching and metallurgical test-work.

In 2009, the original prospecting licence containing the Rozino deposit was due for expiry and Hereward in JV with Caracal Gold LLC, through a local JV company, Cambridge Caracal Bulgaria EAD ("Caracal"), submitted a "Technical and Economic Assessment" report in order to maintain their rights for the deposit. Caracal submitted a small underground mine design in order to reduce environmental permitting. The application was rejected by the Bulgarian government, who considered that an open pit mine design was required and, despite extensive dialogue between the parties, in 2013 the original prospecting licence was cancelled.

1.6 Geology and Deposit Type

Rozino is a low sulphidation epithermal ("LSE") gold deposit, predominantly hosted by Palaeogene breccia and conglomerate sedimentary rocks. Mineralization includes disseminations, replacement and veins, with pyrite (with rare traces of base metals), and arsenopyrite, associated with gold present at sulphide mineral boundaries and to a lesser degree as free grains or encapsulated inclusions. The dominant mineralization trend is northwest parallel to the regional extensional fault regime, with local mineralization development controlled by the intersection of steep structures sub-parallel to the extensional faults, gently dipping bedding and the metamorphic basement-sediment unconformity contact.

Drilling has intersected mineralization over an area around 1,000 m by 800 m to a vertical depth of around 190 m. The mineralization is interpreted to be completely oxidized to average depth of around 8 m, with fresh rock occurring at an average depth of around 19 m.

1.7 Exploration

Velocity's exploration activities since 2017 have focused on drilling with the aim of advancing the Project to a PEA. Additional exploration activities include surface mapping, 162 m of trenching and surface rock sampling.

The mapping comprised field traverses and observation points. Due to the predominately covered terrain most geological contacts are fixed only where they are intersected by trenches. However, on the eastern flank of the deposit the contact with granitic basement was re-mapped defining a different geometry to the eastern flank of the Palaeogene basin.

Two trenches were dug by hand to an average width of approximately 0.7 m and generally penetrated 10–20 cm of bedrock below surface cover. Trench depth was limited to approximately 2 m due to safety concerns. Trench sampling procedures were based on drill-hole sampling procedures with continuous 1 m channel samples collected from trench bases in half HQ diameter plastic pipe, thereby controlling the volume of the sample material. A third trench has been completed and results are pending.

The initial exploration focused on historical gold-in-soil anomalies generated by a regional 200 m spaced soil grid. Detailed soil sampling at Rozino and subsequent drilling has shown that soil anomalies are only generated where mineralization sub-crops and much of the Rozino deposit is overlain by barren sediments and is effectively geochemically blind. Therefore, soil sampling is a useful early stage tool in exploration but cannot be considered to be a screening tool.

Five priority targets based on the regional soil sampling have been defined over a total area of 160 km^2. Four of the targets are present within Palaeogene basins akin to the basin at Rozino and form a series of discrete pull-apart basins related to the Bjala Reka Fault Zone; a regionally trending dextral strike slip fault. One of the targets is associated with high gold-in-soils anomalism hosted in metamorphic basement within the Bjala Reka Fault Zone. Targets 1 and 2 are within 2 km of the Rozino Project.

Initial regional reconnaissance sampling and prospecting has been carried out and results are pending.

1.8 Resource Sampling and Assaying

The estimates described in this report are based on drilling information available on the 30th of May 2018. The sampling database includes 197 diamond holes completed by Velocity, Hereward Ventures Ltd ("Hereward"), and a Joint Venture between Hereward and Asia Gold Corp ("Asia Gold") during the mid-2000's, and Bulgarian state company Geoengineering in the 1980's.

Few details of sampling and assaying are available for the Geoengineering drilling. Although data from these holes were used to aid mineralized domain interpretation they were excluded from the estimation dataset. The Estimation Dataset includes diamond holes drilled by Hereward, Asia Gold and Velocity and comprises 90 holes for 13,588 m.

Relative to the dataset available for the March 2018 Mineral Resource estimates, the current sampling database contains assay results for an additional 12 holes for 1,580 m of drilling. Samples from Velocity's diamond drilling provide 67% of the Estimation Dataset, with Hereward and Asia Gold drilling contributing 28% and 5%, respectively.

Hole spacing varies from around 50 by 50 m and locally closer in central portions of the deposit, to around 100 by 100 m in peripheral areas. Exploratory drilling outside the current resource area is generally very broadly spaced.

For Velocity's diamond drilling all on-site core handling and sampling was supervised by Velocity geologists. The core was sampled over generally one metre down-hole intervals and generally halved for assaying with a diamond saw. The core samples were collected in sealed plastic bags and placed in plastic drums with tamper-evident seals for transport to ALS Minerals laboratory in Romania by an individual directly employed by Velocity for analysis by thirty-gram fire assay.

Information available to demonstrate sample representivity and the reliability of sampling and assaying for Velocity's diamond drilling includes core recovery measurements, and assay results for field duplicates, coarse blanks and certified reference standards. These data have established that the assaying is representative and free of any biases or other factors that may materially impact the reliability of the analytical results.

Hereward and Asia Gold's monitoring of sampling and assay reliability included duplicates and blanks for both data sets and certified reference standards for Asia Gold's drill results. These data are not available for the current review. An independent Qualified Person employed by Asia Gold in 2005 audited Hereward's sampling and assaying and considered the results to be sufficiently reliable for use in preliminary resource estimation.

Comparison of gold grades from the combined dataset of Hereward and Asia Gold drilling with nearby data from Velocity drilling shows similar average grades and supporting the general reliability of drilling, sampling and assaying for the Hereward and Asia Gold drilling.

Mr. Abbott (QP Mineral Resources) considers that quality control measures adopted for Velocity's Rozino diamond drilling have established that the sampling and assaying is representative and free of any biases or other factors that may materially impact the reliability of this data. Reliability of the Hereward and Asia Gold data has not been established with the same degree of rigour. This does not significantly affect confidence in the current Inferred Mineral Resource estimates.

Mr. Abbott (QP Mineral Resources) considers that the sample preparation, security and analytical procedures adopted for the Rozino drilling provide an adequate basis for the current Mineral Resource estimates.

1.9 Data Verification Mineral Resources

Verification checks undertaken by Mr. Jonathon Abbott (QP, Mineral Resources) to confirm the validity of the sampling database compiled for the current study included checking for internal consistency between, and within database tables, spot check comparisons between database entries and original field sampling sheets, comparison of assay entries with laboratory source files, and comparison of assay values between nearby holes and between different sampling phases. Mr. Abbott considers that the resource data has been sufficiently verified to form the basis of the current Inferred Mineral Resource estimates, and that the database is adequate for the current estimates.

1.10 Data Verification Processing

Mr. Gary Patrick (QP, Processing) completed a site visit 2 to 3 October 2018. The visit included visiting the Project offices, Rozino exploration site, surrounding infrastructure, core storage, and the Gorubso Carbon In Leach ("CIL") processing facility. During the site visit, in-depth discussions took place with the Project's main personnel, data and information was studied and reviewed, and information was freely exchanged.

1.11 Mineral Processing and Metallurgical Testing

Material collected for metallurgical test-work, is considered representative of the deposit, considering the current stage of Project development. Test-work shows the optimal process option for treating the Rozino mineralization is bulk sulphide flotation using conventional flotation reagents at a grind size of nominally 80% passing 75 µm to produce a gold-bearing sulphide concentrate. Pyrite is the dominant sulphide and the concentrate is essentially a pyrite concentrate.

The gold-bearing pyrite concentrate is readily amenable to processing in a conventional CIL circuit to extract the gold in the pyrite concentrate with subsequent smelting to produce gold doré. Leach residence time is expected to be between 36 hours and 48 hours.

Adequate test-work data is available on the process to provide operating parameters for flowsheet design and major equipment sizing within the contingency allowances normally associated with a PEA.

The Base Case comminution circuit for the PEA is a three-stage crushing followed by a conventional ball mill. This comminution circuit minimizes capital cost and also reduces the technical and operating risk associated with a semi-autogenous grinding (SAG)/ball mill design which presently lacks SAG mill amenability test-work results.

1.12 Mineral Resource Estimation

Mineral Resources were estimated by Multiple Indicator Kriging of 2 m down-hole composited gold grades from diamond drilling by Hereward, Asia Gold and Velocity. Estimated resources include a variance adjustment to give estimates of recoverable resources above gold cut-off grades for selective mining unit (SMU) dimensions of 4 m east by 6 m north by 2.5 m in elevation.

Estimated resources are constrained within a mineralized envelope interpreted from composited gold grades and geological logging from diamond drilling and surface trenches. The envelope captures intervals of greater than 0.1 g/t), with the lower boundary reflecting the contact between variably mineralized sedimentary rocks and un-mineralized basement. It covers an area of approximately 700 m by 800 m. Estimated resources extend to the base of mineralized drilling at around 190 m depth, with around 90% of estimates from depths of less than 105 m and less than 1% from below 140 m.

The Mineral Resource estimates have been classified and reported in accordance with NI 43-101 Standards of Disclosure for Mineral Projects and the classifications adopted by the CIM in May 2014. The estimates are classified as Inferred, primarily reflecting the drill-hole spacing and uncertainty over the reliability of sampling data collected prior to Velocity's involvement.

Table 1 presents Mineral Resources estimated for Rozino for selected cut off grades. The figures in this table are rounded to reflect the precision of the estimates and include rounding errors.

Table 1: Rozino Inferred Mineral Resource estimates at selected cut-offs

Effective date of estimates: 10th September 2018			
Cut-off (Au g/t)	**Tonnes (Mt)**	**Grade (Au g/t)**	**Metal (Au koz)**
0.2	50	0.59	948
0.3	31	0.80	797
0.4	22	0.98	693
0.5	17	1.17	639
0.6	13	1.37	573
0.7	9.7	1.57	490
0.8	7.8	1.78	446
0.9	6.4	1.98	407
1.0	5.4	2.18	378
1.2	4.0	2.56	329
1.5	2.8	3.07	276

1.13 Mining Method

The mining method proposed within the PEA is that of conventional open pit mining.

The overall slope angle ("OSA") for the open pit was set to 30° for the weathered material (Regolith and Oxide), 35° for the transitional and 45.3° for fresh material. These material types were coded into the block model. The Western sector of the pit required a flatter OSA for the fresh material and required an OSA of 40°.

Key input assumptions for the open pit optimization are listed below.

- Waste mining cost of US$2.65/tonne
- Flotation process cost of US$4.42/tonne
- CIL process cost of US$39.03/tonne$_{\text{concentrate}}$ (US$1.72/tonne$_{\text{milled}}$)
- Other costs of US$7.70/tonne [Note 1]
- Gold price of US$1,250/oz
- Overall gold recovery to doré of 79.2%

Note 1: Other costs include On-mine, Off-mine, Environmental Provision, Ore Incremental Costs, Contractor Monthly Management Fee and Sustaining Cost.

Mining by conventional open pit methods such as drill and blast followed by load and haul will be employed. Drilling and blasting will be performed on 5 m benches, as will loading of the blasted material. Where possible in the near surface weathered zone, "free dig" mining will be carried out (i.e. without drilling and blasting). Ripping by bulldozer may also be employed in transitional to reduce the quantity of drilling and blasting required.

The envisaged scale of mining at the Rozino deposit is relatively small with a peak total material movement of approximately 7 Mtpa. The annual processing plant feed requirement is approximately 1.75 Mtpa.

The mining fleet will consist of hydraulic excavators in backhoe configuration (90-tonne class) and 45 tonne capacity off highway articulated dump trucks. The estimated fleet size 3 x 90-tonne class excavators and 18 x 45-tonne class trucks will be the peak requirement. It is not anticipated the fleet size will increase significantly due to topography and the reference elevation. The primary mining fleet of trucks and excavators will be supported by standard open-cut drilling and auxiliary equipment.

Waste material will be hauled to the allocated waste rock dump positions to the east of the pit.

Rock fragmentation, aside from any free dig or ripping of ore, will be accomplished through drilling and blasting.

In-pit water management will primarily consist of runoff control and sumps. The dewatering infrastructure and equipment will be sized to handle groundwater inflows and precipitation. The surface water handling plan will be based on diverting as much surface water as possible away from the open pits, collecting it using ditches and sumps and then pumping it where necessary to a mine water pond. As the pit deepens, intermediate sumps may be required on the pit walls as well as on the surface between the pit and the mine water pond.

The proposed open pit mining operation at Rozino is considered relatively low risk from a technical mining operations standpoint for the following reasons:

- Mining rate of approximately 6 Mtpa will be required to sustain a 5,000 t/d plant feed, which is considered small and thus achievable.
- Mining equipment suitable for this sized operation will require 30–45-tonne articulated dump trucks and 90-tonne class excavators. This equipment is considered non-specialised and common with reasonable procurement and mobilization timeframes.
- Considering the size of the equipment proposed for the open pit mining operation, mobilization and demobilization of mining equipment should not present significant challenges for the transport of these mining machines.
- Site conditions are expected to be low to moderate difficulty in terms of climatic and topographical conditions.
- The Rozino site is accessible via an unsealed road (in reasonable repair) from the Rozino village which is accessed by sealed road and a 20 kV energy distribution line is located some 2 km to the north in the Rozino village.
- Siting of infrastructure is contained within a single watershed area located to the east of the open pit mining operation. The Project is expected not to discharge any water beyond the water storage facility into the general environment.
- Concentrate transport will require approximately 12 trucks per day transporting concentrate to an existing CIL plant located at Kardzhali (some 85 km by road). The required number of truck journeys is not considered to be a significant risk to public safety and other road users.

1.14 Recovery Methods

The optimal process route for treating the Rozino sulphide mineralization is flotation to produce a gold-bearing sulphide (pyrite) concentrate, followed by cyanidation of the concentrate in a conventional CIL circuit to produce gold doré.

The process of gold recovery is to be by a combination of on-site preconcentration in a flotation plant (“Flotation Plant”) and further processing in an existing operating carbon-in-leach plant (“CIL Plant”) located in Kardzhali, 85km by road from Rozino. Saleable gold and silver doré will be produced at Kardzhali. Given the early stage of the Project’s development, limited test-work data was available to support the design. Database information, vendor advice and assumptions based on experience have been used in lieu of Project-specific criteria. The criteria allow for the definition of a preliminary mass balance, as well as the design and specification of equipment for the derivation of the Project capital cost estimate.

In addition, it allows for the development of operating cost requirements such as power, water and reagents.

The Rozino Flotation Plant is designed to process 1.75 Mtpa of ore over the LOM following ramp-up. Being essentially a pyrite concentrator containing gold values, sulphur feed grades are expected to largely dictate concentrate production rates but a final concentrate mass pull of 4.5% by weight has been adopted.

Assuming a plant availability of 92%, the operating regime for the Flotation Plant has been set at 8,059 hours per annum (h/a), which is typical for a plant of this level of complexity and size. This sets the nominal throughput at 217 dry tonnes per hour.

Recoveries of sulphur and gold to flotation concentrate have been estimated from the available test-work carried out on the master composite sample representing sulphide mineralization from the Rozino deposit.

Based on a concentrate mass pull of 4.4% by weight, the CIL Plant is designed to process approximately 80,000 t/a of concentrate.

Assuming a CIL Plant availability of 92%, the operating regime for the CIL Plant has been set at 8,059 h/a, which is typical for a plant of this level of complexity and size. This sets the nominal throughput at 10 dry t/h.

The concentrate leach recovery has been estimated from the available test-work carried out on the cleaner concentrate sample obtained from the open cycle cleaner test (using Aerofloat 242 as the collector) undertaken at Eurotest Control EAD ("Eurotest") on the master composite sample.

1.15 Project Infrastructure

The Rozino deposit is a brownfield mining prospect and no infrastructure currently exists at the proposed mining operations. The site is currently accessed from the main sealed road via an unsealed dirt road in reasonable repair. The village of Rozino, located 2 km to the north of the Project is electrified with a 22 kV supply stepped down from 110 kV main distribution line located some 22 km to the north.

Preliminary surface water and groundwater estimates have indicated that the Project will have a negative water balance and approximately 50% of the mining and processing requirements will be augmented by a planned well field.

The plant electrical power will be supplied by the local power authority via an overhead high voltage transmission line supplied from the Rozino 20 kV substation. A 20 kV main substation will be established at the plant site to facilitate power distribution to various areas within the plant.

The Project water management plan is central to maintaining an appropriate environmental and operational performance for the Project. The principle adopted for site water management is to intercept and control water flowing within the operational areas to ensure that it stays within a single watershed area located to the east of the mine operations. This contact water will report to the water storage facility located at the lowest elevation of the watershed. The water will then be pumped back to the water storage tanks located at the processing facility for use in the process plant and mining operation.

The proposed water storage facility will have a capacity of 1 million m^3 (approximately 75% of the annual consumption at a usage of 0.8 m^3 per tonne processed). A preliminary hydrological study has indicated that up to 650,000m^3 per annum of surface runoff and groundwater inflows is to be expected. Considering this, it is anticipated the Project will have a negative water balance on an annual basis and will require additional sources of make-up water to supplement the groundwater and surface runoff quantities.

The concept of the flotation tailings storage facility ("TSF") is to place flotation tailings into a main storage impoundment (located directly to the east of the main pit within a valley and watershed area) from mine rock and/or dehydrated tailings.

The mine site will be linked to the nearest accessible public network using fibre-optic cable which will support both data and voice communications. A repeater system will provide the infrastructure to enable handheld and mobile radio sets to communicate around the site.

The proposed access road to the plant site is an existing unsealed road approximately 13 km in length which runs from the 59 main sealed road through Konnitsi village to Rozino village, thereafter the roads become exploration dirt tracks with varying condition.

1.16 Market Studies and Contracts

No market studies have been completed by the Company to date, and no existing contracts are in place.

1.17 Environmental

Velocity is still developing the Project design but has initiated the environmental and social impact assessment ("ESIA") process early, as results can be used to improve the design, as well as maximizing the benefits of the ESIA without incurring excessive costs. All necessary permits to conduct the work proposed for the property have been obtained and there are no known significant factors or risks that may affect access, title or the right or ability to perform work on the Property. The prospecting licence agreement for the Tintyava Property has been signed with the Minister of Energy and exploration activities have been approved by the Ministry of Environment.

Under the Bulgarian Environment Protection Act, the development of an economically viable mining reserve will require an Environmental Impact Assessment ("OVOS") which is, in part equivalent to an international ESIA. Furthermore, the Project is located within the Eastern Rhodope mountains, which is an area of wide biodiversity. As such, an environmental assessment of the potential mining project "compatibility assessment" is required to comply with Bulgarian Law and the European Union Natura 2000 Habitats Directive. An initial compatibility assessment was conducted for the approved exploration program within the prospecting licence area and a second assessment for exploitation is underway as part of the OVOS and ESIA process.

The ESIA will include an assessment of the environmental and social impacts of the Project's planned development compared to existing conditions. Velocity has commenced baseline monitoring to characterize environmental conditions, including groundwater levels and quality, surface water quality, air quality (specifically airborne dust) and ecology, and will continue to observe any changes in the social environment of the Project area.

The Project is likely to give rise to a range of environmental and social impacts. Velocity is committed to managing the impacts of its operations, in conformance with recognized international best practice. Mitigation measures will be developed through the ESIA process in order to manage potential impacts and implemented to effective environmental and social development, operation and closure of the Project. An environmental management plan will be developed to ensure that appropriate control and monitoring measures are in place to deal with all significant impacts of the Project. The plan has been designed so that it can be reviewed and updated throughout the life of the Project.

1.18 Capital and Operating Costs

Capital costs for mining have been calculated from international benchmarked contractor rates for mobilization of equipment and construction on a mine services area that includes heavy equipment workshops, store and administrative structures.

Mining capex has been estimated at US$4.75M (CAD$6.32M)

The Flotation Plant capital cost estimate has been calculated from international benchmarked capital costs based on similar-sized flotation processing plants. A capital allowance has been calculated for the tailings management facility and water storage facilities at the Rozino site based on international benchmarking capital rates in conjunction with estimated dam wall volumes.

Flotation Plant estimated capital costs total US$38.27M (CAD$50.90M)

At the CIL Plant, a US$0.7 million capital expenditure provision for has been estimated for the construction of a truck off-load facility, concentrate storage, re-pulping facility, additional gold stripping vessel and electrowinning cell. The remaining equipment and facilities at the CIL Plant have been determined to be of adequate size and condition and will require no further capital expenditure.

Total Project Capital requirements (including EPCM and contingency) are estimated to be US$73.2M (CAD$97.4M).

The mine operating costs were estimated from international benchmarked contractor mining rates and calculated per period based on the mine production schedule. Total LOM mine unit cost is estimated to be US$0.24/t mined (US$272/gold oz).

The processing costs for the Flotation Plant were estimated from international benchmarked rates and calculated per period based on the process feed schedule. Flotation plant unit costs is estimated to be US$4.38/t (US$113.8/gold oz).

The processing costs for the CIL Plant were estimated from actual and budget estimates for the operating CIL Plant and adjusted for expected concentrate throughput concentrate production schedule. CIL Plant unit cost is estimated to be US$1.80/t of concentrate (US$46.7/gold oz).

The on-mine costs for the Rozino site were estimated from first principles based on local labour rates (derived from similar operations within the region) and includes provision for stores and equipment. One mine unit cost is estimated to be US$3.09/t (US$80.1/gold oz).

A concentrate transport cost of US$0.14/tonne/km has been used to calculate the cost attributable to the transportation of the gold bearing concentrate. The concentrate is required to be trucked 85 km to the Gorubso processing facility located in the city of Kardzhali, equating to an additional transport cost of US$11.9/tonne concentrate or US$0.6/tonne milled ore.

Additional operating costs of 4% for sustaining capital and US$0.75/tonne ore for the environmental provision was allowed in the operating cost estimate.

Total operating unit cost is estimated to be US$20.92/t (US$543.3/gold oz).

1.19 Economic Analysis

A standard discounted cash flow ("DCF") method of financial valuation is used to value the Rozino Project. The DCF model is reported at 100% attributable equity. Key inputs to the financial valuation such as the Run Of Mine ("ROM") production profile, operating costs and capital costs have been described in detail in the preceding sections of this report.

The DCF model has utilised US$ as the base currency as majority of capital and operating cost estimates are based in US$. Where stated (specifically in the output and reporting numbers), a Rate of Exchange of C$0.75 to US$1 has been used for currency conversion.

Corporate tax rates in Bulgaria are 10% payable on positive cash flows from operations.

A five-year straight line depreciation method of redeeming capital expenditure has been used to amortise the capital cash flows.

Cash flows are discounted at 5% to obtain an NPV of the Project.

Key financial assumptions are presented in the tables below.

Table 2: Key Project overview and metrics

Project Overview	Units	
Mining		
Total ore production	kt	9,471
Total waste production	kt	23,679
Total mined	kt	33,150
Metal mined	koz	461
Mine life	years	6.1
Steady state ROM production	kt/a	1750
Year at steady state	years	4.0
Average production rate	kt/d	4.3
Average head grades		
Au	g/t	1.51
Processing		
Overall metallurgical recovery	%	79.2%
Payable Au	LOM koz	365
	average koz/year	60

Table 3: Summary of LOM operating costs

Operating costs		US$/tonne	C$/tonne
Mining	$/tonne	10.47	13.96
Flotation plant on site	$/tonne	4.38	5.84
Milling (CIL to doré)	$/tonne	1.80	2.40
On-mine	$/tonne	3.09	4.11
Off-mine	$/tonne	0.00	0.00
Environmental provision	$/tonne	0.75	1.00
Sustaining capital	$/tonne	0.43	0.57
All-in opex	$/tonne	20.92	27.89
All-in opex (AISC)	$/Au oz_{pay}	543.31	724.41

Table 4: Summary of initial capital costs

Capital costs	US$M	C$M
LOM capital	**73.2**	**97.6**
Mine infrastructure	4.8	6.3
Flotation plant on site	41.4	55.2
TSF	10.3	13.7
Water treatment plant	0.0	0.0
Gorubso upgrades	0.5	0.7
Study costs	0.0	0.0
Owner's cost	1.9	2.6
Indirects	0.8	1.1
EPCM	6.9	9.1
Contingency	6.7	8.9

Key financial outcomes are presented in the table below;

Table 5: Summary of economic results

Summary of economic results	Units	
Pre-tax		
NPV @ 0%	US$M C$M	168.2 224.3
NPV @ 5%	US$M C$M	108.6 144.8
IRR	%	35.1%
Payback (Project Start)	years	4.2
Payback (Production Start)	years	2.2
After-tax		
NPV @ 0%	US$M C$M	151.4 201.8
NPV @ 5%	US$M C$M	96.9 129.2
IRR	%	33.1%
Payback (Project Start)	years	4.3
Payback (Production Start)	years	2.3
ROCE	EBIT/CE	3.3

1.20 Adjacent Properties

Velocity has entered into an Alliance covering all existing and future Gorubso and Velocity projects within an area of 10,400 km^2 covering the prospective Eastern Rhodope Gold Mining District in southeastern Bulgaria. The Alliance provides an exclusive right for Velocity to earn a 70% interest in any existing or future project, plus access for all projects to the CIL Plant.

The Ada Tepe deposit (known as the Krumovgrad Project) is the most significant gold mineralization within the region. The property is owned by Dundee Precious Metals ("DPM") who is currently commissioning the plant of its Krumovgrad Project to exploit the Ada Tepe and Surnak deposits (6.2 Mt @ 4.0 g/t Au for 807 koz Au). First gold production at the Krumovgrad Project is slated for Q4, 2018.

1.21 Interpretations and Conclusions

1.21.1 Summary

CSA Global concludes that the Mineral Resource estimate prepared for the Rozino Project has prospects of eventual economic extraction, classified in the Inferred category and thus suitable for inclusion in a PEA study. The PEA set out in this technical report concludes that, at the current level of study, it is possible to mine the deposit via conventional open pit mining with a 1.51g/t gold LOM grade (at a 0.6g/t gold cut-off grade) and 2.5:1 average strip ratio. Processing by standard flotation suggests it is possible to achieve a gold concentrate grade of 30g/t gold and via transport of concentrate to an existing CIL plant, production of gold doré as a saleable product. Specific conclusions are set out in the sub-sections below.

1.21.2 Geology and Mineral Resources

- Rozino is an LSE gold deposit hosted within Palaeogene sediments as disseminations, replacement and vein mineralization. The dominant mineralization trend is northwest parallel to the regional extensional fault regime, with local mineralization development controlled by the intersection of steep structures sub-parallel to the bounding extensional faults and gently dipping bedding.

- The Mineral Resource estimates described in this report are based on drilling information available on the 30th of May 2018. The sampling database includes 197 diamond holes completed by Velocity, Hereward, Asia Gold and Geoengineering.
- Few details of sampling and assaying are available for the Geoengineering drilling. Although data from these holes were used to aid mineralized domain interpretation, they were excluded from the Estimation Dataset.
- The Estimation Dataset includes diamond holes drilled by Hereward, Asia Gold and Velocity and comprises 90 holes for 13,588 m. Relative to the dataset available for the previously disclosed March 2018 estimates, the current sampling database contains assay results for an additional 12 holes for 1,580 m of drilling. Samples from Velocity's diamond drilling provide 67% of the Estimation Dataset, with Hereward and Asia Gold drilling contributing 28% and 5%, respectively.
- Drilling has intersected mineralization over an area around 1,000 m by 800 m to a vertical depth of around 190 m. The mineralization is interpreted to be completely oxidized to average depth of around 7 m, with fresh rock occurring at an average depth of around 18 m.
- Hereward and Asia Gold holes are generally aligned sub-parallel with mineralization trends and define mineralized zones less robustly than Velocity's drilling which intersects mineralization trends at a greater angle providing a more reliable basis for resource estimation.
- The author considers that quality control measures adopted for Velocity's Rozino diamond drilling have established that the sampling and assaying is representative and free of any biases or other factors that may materially impact the reliability of this data. Reliability of Hereward and Asia Gold data has not been established with the same degree of rigour. This does not significantly affect confidence in the current Inferred Resource estimate. However, the reliability of the Hereward and Asia Gold data warrants further investigation as assessment of the Project continues.
- The author considers that the sample preparation, security and analytical procedures adopted for the Rozino drilling provide an adequate basis for the current Mineral Resource estimates.
- Mineral Resources were estimated by Multiple Kriging of 2 m down-hole composited gold grades from diamond drilling by Hereward, Asia Gold and Velocity. Estimated resources include a variance adjustment to give estimates of recoverable resources above gold cut-off grades for SMU dimensions of 4 m east by 6 m north by 2.5 m in elevation.
- Estimated resources are constrained within a mineralized envelope interpreted from composited gold grades and geological logging from diamond drilling and surface trenches. The envelope captures intervals of greater than 0.1 g/t, with the lower boundary reflecting the contact between variably mineralized sedimentary rocks and un-mineralized basement. Estimated resources extend to the base of mineralized drilling at around 190 m depth, with around 90% of estimates from depths of less than 105 m and less than 1% from below 140 m.
- Table 1 presents Mineral Resources estimated for Rozino for selected cut off grades. The figures in this table are rounded to reflect the precision of the estimates and include rounding errors.
- The Mineral Resource estimates have been classified and reported in accordance with NI 43-101 and the classifications adopted by CIM Council in May 2014 (CIM, 2014). The estimates are classified as Inferred reflecting the drill-hole spacing and uncertainty over the reliability of sampling data from pre-Velocity drilling.

1.21.3 Metallurgy and Processing

- Test-work shows that a gold bearing sulphide concentrate can be produced by standard flotation techniques, using conventional flotation reagents at a grind size of nominally 80% passing 75µm.

- The flotation concentrate can be treated in a conventional CIL circuit to extract the gold in the pyrite concentrate with subsequent smelting to produce gold doré. Leach residence time is expected to be between 36 hours and 48 hours.
- Predicted gold recovery to doré is 79.2%, based upon a flotation recovery of 91.4%, a leach recovery of 87.5%, and a 99% smelter recovery.
- Adequate test-work data is available on the process to provide operating parameters for flowsheet design and major equipment sizing within the contingency allowances normally associated with a PEA.
- The comminution circuit for the PEA is a three-stage crushing followed by a conventional ball mill. This comminution circuit minimises capital cost and reduces the technical and operating risk associated with a SAG/ball mill design which presently lacks SAG mill amenability test-work results.

1.21.4 Mining

- The Rozino deposit supports a conceptually economic open pit mining operation. The basis of the economic evaluation was the open pit extraction of gold bearing material, flotation of gold-bearing material to produce a 25–30 g/t gold concentrate for transport to the CIL Plant.
- A selected 0.6 g/t gold cut-off yields approximately 9.5 Mt of gold-bearing material at 1.5 g/t gold average grade and strip ratio of approximately 2.5.
- The proposed open pit operation at Rozino is considered small and a mining rate of approximately 6 Mtpa will be required to sustain a 5,000 t/d plant feed at an average strip ratio of 2.5. Mining equipment suitable for this sized operation will require 30–45-tonne articulated dump trucks and 90-tonne class excavators. Considering the size of the equipment proposed for the open pit mining operation, mobilization and demobilization of mining equipment should not present significant challenges for the delivery of these mining machines.
- It is anticipated that open pit mining at Rozino should not present any specific challenges or difficulties as environmental conditions and site conditions are expected to be low to moderate difficulty in terms of climatic and topographical conditions.
- No infrastructure currently exists at the Rozino site; however, the site is accessible via an unsealed road (in reasonable repair) and a 20 kV energy distribution line is located some 2 km to the north in the Rozino village. Water requirements for processing and mining operations will require augmentation from a developed well-field as preliminary estimates show that the Project will be in negative balance.
- Siting of infrastructure has been limited to the eastern watershed area to ensure that minimal contamination of the environment occurs. A number of surface constraints exist at the site:
  - Potentially environmentally sensitive areas for flora and fauna
  - Private land ownership
  - State owned primary industry (forestry).
- Placement of proposed infrastructure has considered these areas and has as far as possible located infrastructure either outside of these areas or has minimised the impact on these areas. Considering this, it is noted that placement of Flotation Plant and mining infrastructure will require careful planning as the project progresses as areas for the placement of infrastructure are limited and the minimisation earthworks costs should be considered.
- Trucking of concentrate will require approximately 12 trucks per day to deliver gold bearing concentrate to the CIL Plant located at Kardzali (some 85 km by road). The required number of truck journeys is not considered to be a significant risk to public safety and other road users.
- CSA Global has identified the following key risks to the Rozino Project:

  - Increased cost of energy supply infrastructure should the 20 kV line not be suitable to supply energy demands
  - Groundwater flows that will not be able to sustainably augment the negative water balance
  - Increased cost requirements due to legislative requirements for storage facilities (fell and stack, clear and grub and impoundment linings).
- The preliminary economic indicators are favourable at a 0.6 g/t gold cut-off and production throughput of 1.75 Mtpa ore treated.

1.21.5 Environmental

- There are few receptors in the area, with no human settlements in proximity. Velocity has commenced baseline studies for the ESIA and OVOS, and data collection continues with a view to developing a detailed database covering the Project area and potentially affected areas. The remoteness of the area and depopulation reduces the number of potentially affected people. The Project is located within a Natura 2000 designated area, and any projects within these areas require careful management and strict mitigation measures to minimise any adverse impacts. However, the Natura 2000 Habitat area covers much of southeastern Bulgaria, where many light and heavy industries operate, including large open pit mining operations. Climate data and weather data is being collected to compare to regional databases, to provide reliable data for the ESIA and design teams. Water data is also being collected, both from surface and groundwater sources.
- The exploration works are authorized through the approval of exploration permits and the compatibility assessment, which determined that exploration has a negligible impact on habitats and wildlife of the area. Additional biological surveys are continuing to verify the limited impact on sensitive habitats, and to determine potential for impact on protected birds, mammals and reptiles. Management measures have been recommended in the compatibility assessment and implemented by Velocity.
- The development of the Project is likely to give rise to a range of environmental and social impacts. However, assuming the implementation of mitigation measures proposed in the ESIA, these impacts are considered manageable and controllable. Therefore, the development, operation and closure of the Project could be undertaken in an effective environmental and social manner.

1.21.6 Water Management

- The Rozino Project area is located in south-eastern Bulgaria in a Continental-Mediterranean climate. The Project area has an annual average precipitation estimated to be approximately 770 mm, with the highest average monthly rainfall occurring in December (>100 mm) and the lowest in August (<25 mm).
- The Rozino deposit is hosted within Palaeogene breccia and conglomerate sedimentary rocks, which are likely to have low permeability with enhanced permeability associated with geological structures and contact zones. Groundwater flow through the fresh rock will be primarily associated with geological fractures and fissures within the rock mass. Groundwater levels in the Rozino Project area range from above ground level (artesian) to approximately 50 m below ground level.
- Pit inflows will be derived from both groundwater and surface water (rainfall runoff) sources. Groundwater inflows into the pits are likely to be low to moderate, with enhanced inflows associated with zones of higher permeability. Surface water (rainfall runoff) inflows will be highly influenced by the seasonal rainfall patterns. The total annual average pit inflow volume, for the two pits, is predicted to be up to 490,000 m^3, comprising annual average rainfall runoff/surface water inflows of approximately 175,000 m^3 and annual average groundwater inflows of approximately 315,000 m^3 (based on a total average inflow of 10 L/s).

- Pit inflows can be effectively managed by the commissioning of an appropriate pit dewatering systems. Based on the current pit designs and currently available data, an in-pit sump dewatering system capturing both groundwater and surface water inflows will be a feasible pit dewatering strategy. Inflows will gravity drain to an in-pit sump(s) at the base of the pit and will be subsequently pumped out of the pit to a sediment treatment system. Dewatering bores, targeting discrete zones of enhanced permeability, are another possible pit dewatering option; however, at this stage there is insufficient data to confirm whether they would be a feasible option.
- Depressurisation (if required) would likely be achieved primarily by horizontal drain holes installed, as needed, along benches within the pits.
- Standard surface water management principals should be adopted for the site. Based on the current pit designs, the two pit developments will have minor surface water drainage and diversion requirements to mitigation rainfall runoff from external catchments draining into the pits. There may also be the opportunity to gravity drain rainfall runoff along the upper benches within the pits, to discharge laterally outside the pit perimeter which would result in reduced dewatering requirements within the pit development and associated capital and operating costs.
- The process plant site would only require relatively minor surface water management works to divert rainfall runoff from the small upstream catchment to downstream of the plant site. The proportion of water supply required from the TSF and the raw water storage dam may dictate the surface water management logic in the vicinity of the two dams.
- A water storage dam with a design capacity of approximately 1 Mm^3 is proposed to be constructed in the catchment adjacent to the pit. The average annual rainfall runoff captured by the dam may be in the order of approximately 180,000 m^3. This could potentially be supplemented by pumping pit dewatering to the dam (predicted to be up to an annual average of 490,000 m^3); however, significant groundwater inflows are unlikely to be available in the early stage of mine development and the rainfall runoff related pit inflows are rainfall dependent.

1.22 Recommendations

1.22.1 Summary

CSA Global believes that the results of the PEA suggest positive economics for the project, at this level of study. Progression to a Preliminary Feasibility Study is warranted based on the conclusions drawn from the PEA and therefore CSA Global recommends the Company progress to PFS, and the following specific recommendations are set out in the sub-sections below, to this end.

1.22.2 Mineral Resources and Exploration

- In developing his recommendations for future exploration and resource definition work programs at Rozino, the author has considered the available information and Velocity's work plan for 2018 and 2019. This plan comprises exploration of regional targets and areas adjacent the current Mineral Resources targeting expansion of the current Inferred Resource estimates and infill drilling aimed at upgrading Inferred Mineral Resource estimates to the Indicated category to support the preparation of a PFS. Estimated costs for this workplan total CAD $3,934,000.
- In addition to infill drilling, the author's recommendations aimed at increasing confidence in estimated Mineral Resource are outlined below. Costs for these activities are included in the 2018 and 2019 work plan budget.
    - Inter-laboratory check assays of representative pulp samples from Velocity's 2017 and 2018 drilling programs
    - Undertake check sampling and analysis of selected representative samples of Hereward and Asia Gold drill core

  - Further DGPS topographic surveying of the deposit area and surrounding areas.

1.22.3 Mining

- Considering the indicated economic potential of the base case at a 0.6 g/t gold cut-off and production throughput of 1.75 Mtpa ore treated, it is recommended the Project proceeds to the PFS.
- As part of the PFS, all considerations should be given to mobile and modular type construction of all infrastructure due to the short-term nature of the extraction and the potential surrounding deposits that may be exploited following the depletion of the Rozino deposit.
- Considering the additional test-work required in light of a potential PFS, it is further recommended that careful planning of any additional resource definition drilling to upgrade the resource may provide cost savings if coupled with the requirements for geohydrology and geotechnical disciplines.
- CSA Global further recommends as part of a PFS that knowledge and understanding of the following is improved:
  - Ampacity of the Rozino 20 kV energy distribution lines
  - Bore-hole yield and recharge rates
  - Legislative requirements for fell and stack, clear and grub and topsoil stockpiling
  - Requirements for lining of tailings impoundments and waste rock storage facilities.
- CSA Global notes that the exploratory work required to increase the level of confidence of the Inferred Mineral Resource to a minimum required classification of Indicated is the critical path for the commencement of a PFS on the Rozino deposit.

1.22.4 Metallurgy and Processing

- Additional ore characterisation test-work is required to determine whether the Rozino sulphide mineralization is amenable to into SAG milling. Based on these results it is recommended to undertake an options study to determine the optimum comminution circuit.
- Further flotation test-work is recommended to optimize reagent additions.
- Bulk samples of the sulphide concentrate will be required to undertake further testing to determine the downstream equipment requirements for the ultimate Flotation Plant design.

1.22.5 Environmental

- Develop a water quality monitoring network to understand surface water patterns of the area
- Monitor wildlife presence, particularly of species considered to be protected, in order to determine true numbers and habitat use of potentially impacted and sensitive species
- Conduct road condition assessment for haul routes
- Examine the potential for renewable power supplies

1.22.6 Water Management

Additional studies are recommended to improve the understanding of the hydrology and hydrogeology of the Project area and to improve confidence with regards to predictions on pit dewatering, depressurisation, surface water management and water supply options:

- Installation of an on-site rain gauge, ideally a tipping bucket rain gauge, in order to record site specific rainfall data relating to both individual storm events and daily totals.
- Monitoring of flows (and some limited water quality) associated with surface water features in the immediate Project area.
- A comprehensive hydrogeological field investigation program is required in order to obtain site specific hydrogeological data for the Project, including the following:

  - Estimates of hydraulic parameters for the various lithologies, structures and contact zones across the project site
  - Hydraulic inter-connection between different lithological units and geological features
  - Groundwater levels, flow direction and quality and any seasonal variation
  - Mapping of local geological structures across the Project area.
- It is critical to note that all the predictions provided in this report are derived from limited site-specific data. Site-specific data for the Project is required in order to confirm all the predictions presented in this report and to allow the level of certainty to increase commensurate with progression of this study to the next stage (PFS level).

2 Introduction

This Technical Report has been prepared by CSA Global (UK) Ltd ("CSA Global") ") in accordance with National Instrument 43-101 *Standards of Disclosure for Mineral Projects* ("NI 43-101"), with input from several Qualified Persons including those from CSA Global in the areas of Mining and Mineral Processing, MPR Geological Consultants Pty Ltd ("MPR") in the area of Mineral Resources and Holland & Holland Consultants ("H&H") in the area of Metallurgy and Mineesia Ltd ("Mineesia") in the area of Environmental Assessment. This document has been prepared for Velocity Minerals Ltd. ("Velocity") to disclose updated material information comprising an updated Mineral Resource estimate and Preliminary Economic Assessment ("PEA") for the Rozino Project ("Rozino" or the "Project"), located within the Tintyava Prospecting Licence ("Tintyava Property" or the "Property"). The effective date of the Technical report is 26 October 2018.

MPR completed the updated Mineral Resource estimate, H&H completed the metallurgical studies and CSA Global were responsible for the mining components and overall study lead in relation to evaluating the Rozino Project and ensuring the required technical evaluations, verification and review works were completed to facilitate disclosure of the PEA.

In addition, and following the estimation of Mineral Resources, CSA Global was commissioned to produce a Life-of-Mine ("LOM") Schedule and prepare a financial model for the Project.

The Mineral Resource estimates have been reported in accordance with NI 43-101. All technical works have been undertaken under the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") report, "*CIM Definition Standards for Mineral Resources and Mineral Reserves*" prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

Sources of information used in relation to the preparation this technical report can be found in Section 26 – References.

Mr. Jonathon Abbott, the Mineral Resources Qualified Person, visited Velocity's operations in the Ivaylovgrad area from 24 to 26 February 2018, including a field visit to the Rozino deposit on 25 February 2018, and inspecting original sample records and diamond drill core at Velocity's Ivaylovgrad offices on 24, 25 and 26 February 2018.

Mr. Gary Patrick, Qualified Person for Processing aspects, visited site 2 to 3 October 2018. The visit included visiting the Project offices, Rozino exploration site, surrounding infrastructure, core storage, and the Gorubso processing facility, including the CIL Plant. During the site visit, in-depth discussions took place with the Project's main personnel, data and information was studied and reviewed, and information was freely exchanged.

3 Reliance on Other Experts

The report relies on other experts for the description of Tintyava Property tenure and ownership. These aspects are detailed and referenced in relevant sections of the report, and listed below:

- Section 4: The description of mineral tenure and Property ownership relies upon Tabakov, Tabakova & Partners (2017) and Gorubso-Kardzhali and Kibela Minerals (2017).
- Section 6: The description of mineral tenure and Property ownership relies upon Tabakov, Tabakova & Partners (2017) and Gorubso-Kardzhali and Kibela Minerals (2017).

The authors of this report are not qualified to comment on any legal considerations relating to the status of the Tintyava Property and expresses no opinion as to the ownership status of the Property.

The authors have not independently verified the status of Velocity's agreements with Gorubso Kardzhali AD ("Gorubso") or Velocity's option to earn a 70% interest in the Tintyava Property as described in an "Option Agreement between Gorubso Kardzhali AD and Kibela Minerals AD" dated 19 July 2017 (Gorubso-Kardzhali and Kibela Minerals, 2017). Kibela Minerals AD ("Kibela") is a wholly-owned subsidiary of Velocity.

No warranty or guarantee, be it express or implied, is made by CSA Global or the authors with respect to the completeness or accuracy of the legal aspects of the property. Neither CSA Global nor the authors accept any responsibility or liability in any way whatsoever to any person or entity in respect to these parts of this Technical Report document, or any errors in or omissions from it, whether arising from negligence or any other basis in law whatsoever.

4 Property Description and Location

4.1 Property Location and Description

The Rozino Project is located within the Tintyava Property, within the municipalities of Ivaylovgrad and Haskovo, southeast Bulgaria, about 350 km (by road) east-southeast of the capital, Sofia (Figure 1). To the east is the border with Greece and to the north and west are the municipalities of Lyubimets, Madjarovo and Krumovgrad. The Tintyava Property has an area of 163.4 km^2 and its centroid is located at World Geodetic System (WGS) 84 longitude 41° 27' 28", latitude 25° 52' 22", approximately 25 km west-southwest of the border town of Ivaylovgrad and 10 km east of Krumovgrad town.

The Rozino Project is located 2 km south of the village of Rozino, 20 km east of the Ada Tepe gold deposit, which is described in more detail in Section 23 (Adjacent Properties), and 50 km southeast of the city of Kardzhali. The Ada Tepe gold deposit is currently being developed by Dundee Precious Metals Inc. ("DPM") and the existing CIL Plant, operated by Gorubso, is located in Kardzhali.

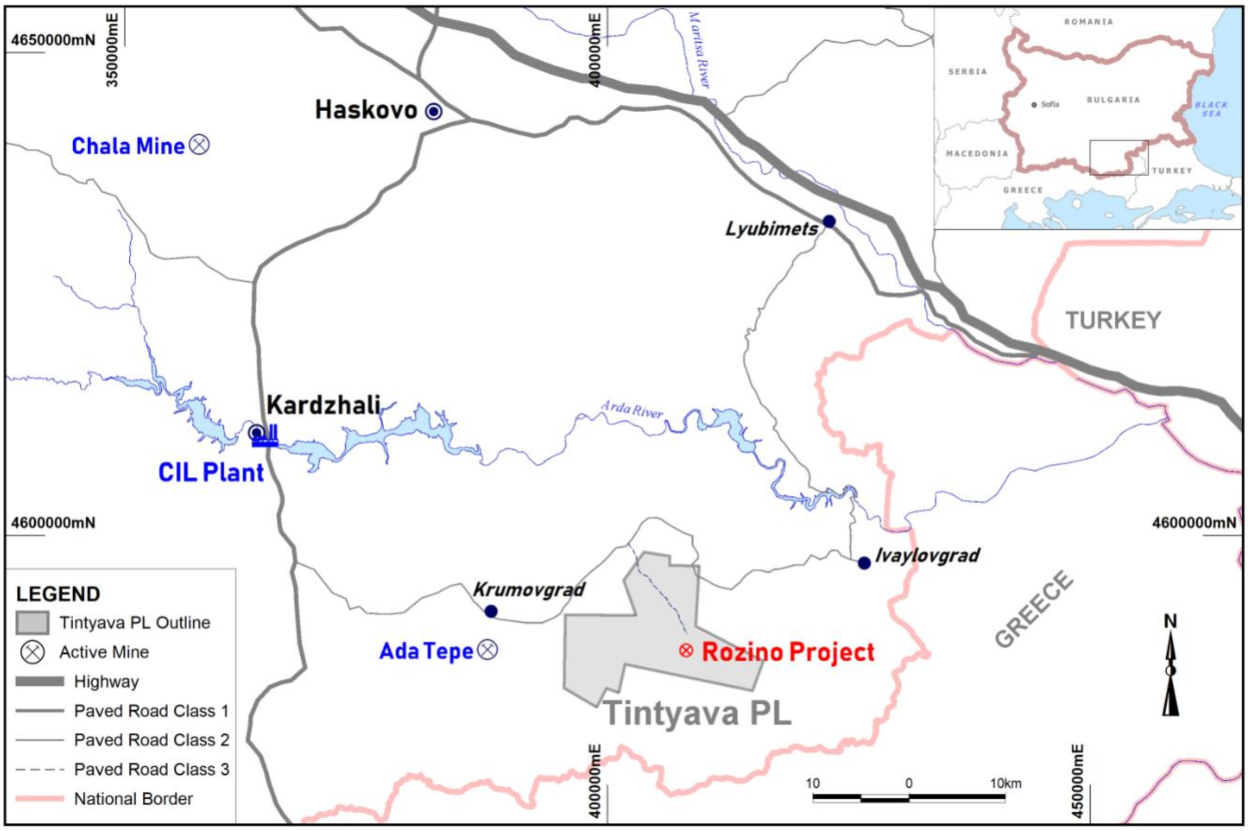


Figure 1: Location map of the Rozino Project, southeastern Bulgaria

4.2 Mineral Tenure and Surface Rights

In 2016, Gorubso won a competitive tender to acquire the Tintyava Property. Gorubso and the Bulgarian Minister of Energy entered into a prospecting and exploration licence agreement dated 2 May 2017, pursuant to which the Tintyava prospecting licence (No. 467) was issued. The Tintyava prospecting licence gives the holder the exclusive right to explore for metal ores both on the surface and at depth within a certain parcel of land described by a set of coordinates, referred to hereafter as the Tintyava Property. The Tintyava Property was subsequently transferred to Tintyava Exploration EAD ("Tintyava Exploration"), a wholly-owned subsidiary of Gorubso.

On May 30, 2017, Velocity and Gorubso entered into an option agreement. Pursuant to the terms of the option agreement, Velocity has acquired the exclusive option (the "Option") to acquire a 70% interest in Tintyava Exploration and the Tintyava Property. The Option is exercisable through delivery of a PEA, within the meaning of NI 43-101.

Until such time as the Option has been exercised Velocity is responsible for funding 100% of its exploration expenditures on the Tintyava Property, including the cost of completing the PEA and for all costs necessary to maintain the Tintyava Property in good standing. Delivery of the PEA is the only obligation that Velocity is required to meet in order to exercise the Option.

Upon exercising the Option, Velocity and Gorubso shall be deemed to have formed a joint venture ("JV") for the purpose of developing the Tintyava Property. The initial participating interests of Velocity and Gorubso in the JV shall be 70% and 30% respectively. If Velocity decides to abandon the Tintyava Property after exercising the Option, then all of Velocity's interest in the Tintyava prospecting licence and Tintyava Exploration will revert back to Gorubso, subject to a 1% net smelter return ("NSR") royalty in favour of Velocity. If Velocity decides to continue with development of the Tintyava Property, Gorubso will have the right to fund its 30% interest in the JV. If either Velocity or Gorubso does not contribute its portion of expenditures, then that party's interest in the JV will be diluted and if reduced to a percentage of 10% or less, will convert to a 1% NSR.

On September 4, 2018, Velocity and Gorubso entered into an Exploration and Mining Alliance Agreement (the "Alliance"). The Alliance area covers all existing and future Gorubso and Velocity projects (including the Tintyava Property) within an area of 10,400km2 covering the prospective Eastern Rhodope Gold Mining District in southeastern Bulgaria. Through the Alliance, Velocity has exclusive access to a CIL gold processing plant (the "CIL Plant") and has negotiated options to earn a 70% interest in seven existing near-surface gold projects. The Agreement contemplates the exploration, development, and mining of the various projects within the Alliance area and provides for an option/joint venture mechanism by which Velocity and Gorubso will partner to maximize value for both companies.

4.3 Datum and Projection

Table 6 lists the corner pillar coordinates for the Tintyava Property and Figure 2 is a map of the Tintyava Property. The coordinate system used in this figure and throughout this report is WGS 84 Zone 35N coordinates. The Tintyava Property has an area of approximately 163 km^2 and is centred at around 404,800mE, 4,589,400mN.

Table 6: Corner pillar coordinates for the Tintyava Property (WGS 84 projection, UTM Zone 35N)

Point ID	X (UTM 35N)	Y (UTM 35N)
1	403,790	4,598,274
2	406,456	4,597,855
3	406,470	4,596,911
4	409,518	4,596,835
5	409,161	4,590,598
6	416,164	4,586,995
7	415,036	4,583,906
8	401,838	4,586,644
9	401,180	4,583,698
10	399,914	4,584,156
11	398,896	4,582,194
12	395,513	4,584,188
13	395,642	4,591,782
14	402,968	4,591,723
15	401,685	4,595,330

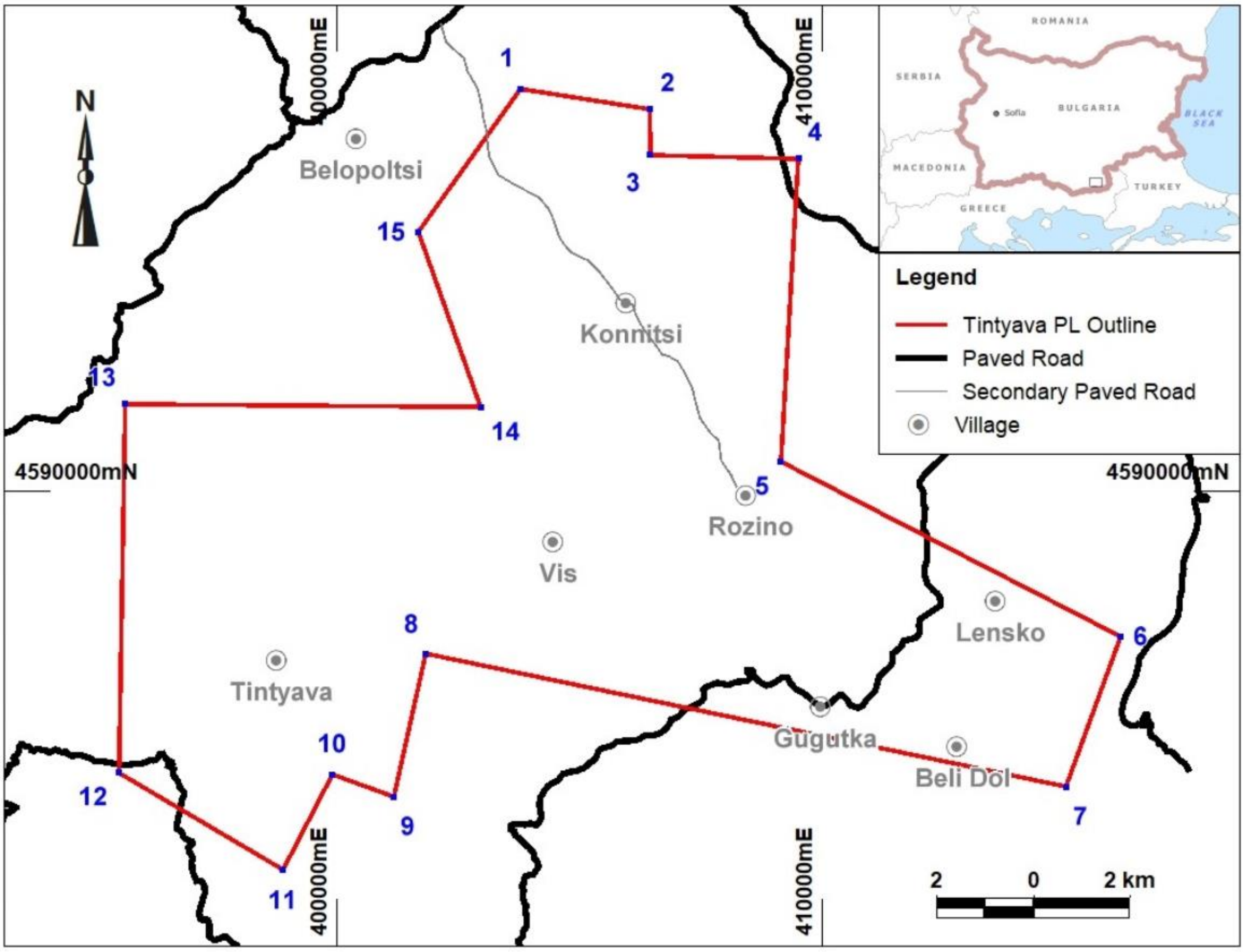


Figure 2: Map of Tintyava Property, south-eastern Bulgaria. Velocity 2018.

4.4 Royalties

The Project is 100% owned by Tintyava Exploration and only royalties payable to the Bulgarian state are applicable. Such royalties are determined at the time of granting of a mining licence based upon projected profitability of the operation in line with the mining plan submitted to the government. Royalties are generally between 0.5 and 2.5% NSR.

4.5 Permitting

Gorubso submitted a detailed first-year work program and holistic three-year work program to the Ministry of Energy and the Ministry of the Environment on 2 May 2017. The Ministry of Environment granted approval of the work program on 3 July 2017, allowing Velocity to commence the first-year detailed work program.

Velocity has received an additional permit from the local municipality and forestry departments. An extensive network of drill roads is already present, and most drilling activities will not require new drill road access.

Velocity received approval for its first-year work program and three-year exploration project to complete a minimum of 7,000 m of diamond drilling (3 July 2017) as defined in the prospecting licence agreement signed with the Minister of Energy on 2 May 2017. Mineral exploration activities have been reported to the Bulgarian Ministry of Energy for 2017 and duly accepted. The program for the following second calendar year of exploration (2018) was approved by the Ministry of Energy on 8 December 2017.

The Bulgarian State Forestry currently controls the vast majority of the surface rights within the Project area (98% of the mining infrastructure footprint design) with only a small proportion of the land controlled by residential owners. On receipt of a mining concession, a contract will be required to transfer the surface rights for the term of the concession. In Bulgaria, if no agreement can be reached with the existing incumbent of the surface rights, the matter may be passed to the respective authorities.

As far as the author can ascertain, all necessary permits to conduct the recommended work for the Property have been obtained and there are no known significant factors or risks that may affect access, title or the right or ability to perform work on the Property.

4.6 Liabilities

There is currently a bond guaranteed by Gorubso via First Investment Bank. This bond guarantees the implementation of environmental protection activities and conservation of the geological exploration site, addressing potential environmental liabilities. This includes reclamation of lands affected by exploration activities from 2017 to date.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Tintyava Property is around 350 km by road east-southeast of Sofia. It is accessible year-round by sealed roads with forestry roads and historical drill tracks providing year-round access within the property by four-wheel drive vehicle.

For exploration and resource definition activities to date, personnel have commuted daily from Ivaylovgrad where Velocity has a field office approximately 50 km by paved road from Rozino village (Figure 3). Evaluation of the Project is at an early stage and details of labour sources and infrastructure, power and water for future potential mining have not yet been established.

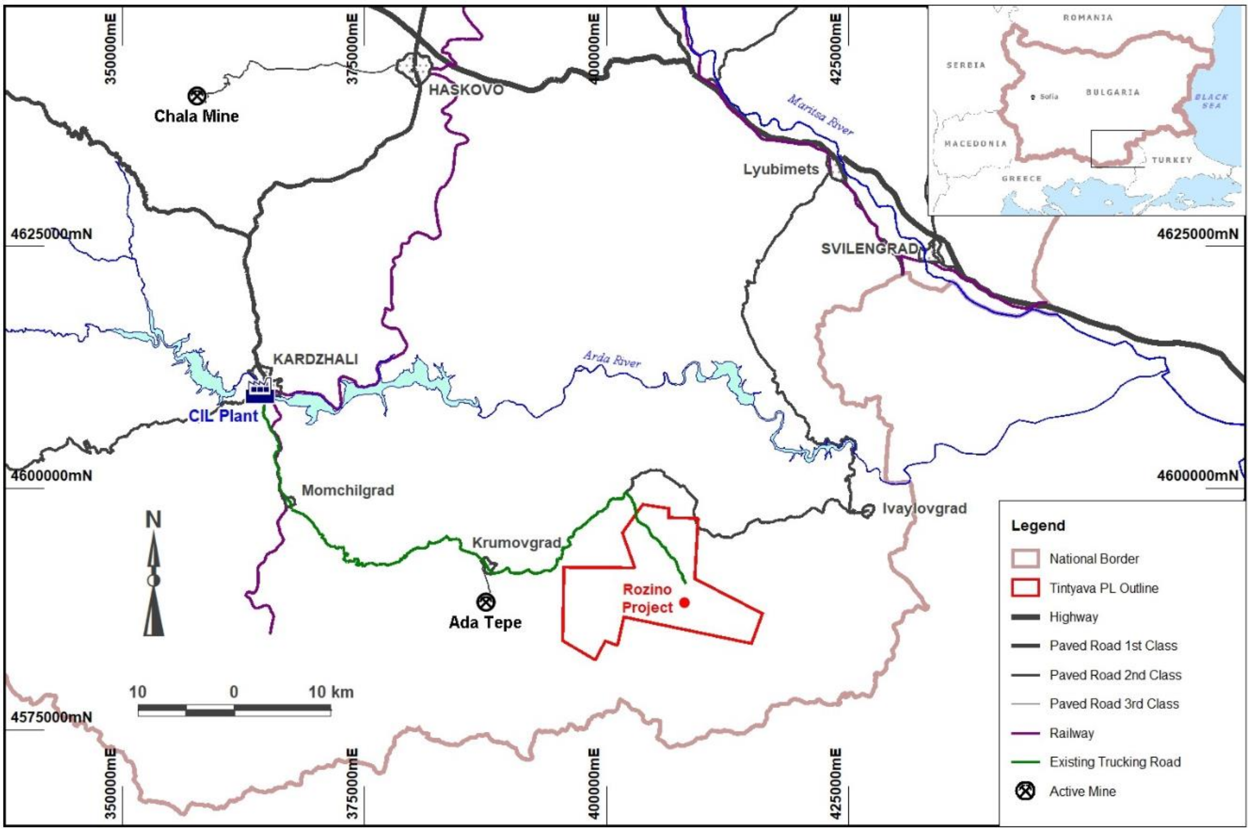


Figure 3: Regional location diagram. Velocity 2018.

5.2 Climate and Physiography

The Project area's average annual temperature is around 12°C, ranging from around 2°C in January to 24°C in July. Maximum rainfall occurs during November and December, with rainfall of up to 100 millimetres (mm) per day. Snow cover is sporadic usually lasting generally only five to 10 days per year. Exploration activities can be undertaken throughout the year.

The local terrain is characterized by low mountains and predominantly levelled hills and is cut by steep valleys with an altitude ranging from 70 m to 700 m and averaging around 320 m. The Rozino Project is bounded to the south by steep cliffs at Tashlaka and is segmented by the White River and its tributaries. Figure 4 shows a typical view from the licence area looking southeast.

In the deposit area, elevation averages around 470 mRL in the north, reducing to approximately 300 mRL in the south.

Figure 4: View from approach road to the Rozino deposit (middle distance summit), looking south

Source: Velocity, 2018

5.3 Local Resources

Small villages are dispersed widely throughout the licence area and the inhabitants are primarily involved in subsistence farming, particularly livestock and the growing of tobacco. The other main land use within the licence area is state controlled forestry. Rozino village is largely deserted with only a handful of locals remaining.

5.4 Infrastructure

The site is currently accessed from the main sealed road via an unsealed dirt road in reasonable repair. The village of Rozino, located 2 km to the north of the Project is electrified with a 22 kV supply stepped down from 110 kV main distribution line located some 22 km to the north.

All villages have access to fresh water through a network of reservoirs.

Additional information relating to project infrastructure can be found in Section 17, to which the reader is referred.

6 History

6.1 Exploration, Drilling and Tenement Status

The following summary of the Project's exploration history is derived from the cited references, Hogg (2017) and notes supplied by Velocity.

Modern exploration of the Tintyava Property commenced in the 1980s with work first being completed by Geoengineering who drilled 86 vertical diamond drill-holes for 14,289 m. Geoengineering did not document drilling, sampling and assaying protocols.

Hereward began exploration in 2001 and completed three phases of drilling between 2004 and 2007 totalling 7,995 m, of which 2,733 m was completed in JV with Asia Gold. Additional work completed during this time included surface mapping, trenching and metallurgical test-work.

In 2009, the original prospecting licence containing the Rozino deposit was due for expiry and Hereward in JV with Caracal Gold LLC, through a local company, Cambridge Caracal Bulgaria EAD (Caracal), submitted a Technical and Economic Assessment report in order to maintain their rights for the deposit. Caracal submitted a small underground mine design in order to reduce environmental permitting. The application was rejected by the Bulgarian government, who considered that an open pit mine design was required and, despite extensive dialogue between the parties, in 2013 the original prospecting licence was cancelled.

6.2 Historic Mineral Resources and Mineral Reserves

Hogg (2017) and Andrew (2009) describe historical resource estimates for the Project performed by or on behalf of previous tenement holders prior to Velocity's involvement in the Project. These estimates are of uncertain reliability and selected estimates are presented in Table 7 to provide a historical context for assessment of the Project.

The estimates in Table 7 have not been completed to standards consistent with CIM best practice or compliant with NI 43-101. It is also noteworthy that the spatial extents covered by previous estimates are inconsistent with the current estimates.

A Qualified Person has not done sufficient work to classify the historical estimates as current Mineral Resources, and Velocity is not treating the historical estimates as current Mineral Resources. Current Mineral Resources are described in Section 14 of this report.

Table 7: Selected Historic Rozino Mineral Resource estimates

Estimate	Description	Cut off (Au g/t)	Tonnes (Mt)	Au (g/t)	Contained (Au koz)
Geoengineering, 1992	Polygonal	0.5	4.80	1.49	230
Hereward, 2005	Inverse distance	0.5	10.8	1.04	361
	Squared weighted	0.8	4.36	1.67	234
Caracal, 2008	Ordinary kriging	0.8	6.04	1.34	260

6.3 Previous Mineral Resource Estimates

Mineral Resources were previously estimated for Rozino in March 2018 with an effective date of 1 March 2018. Velocity is not treating the estimates as current Mineral Resources. They have been superseded by the current Mineral Resources described in this report, which have an effective date of 10 September 2018.

The March 2018 Mineral Resource estimates were classified and reported in accordance with NI 43-101 and the classifications adopted by the CIM in May 2014 and are described in a Technical Report dated

5 April 2018 (Abbott, 2018). The estimates were classified as Inferred, primarily reflecting the drill-hole spacing and uncertainty over the reliability of sampling data collected prior to Velocity's involvement.

The March 2018 Mineral Resources were based on drilling information available on 26 February 2018. This sampling database includes 186 diamond holes completed by Velocity, Hereward, and a JV between Hereward and Asia Gold during the mid-2000s, and Geoengineering in the 1980s. Although data from Geoengineering holes were used to aid mineralized domain interpretation, they were excluded from the estimation dataset which included only diamond holes drilled by Hereward, Asia Gold and Velocity comprising 78 holes for 12,009 m.

The March 2018 Mineral Resources were estimated by Multiple Indicator Kriging of 2 m down-hole composited gold grades from diamond drilling by Hereward, Asia Gold and Velocity. Estimated resources include a variance adjustment to give estimates of recoverable resources above gold cut-off grades for SMU dimensions of 4 m east by 6 m north by 2.5 m in elevation.

Table 8 presents the March 2018 Mineral Resources estimated for Rozino for selected cut-off grades. The figures in this table are rounded to reflect the precision of the estimates and include rounding errors.

Table 8: March 2018 Rozino Inferred Mineral Resource at selected cut-offs (1 March 2018)

Effective date: 1 March 2018			
Cut-off (Au g/t)	**Tonnes (Mt)**	**Grade (Au g/t)**	**Metal (Au koz)**
0.2	45	0.62	897
0.5	**17**	**1.15**	**629**
0.8	8.2	1.68	443
1.0	**5.7**	**2.03**	**372**
1.2	4.2	2.37	320

6.4 Historical Production

There has been no historical production at the Property.

7 Geological Setting and Mineralisation

7.1 Regional Geological Setting

The following summary of the Project's regional geological setting is derived from the cited references, Hogg (2017) and notes supplied by Velocity.

Tintyava lies within the Eastern Rhodope mineralization district of south-eastern Bulgaria which is located within an Eocene-Oligocene continental magmatic belt extending around 500 km from Serbia and Macedonia to northwest Turkey (Figure 4, Figure 5). The eastern part of this belt is occupied by the Rhodope Massif, which comprises Precambrian to Mesozoic metamorphic rocks and Palaeogene magmatic rocks.

Metamorphic rocks of the Rhodope basement comprise interlocking core complexes, such as the Kessebir and Biala Reka domes (Figure 5) that are made up of two major tectonostratigraphic complexes; a gneiss-migmatite complex and a variegated complex.

The structurally lower gneiss-migmatite complex which crops out in the core of the Kessebir metamorphic dome is dominated by igneous protoliths including metagranites, migmatites and migmatized gneisses overlain by a series of pelitic gneisses, and rare amphibolites formed from Variscan or older continental basement. The overlaying variegated complex consists of a heterogeneous assemblage of pelitic schists, para-gneisses, amphibolites, marbles and ophiolite bodies with metamorphosed ophiolitic peridotites and amphibolitized eclogites intruded by gabbros, gabbronorites, plagiogranites and diorites. The variegated complex is intruded by volumetrically minor Upper Cretaceous plutonic bodies.

Palaeogene magmatic rocks of the Rhodope basement consist of calc-alkaline to shoshonitic intermediate, acid and subordinate basic volcanic rocks and their intrusive equivalents. The Palaeogene magmatism was accompanied by the formation of small copper-molybdenum porphyry deposits and abundant epithermal deposits (Mutafchiev and Skenderov, 2005).

Lava flows and domes of the ~35 Ma andesites of the Iran Tepe volcano are exposed northeast of Krumovgrad. This magmatic activity was followed by scarce latitic to rhyolitic dykes in the northern part of the Kessebir dome, and finally by intra-plate basaltic magmatism in the southern part of the dome (Marchev *et al.,* 2004).

Rocks of the variegated complex are locally overlain by the Maastrichtian to Palaeocene age syn-detachment Shavarovo Formation, which is in turn overlain by Upper Eocene–Lower Oligocene coal-bearing-sandstone, syn-tectonic breccia conglomerates and marl-limestone formations.

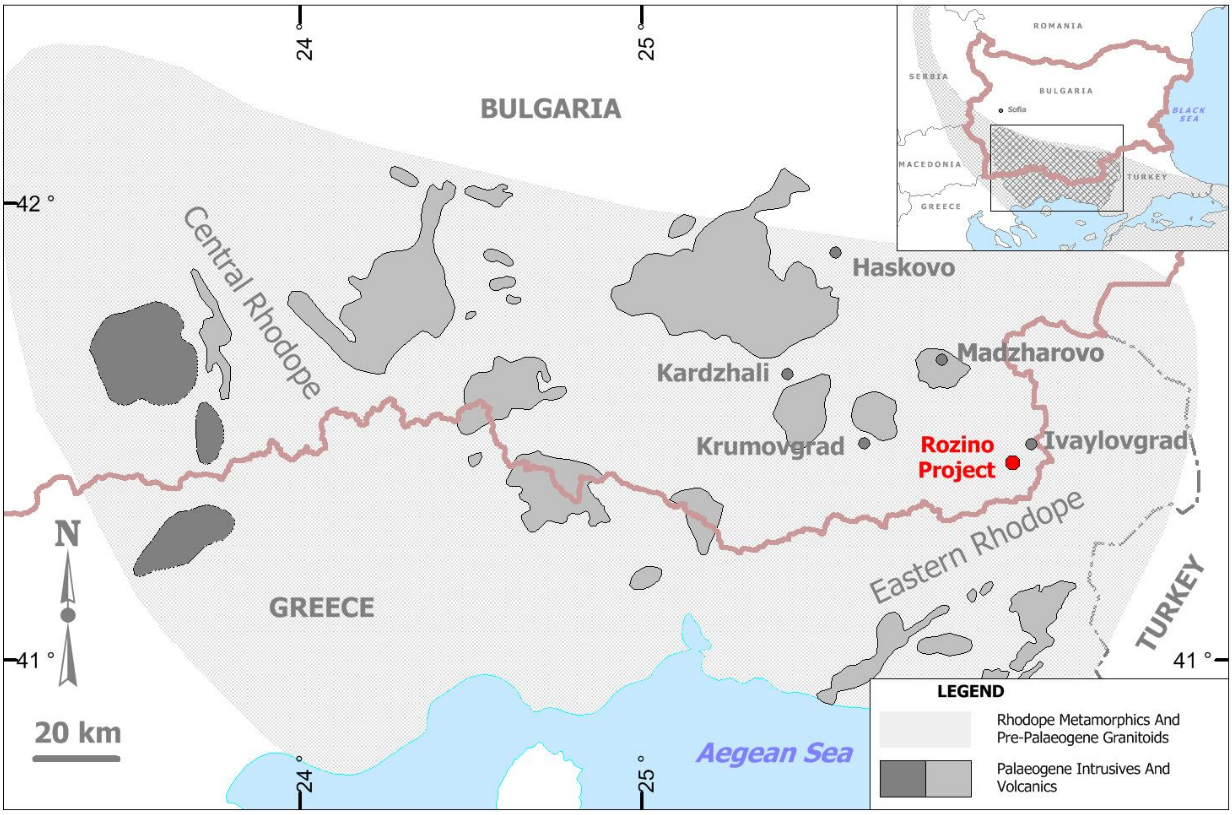


Figure 4: Eocene volcanic complexes within the Palaeogene intrusive and volcanic belt, Rhodope Mountains (inset shows the Palaeogene Macedonian-Rhodope-North-Aegean volcanic belt)

Source: After Marchev, 2004

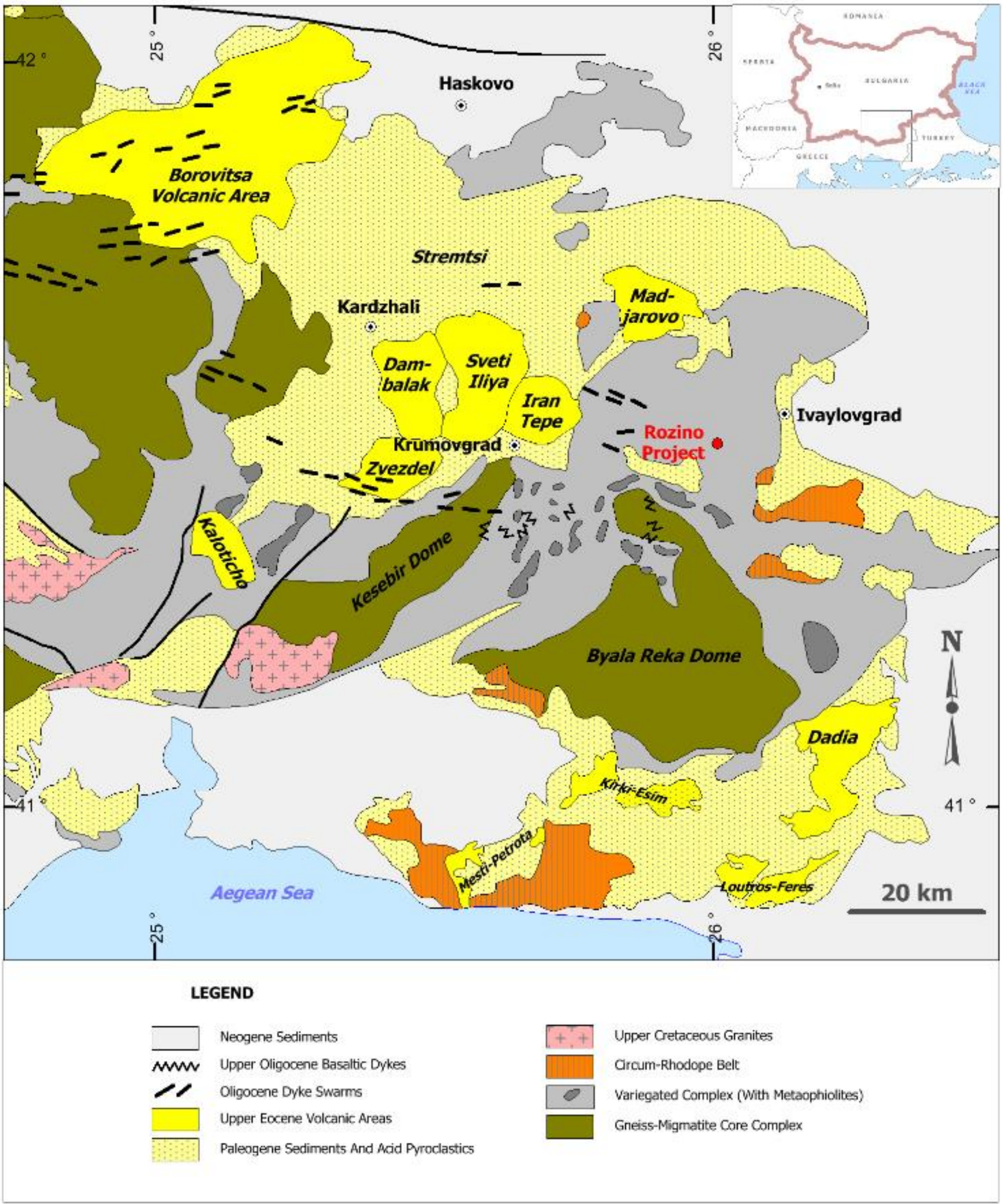


Figure 5: Schematic geological map of the Eastern Rhodope showing metamorphic dome structures, major volcanic areas and dyke swarms

Source: After Marchev et al., 2004

7.2 Local Geological Setting and Mineralisation

The following summary of the Tintyava Property's geological setting is derived from the cited references, Hogg (2017) and notes supplied by Velocity.

Geology of the Tintyava Property is interpreted to include a series of discrete Palaeogene syn-tectonic sedimentary basins within metamorphic basement. These pull-apart basins are controlled by northeast-trending extensional faults that are perpendicular to the regional stress regime extensional faults that control mineralization (Figure 6) and a major west-northwest trending dextral strike slip fault (Bjala Reka Fault Zone). Palaeogene rhyolite dykes subparallel these major shear zones suggesting that igneous activity was contemporaneous with basin development.

A string of these pull-apart basins is developed adjacent to and north of the Bjala Reka Fault Zone and the basins are filled with immature molasse-type sediments that are variably lithified and in unconformable contact with the underlying metamorphic basement or as a steep contact with the pull-apart basin sole fault. Mineralization is post lithification of these sediments.

Rozino is a Low Sulphidation Epithermal ("LSE") gold deposit hosted within generally brecciated and conglomeratic Palaeogene sedimentary rocks as disseminations, replacement and vein mineralization. The mineralogy consists mainly of pyrite with traces of base metals and rare arsenopyrite, with gold present at sulphide mineral boundaries and to a lesser degree as free grains or encapsulated inclusions. Gangue minerals consist of silica, iron carbonates and adularia. Alteration is characterized by a quartz, carbonate, chlorite, adularia, pyrite assemblage.

The dominant mineralization trend is northwest parallel to the regional extensional fault regime, with local mineralization development controlled by the intersection of steep structures sub-parallel to the bounding extensional faults and gently dipping bedding.

Drilling has intersected mineralization over an area around 1,000 m by 800 m to a vertical depth of around 190 m. Subset to the resource area, the mineralized domain interpreted for the current estimates covers an area around 700 m by 800 m and extends to a maximum depth of 190 m.

The mineralization is interpreted to be completely oxidized to average depth of around 8 m, with fresh rock occurring at an average depth of around 19 m.

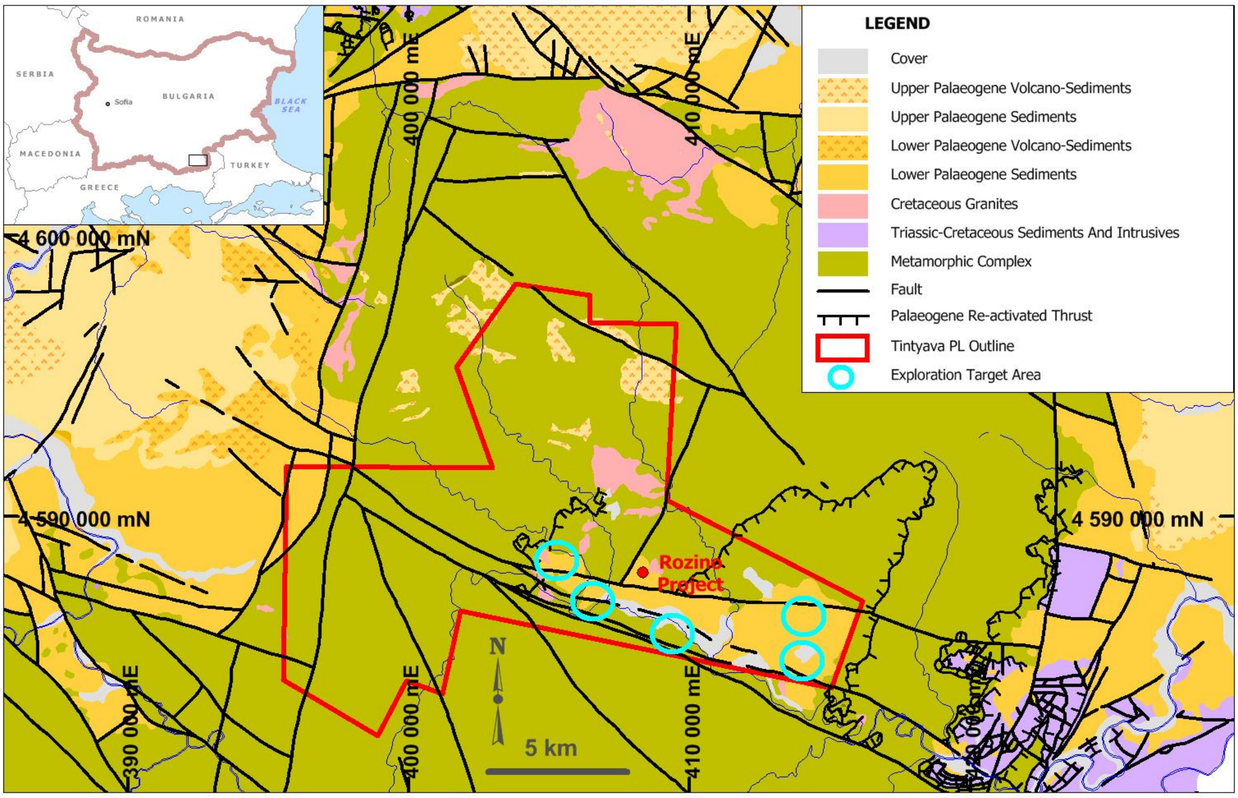


Figure 6: Local geological setting

Source: After Goranov et al., 1995

8 Deposit Types

Rozino is an LSE gold deposit hosted within breccia and conglomerate Palaeogene sediments as disseminations, replacement and vein mineralization. The dominant mineralization trend is northwest parallel to the regional extensional fault regime, with local mineralization development controlled by the intersection of steep structures sub-parallel to the bounding extensional faults and gently dipping bedding.

Velocity's exploration has focused on the dominant northwest trend of veins within Palaeogene sediments. The veins appear to be controlled by steep structures interpreted to extend into the basement.

Drilling to date has not intersected significant gold mineralization within the basement. However, recent drilling has intersected crustiform gold and base metal bearing northwest striking LSE veins within the basement. These veins are generally narrow and rarely wider than 10 cm. The LSE hydrothermal fluids were confined within the tight basement and these non-reactive fluid pathways have very narrow alteration selvedges that are difficult to detect by drilling.

Upon reaching the basal unconformity the hydrothermal fluids would have de-pressurised and throttled boiling is the interpreted mechanism for gold deposition. The poorly consolidated breccia conglomerate sediments are also likely to have been wet, further neutralizing the hydrothermal fluid, creating disseminated gold haloes peripheral to the boiling zones. Where hydrothermal pathways intersect coarse sandstones, stockwork quartz carbonate veins are developed at the expense of disseminated mineralization (Figure 7).

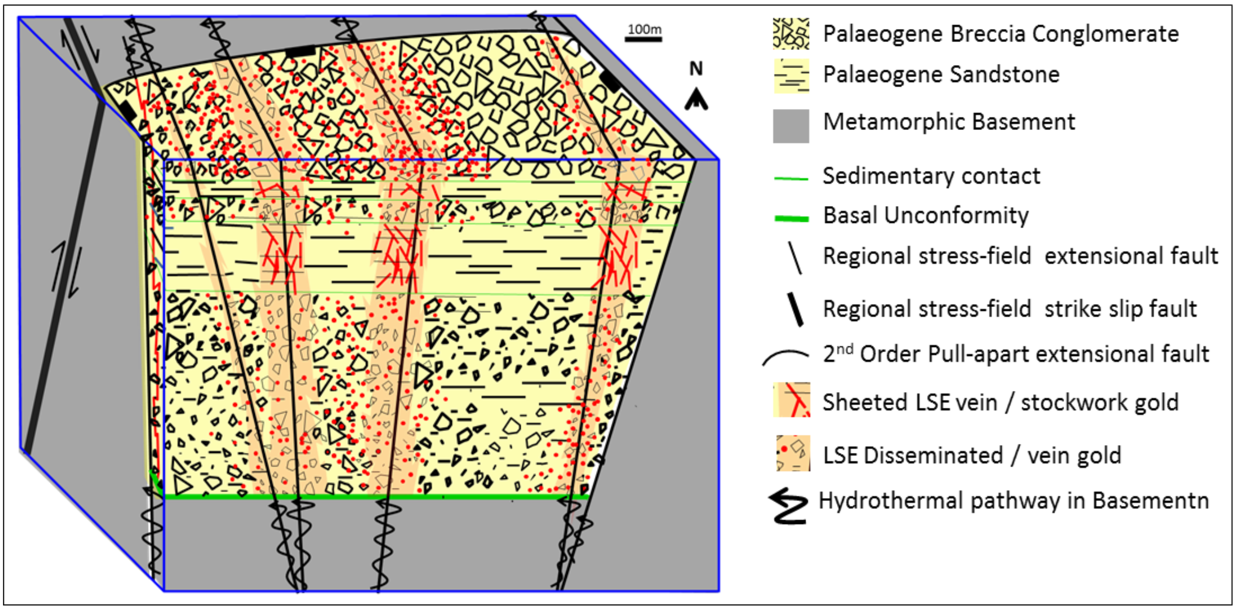


Figure 7: Schematic model for the Rozino Project sediment hosted LSE Deposit, Bulgaria

Source: After Goranov et al., 1995

9 Exploration

Modern exploration of the Tintyava Property by Geoengineering commenced in the 1980s. Exploration activities since that time have included diamond core drilling, surface mapping, trenching and rock chip sampling. Previous exploration activities have been described in detail within Addison Mining Services' NI 43-101 "Technical Report for the Rozino Project, Republic of Bulgaria" (Hogg, 2017).

Velocity's exploration activities since 2017 have focused on drilling with the aim of advancing the Project to a PEA. Other exploration activities include surface mapping, 162 m of trenching and surface rock sampling.

The mapping comprised field traverses and observation points. Due to the predominately covered terrain most geological contacts are fixed only where they are intersected by trenches. However, on the eastern flank of the deposit the contact with granitic basement was re-mapped defining a different geometry to the eastern flank of the Palaeogene basin (Figure 8).

Two trenches were dug by hand to an average with of approximately 0.7 m and generally penetrated 10–20 cm of bedrock below surface cover. Trench depth was limited to approximately 2 m due to safety concerns. Trench sampling procedures were based on drill-hole sampling procedures with continuous 1 m channel samples collected from trench bases in half HQ diameter plastic pipe, thereby controlling the volume of the sample material. Results of surface trenching were not included in the current Mineral Resource estimates and were only used to aid delineation of mineralization for drill targeting. The eastern flank of Rozino differs from the Main and East zones in that mineralization forms discrete steeply dipping veins/mineralized bodies, oriented northwest-southeast, as opposed to the disseminated mineralization seen elsewhere. A third trench has been completed (Figure 9) and results are pending.

The initial exploration has focused on historical gold-in-soil anomalies generated by a regional 200 m spaced soil grid. Detailed soil sampling at Rozino and subsequent drilling has shown that soil anomalies are only generated where mineralization sub-crops and much of the Rozino deposit is overlain by barren sediments and is effectively geochemically blind. Therefore, soil sampling is a useful early stage tool in exploration but cannot be considered to be a screening tool.

Velocity have identified five priority targets from regional soil sampling have been defined over a total area of 160 km^2. Four of the targets are present within Palaeogene basins akin to the Rozino Basin and form a series of discrete pull-apart basins related to the Bjala Reka Fault Zone; a regionally trending dextral strike slip fault. One of the targets is associated with high gold-in-soils anomalism hosted in metamorphic basement within the Bjala Reka Fault Zone. Targets 1 and 2 are within 2 km of the Rozino Project.

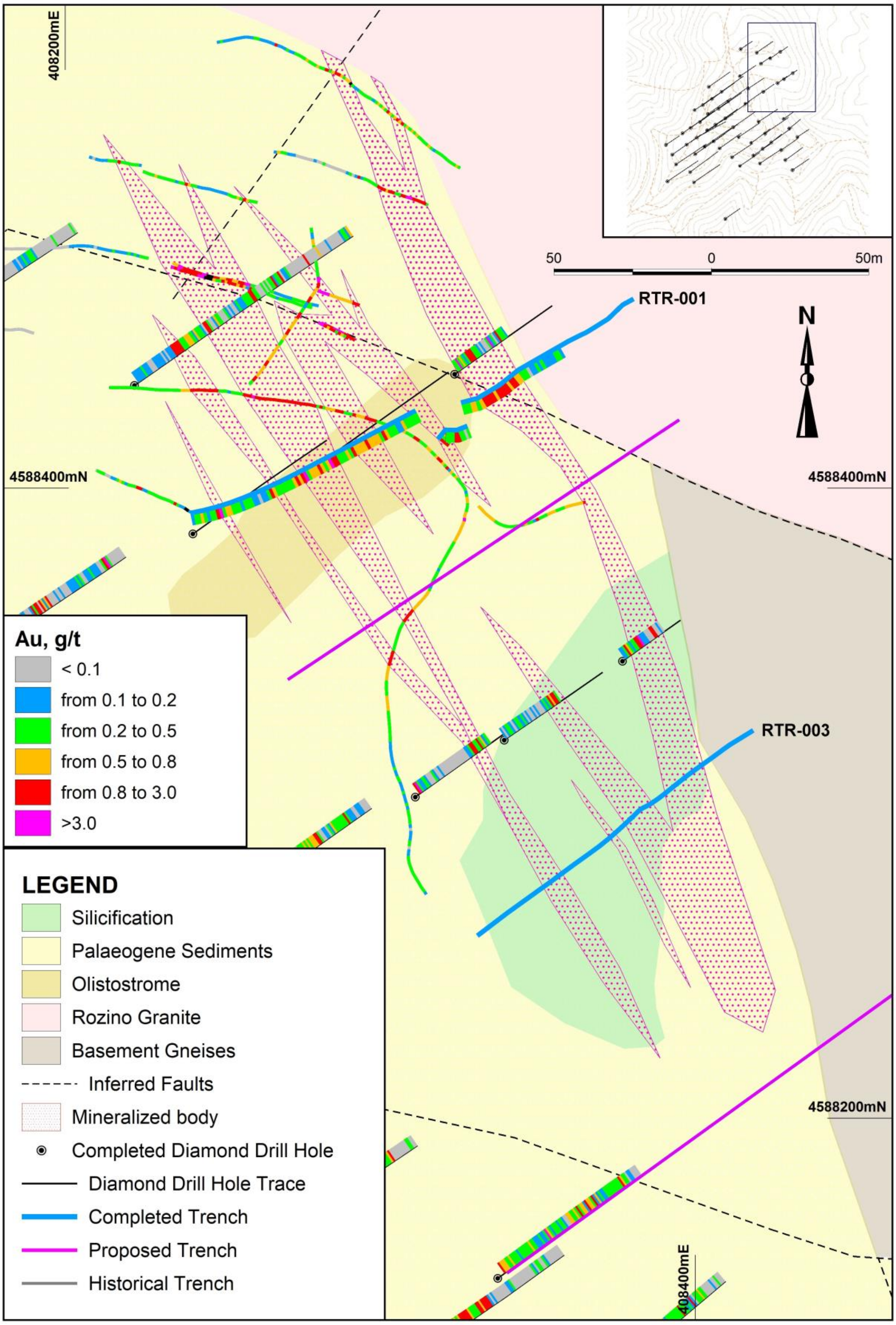


Figure 8: Detailed geological map of the eastern flank of the Rozino deposit, showing historical trenching and Velocity's drilling and trenching

Initial regional reconnaissance sampling and prospecting has been carried out and results are pending (Figure 9).

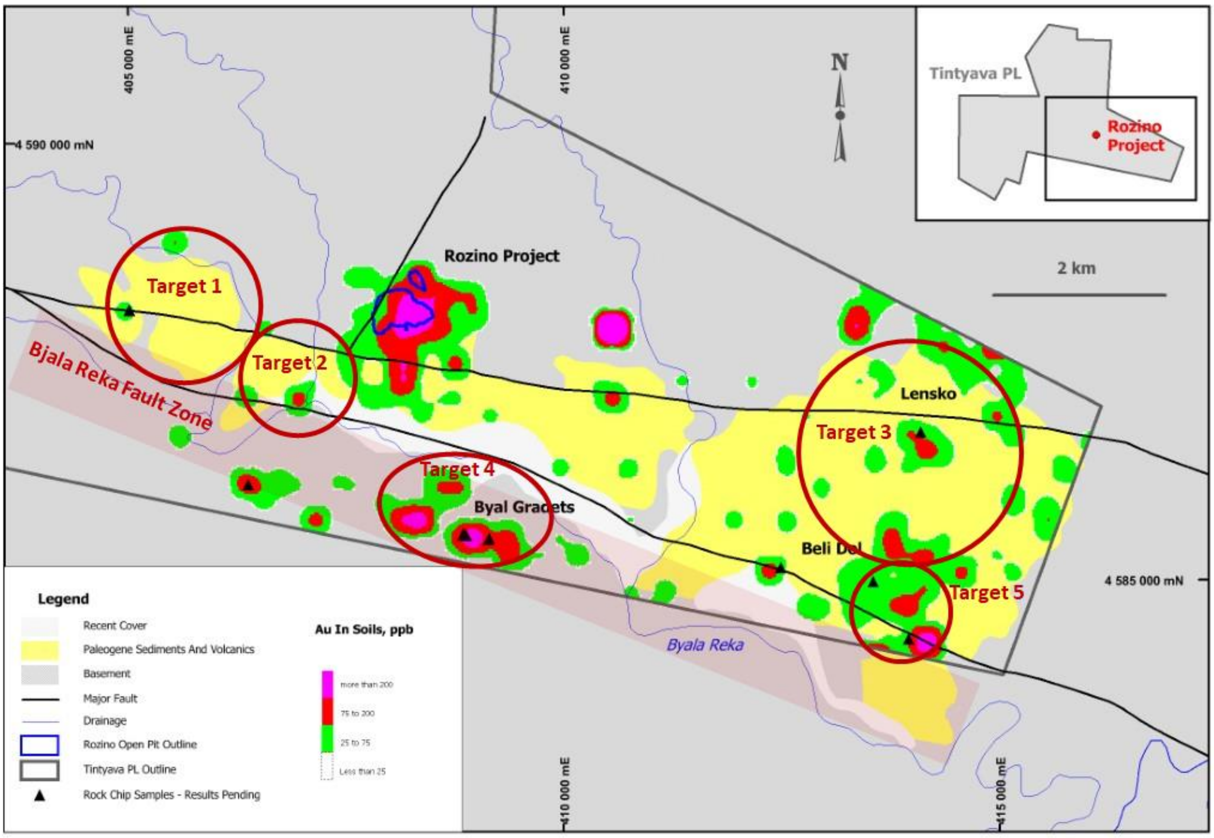


Figure 9: Regional soil anomaly map within the Tintyava Property, prioritized exploration targets and rock chip sample locations (results pending)

10 Drilling

10.1 Drilling Summary

The Inferred Mineral Resource estimates described in this report are based on drilling information available for the Tintyava Property at 30 May 2018. The sampling database includes 197 diamond holes for 31,338 m of drilling completed by Velocity, along with Hereward and Asia Gold during the mid-2000s and vertical holes completed by Geoengineering in the 1980s.

Few details of sampling and assaying are available for the Geoengineering drilling, and little information is available demonstrate the reliability of data from these holes. Although they were used to aid mineralized domain interpretation, they were excluded from the Inferred Mineral Resource estimation dataset (the “Estimation Dataset”). These holes are of little direct relevance to the current Inferred Mineral Resource estimates and are not detailed in this report.

The Estimation Dataset comprises data from angled diamond holes drilled by Hereward, Asia Gold and Velocity. Surface trench samples were excluded from the resource dataset, along with peripheral drill-holes not relevant to the estimates.

Information available to demonstrate the representivity of Velocity’s diamond drilling includes core recovery measurements for around 99.96% of Velocity’s diamond drilling. Fresh rock core recoveries average 98.1% with only approximately 6% of intervals showing recoveries of less than 90%. Although lower than for fresh rock, average core recoveries for weathered and transitional intervals are within the range shown by the author’s experience of high-quality diamond drilling.

No information, such as core recoveries are available to directly indicate the representivity of samples from Hereward and Asia Gold drilling. Hogg (2017) reports that an independent Qualified Person employed by Asia Gold in 2005 audited Hereward’s drill core sampling and assaying and considered the results to be sufficiently reliable for use in preliminary resource estimation.

Two-metre down-hole composited gold grades from the combined dataset of Hereward and Asia Gold drilling were compared with the nearest composite from Velocity drilling. The paired comparison shows similar average grades for the two datasets. Although not definitive, this comparison supports the general reliability of drilling, sampling and assaying for the Hereward and Asia Gold drilling.

The author considers that quality control measures adopted for Velocity’s Rozino diamond drilling have established that the sampling is representative and free of any biases or other factors that may materially impact the reliability of the sampling. Reliability of the Hereward and Asia Gold data has not been established with the same degree of rigour. Although this does not significantly affect confidence in the current Inferred Resource estimate, reliability of the old data warrants further investigation as assessment

10.2 Compiled Drilling Database

The sampling database compiled for the current Inferred Mineral Resource estimates includes 197 diamond holes for 31,338 m of drilling completed by Velocity, along with Hereward and Asia Gold during the mid-2000s and vertical holes completed by Geoengineering in the 1980s.

Table 9 summarizes the sampling database subdivided by drilling phase and location, with drilling subdivided into holes which lie within the area, and peripheral exploratory holes outside the extents of the current Inferred Mineral Resource estimates. This subdivision provides an indication of the contribution of each drilling group to the Inferred Mineral Resource estimates.

Table 9: Drilling database by phase and area

	Outside resource area		Within resource area		Total	
	Holes	**Metres**	**Holes**	**Metres**	**Holes**	**Metres**
Asia Gold	9	1,993	6	740	15	2,733
Hereward	12	1,468	28	3,794	40	5,262
Velocity (assayed drill-holes)	-	-	56	9,055	56	9,055
Subtotal	**21**	**3,461**	**90**	**13,588**	**111**	**17,049**
Geoengineering	10	1,849	76	12,441	86	14,289
TOTAL DRILLING	**31**	**5,309**	**166**	**26,029**	**197**	**31,338**

Few details of sampling and assaying are available for the Geoengineering drilling. Although data from these holes were used to aid mineralized domain interpretation, they were excluded from the Estimation Dataset.

The Estimation Dataset includes diamond holes drilled by Hereward, Asia Gold and Velocity and comprises 90 holes for 13,588 m. Relative to the dataset available for the March 2018 estimates, the current sampling database contains assay results for an additional 12 holes for 1,580 m of drilling. Samples from Velocity's diamond drilling provide 67% of the Estimation Dataset, with Hereward and Asia Gold drilling contributing 28% and 5%, respectively.

Figure 10 shows drill-hole traces coloured by sampling phase relative to the extents of the Tintyava licence and Figure 11 shows drill traces relative to the current resource extents.

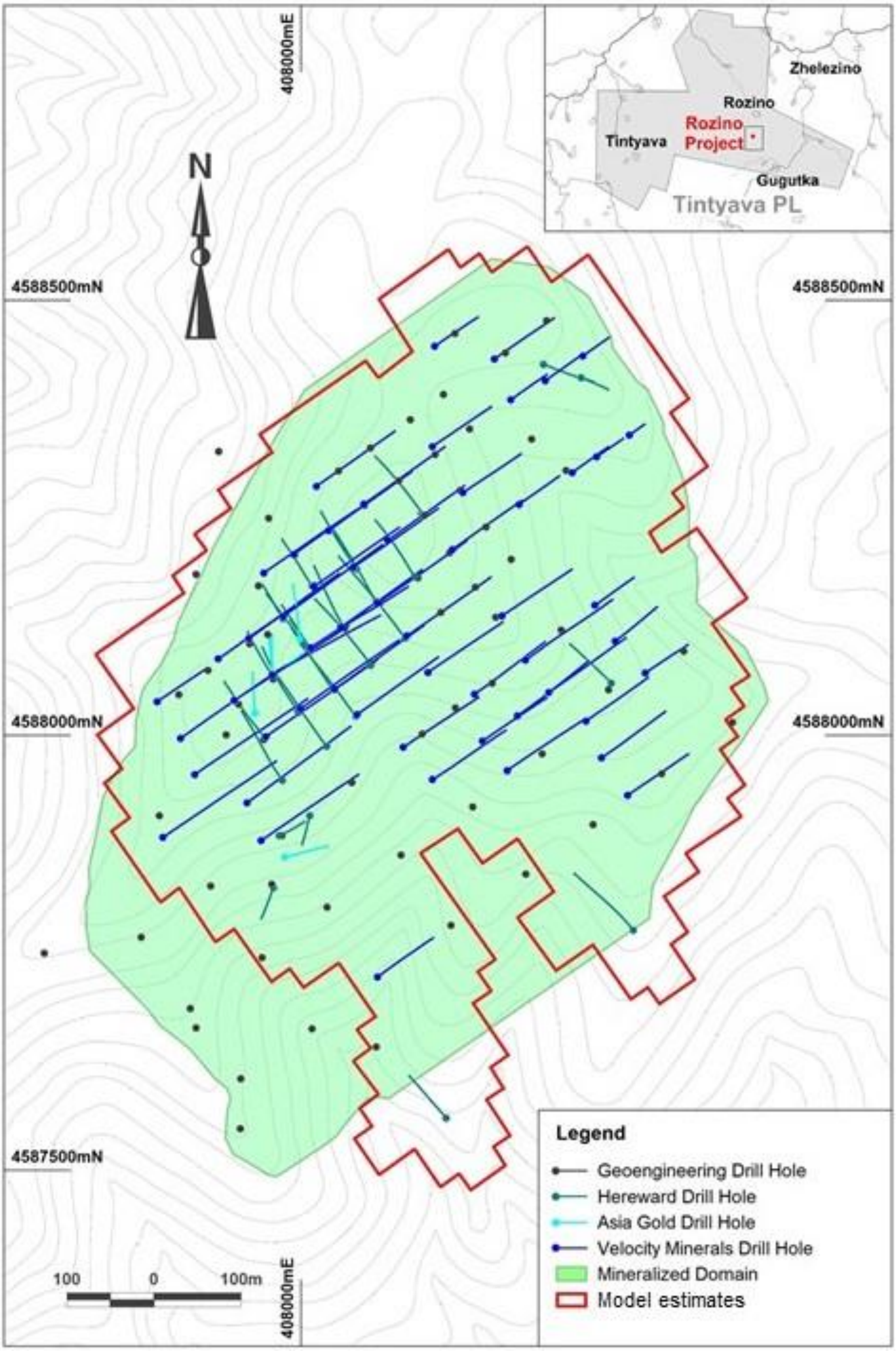


Figure 10: Drill-hole locations

Velocity, 2018

Hereward and Asia Gold drilling generally tests central portions of the current resource area on an approximately 50 m by 50 m pattern with holes generally inclined to the northwest at around 55°. Velocity's drilling comprises generally approximately 50 m spaced holes inclined to the northeast at around 50° along northeast-southwest (055°) trending traverses.

Hereward and Asia Gold holes are generally aligned sub-parallel with mineralization trends and define mineralized zones less robustly than Velocity's drilling which intersects mineralization trends at a greater angle providing a more reliable basis for resource estimation.

The combined hole spacing varies from around 50 m by 50 m and locally closer in central portions of the deposit, to around 100 m by 100 m in peripheral areas. Exploratory drilling outside the current resource area is generally very broadly spaced.

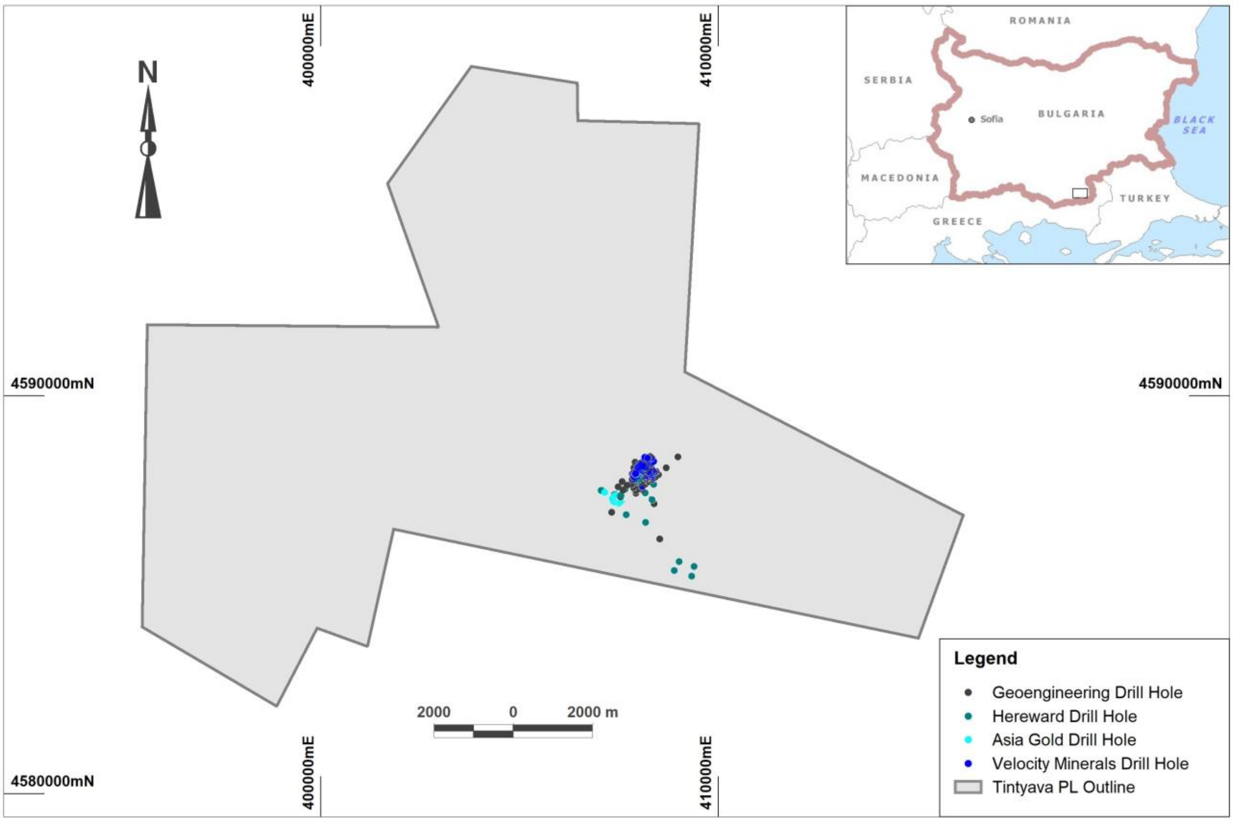


Figure 11: Drill-hole collars relative to lease extents

10.3 Velocity Drilling

10.3.1 Drilling and Sampling Procedures

All drilling, on-site core handling and sampling was supervised by Velocity geologists using protocols established by Velocity which are consistent with the author's experience of good quality, industry standard techniques.

All of Velocity's Rozino drilling was undertaken by GEOPS Balkan Drilling Services Ltd using track mounted diamond coring rigs. (Figure 12). The drilling utilized PQ and HQ wireline triple tube core barrels (122.6 mm and 96 mm hole diameter respectively) with generally 3 m drill runs and shorter runs where necessary to maximize core recovery. For the 2017 drilling, core was orientated where possible using a DeviCore BBT orientation tool. For 2018 drilling, core was not oriented.

Figure 12: Velocity diamond drilling

Source: Velocity

Routine core handling procedures comprised the following:

- Core was placed directly in wooden core boxes at the drill site and transported to Velocity's core storage facility in Ivaylovgrad by Velocity personnel at the end of every dayshift.
- All drill core was photographed and immediately geotechnically logged including core recovery.
- For oriented core, the orientation marking was checked, core line marked, and fabrics measured prior to logging.
- Routine logging employed industry standard methods with rock type, alteration, veining, tectonic structures, bedding and sulphides recorded on standard log sheets. Logged data was later typed into pre-configured logging software which validates during data entry and subsequently imported into Velocity's master Geobank database.
- Sample intervals were assigned and marked by Velocity geologists, with a nominal length of 1 m honouring geological contacts with a minimum length of 0.45 m.
- Core was generally halved for sampling with a diamond saw and half-core samples collected by Velocity geologists and sealed in heavy duty plastic bags.
- The samples were weighed, packed and sealed in plastic barrels for transport by an individual directly employed by Velocity for the sole delivery of the samples to the ALS Minerals laboratory in Romania.

10.3.2 Collar and Down-hole Surveying

For each Velocity drill-hole, the location was set out using a Trimble R2 GNSS Differential Geographic Positioning System (DGPS). Positioning and alignment of drilling rigs at designed locations and orientations was supervised by Velocity geologists with rigs aligned to design azimuths using compass tachometry corrected for magnetic declination.

Upon completion of the drilling of each hole, a cement marker, inscribed with the drill-hole name, was placed at the collar, and the collar surveyed by DGPS to determine the final surveyed coordinates to a minimum vertical resolution of ± 0.40 m.

All Velocity drill-holes were down-hole surveyed using a DeviShot magnetic wireless multi-shot tool at generally 20 m down-hole intervals.

The Author considers that hole paths of Velocity's drilling have been located with sufficient accuracy for the current Inferred Mineral Resource estimates (Section 14).

10.3.3 Core Recovery

Core recovery measurements are available for most (99.96%) of Velocity's diamond drilling. Core recoveries were supplied as recovered lengths for core runs which range from 0.1 m to 6.0 m in length and are dominated by 3 m intervals. These data were composited to 3 m intervals to provide a consistent basis for analysis. Table 10 summarizes core recoveries for the 3 m composites by modelling domain.

The combined dataset of fresh rock core recoveries averages 98.1% with only approximately 6% of composites showing recoveries of less than 90%. These recoveries are consistent with the author's experience of high-quality diamond drilling. Although lower than for fresh rock, average core recoveries for weathered and transitional intervals are within the range shown by the author's experience of good quality diamond drilling.

Table 10: Diamond core recovery by domain

Weathering domain	Background		Mineralized		Total	
	Number	Average recovery	Number	Average recovery	Number	Average recovery
Weathered	-	-	137	94.6%	137	94.6%
Transition	-	-	333	93.4%	333	93.4%
Fresh	241	98.6%	2,329	98.1%	2,570	98.1%
Total	**241**	**98.6%**	**2,799**	**97.4%**	**3,040**	**97.5%**

10.4 Hereward and Asia Gold drilling

10.4.1 Drilling and Sampling Procedures

Diamond holes drilled by Hereward and Asia Gold contribute around 28% and 5% of the Estimation Dataset, respectively.

The following summary of the drilling and sampling procedures for Hereward and Asia Gold's drilling is derived from the cited references, Hogg (2017) and notes supplied by Velocity.

Velocity have located collars for most of Hereward and Asia Gold's resource area drill-holes and accurately surveyed their locations by DGPS consistently with Velocity's holes.

The database supplied by Velocity for the current work does not include any down-hole surveys for Hereward and Asia Gold's drill-holes and these holes were assumed to run straight at designed orientations. Velocity geologists report that these holes were surveyed, probably with a Reflex tool, but this information is not available. Due to the relatively wide drill-hole spacing, comparatively shallow depths and comparatively broad mineralized zones, the lack of comprehensive accurate down-hole surveys for these holes is of little concern for the current Inferred estimates.

The author considers that hole paths of Hereward and Asia Gold's drill-holes have been located with sufficient accuracy for the current Inferred Mineral Resource estimates.

Drill core from Hereward and Asia Gold's drilling was carefully arranged in core boxes and halved with diamond saw perpendicular to the dominant geological fabric. Half-core samples collected by diamond saw were collected in uniquely numbered plastic bags together with a sample number tag and stored in a secure facility prior to transportation to an accredited commercial assay laboratory for sample preparation and analysis.

For the 2001 to 2005 drilling, the sample batches were transported by company personnel to Eurotest in Sofia, for sample preparation and analysis. For 2006 drilling, sample batches were transported by company to personnel to Sofia airport and shipped by a reputable courier service to Vancouver, Canada for sample preparation and analysis.

No information, such as core recoveries or field duplicates are available to directly indicate the representivity of drill samples from Hereward and Asia Gold drilling. Hogg (2017) reports that in early 2005, Barry W. Smee, Ph.D., P.Geo., an independent Qualified Person commissioned by Asia Gold audited Hereward's drill core sampling and assaying and considered the results to be of sufficient trustworthiness for use in preliminary resource estimation.

10.4.2 Paired Comparison of Historical Drilling with Velocity Drilling

No information, such as core recoveries are available to directly indicate the representivity of drill samples from Hereward and Asia Gold drilling.

To provide some indication of the reliability of these data, 2 m down-hole composited gold grades from the combined dataset of Hereward and Asia Gold drilling were compared with the nearest composite from Velocity drilling.

The paired comparison used a maximum separation distance of 3 m and yielded 212 pairs with an average separation distance of 5.3 m. This selection criteria, which in the author's experience is comparatively broad for such comparisons is required to give sufficient pairs for meaningful analysis.

As shown by Table 11, although as expected, the paired comparison shows substantial scatter for individual pairs, average gold grades for the two datasets are similar. Although not definitive, this comparison supports the general reliability of drilling, sampling and assaying for the Hereward and Asia Gold drilling.

Table 11: Paired composites from Velocity and Hereward-Asia Gold drilling

	Hereward-Asia Gold (Au g/t)	**Velocity (Au g/t)**
Number	212	
Mean	**0.58**	**0.56**
Mean difference		**-3%**
Minimum	0.030	0.011
1st Quartile	0.10	0.09
Median	0.24	0.23
3rd Quartile	0.47	0.41
Maximum	9.20	17.28

11 Sample Preparation and Analysis

11.1 Summary

Few details of sampling and assaying are available for the Geoengineering drilling, and little information is available to demonstrate the reliability of data from these holes. Although they were used to aid mineralized domain interpretation, they were excluded from the Estimation Dataset, and are of little direct relevance to the current resource estimates and are not detailed in this report.

The Estimation Dataset comprises data from angled diamond holes drilled by Hereward, Asia Gold and Velocity. Surface trench samples were excluded from the resource dataset, along with peripheral drill-holes not relevant to the estimates.

Samples from Velocity's diamond drilling provide 67% of the Estimation Dataset, with diamond holes drilled by Hereward and Asia Gold contributing 28% and 5%, respectively. All sample preparation and gold assaying of primary samples from the resource drilling was undertaken by independent commercial laboratories.

Diamond core from Velocity's drill-holes was halved with a diamond saw and sampled over generally 1 m down-hole intervals. The samples were submitted to ALS in Romania for analysis by 30 g fire assay. The reliability of sampling and assaying for these data has been established by duplicates, blanks and certified reference standards.

Hereward and Asia Gold's diamond core was sampled and analysed by industry standard methods. The core was generally halved for analysis with a diamond saw with generally one metre intervals, samples analysed for gold analysis by fire assay by commercial laboratories. Analyses undertaken by Velocity are limited to a set of immersion density measurements.

Hereward and Asia Gold's monitoring of sampling and assay reliability included duplicates and blanks for both data sets and certified reference standards for Asia Gold's drill results. These data are not available for the current review. Hogg (2017) reports that an independent Qualified Person employed by Asia Gold in 2005 audited Hereward's drill core sampling and assaying and considered the results to be sufficiently reliable for use in preliminary resource estimation.

Two-metre down-hole composited gold grades from the combined dataset of Hereward and Asia Gold drilling were compared with the nearest composite from Velocity drilling showing similar average grades. Although not definitive, this comparison supports the general reliability of drilling, sampling and assaying for the Hereward and Asia Gold drilling.

The author considers that quality control measures adopted for sampling and assaying of Velocity's drilling have established that the field subsampling, and assaying is representative and free of any biases or other factors that may materially impact the reliability of the sampling and analytical results. Reliability of Hereward and Asia Gold data has not been established with the same degree of rigour. This does not significantly affect confidence in the current Inferred Mineral Resource estimate.

The author considers that the sample preparation, security and analytical procedures adopted for the Rozino drilling provide an adequate basis for the current Inferred Mineral Resource estimates.

11.2 Velocity Drilling

11.2.1 Sampling Procedures and Sample Security

For Velocity's diamond drilling, all on-site core handling and sampling was supervised by Velocity geologists. Routine core handling and sampling procedures comprised the following:

- Core was placed in directly in wooden core boxes at the drill site and transported to Velocity's core yard in Ivaylovgrad by Velocity personnel at the end of every day shift.
- Sample intervals were assigned and marked by Velocity geologists, with a nominal length of 1 m honouring geological contacts with a minimum length of 0.5 m.
- Core was generally halved for sampling with a diamond saw and half-core samples collected by Velocity geologists and sealed in clear, labelled plastic bags along with a pre-printed sample tag with sample number and barcode.
- The samples inclusive of duplicates, standards and blanks were weighed, and packed in polywoven bags which were sealed in plastic drums for delivery to the ALS Minerals laboratory in Romania by an individual directly employed by Velocity. The drums were sealed with a metal clip ring and plastic seal tag to detect tampering.
- Sample submission forms were included with each assay batch and an electronic copy emailed to ALS. Upon receipt by ALS, the sealed drums are checked for tampering and samples reconciled with sample submission forms.

The upper set of photographs in Figure 14 and Figure 14 shows the general layout of storage for drill core and returned coarse rejects and sample pulps at Velocity's storage facility in Ivaylovgrad. The lower set of photographs in this figure demonstrate sample packaging for dispatch to ALS.

Prior to delivery to ALS, all sample collection and transportation were undertaken or supervised by Velocity personnel. No other personnel were permitted unsupervised access to samples before delivery to ALS. A chain of custody was maintained at all times, with records taken during sampling, sample dispatch, laboratory arrival and return of the coarse rejects and pulps to Velocity's storage facility in Ivaylovgrad.

11.2.2 Sampling Preparation and Analysis

All primary assaying of Velocity's drill samples was undertaken by ALS Minerals laboratory in Romania. ALS is independent of Velocity and provided analytical services on a standard commercial basis. The laboratory is certified to ISO 17025.

Upon receipt by ALS, each sample batch was checked for consistency with the sample submission form and entered into the ALS LIMS system. Sample preparation comprised oven drying and jaw crushing of entire, generally 3–3.5 kilogram (kg) samples to 70% passing 2 mm. A 1 kg subsample of the crushed material collected by rotary splitting was pulverized to 85% passing 75 microns in a ring and puck pulverizer.

Thirty-gram subsamples of pulverized sample collected by riffle splitting were analysed for gold by fire assay with lead collection, solvent extraction and AAS finish. For samples with initial assays reporting over 10 g/t a second 30-g subsample was analysed by fire assay with gravimetric finish.

Figure 13: Velocity's Ivaylovgrad core storage facility and sample packaging: (a) logging and core storage area; (b) coarse reject storage in sealed plastic drums; (c) pulp storage area

Source: Velocity

Figure 14: Velocity's Ivaylovgrad core storage facility and sample packaging: (a) individual sample bags with sample tags; (b) polywoven bag labelled with sample sequence; (c) plastic drum with sample and batch sequence and plastic tag seal

Source: Velocity

11.2.3 Monitoring of Sample and Assay Reliability

Velocity's routine QAQC monitoring of the reliability and accuracy of sampling and assaying are consistent with the author's experience of good quality, industry standard techniques. These protocols include routine submission of field duplicates, coarse blanks and certified reference standards.

As outlined below, the QAQC information available for Velocity's drilling support the general reliability of sampling and assaying for Velocity's drilling.

No sample pulps from Velocity's drilling have been submitted for inter-laboratory analysis. The author understands that Velocity plans to submit around 5% of samples from the 2017 and 2018 drilling to a second laboratory and concurs with Velocity geologists that these results should usefully supplement the available QAQC information.

Field Duplicates

Duplicate core samples were collected at an average frequency of around one duplicate per 28 primary samples. For the duplicated core intervals, both the original and duplicate sample represent quarter core samples and were collected by quartering the core with a diamond saw.

Table 12 and Figure 15 demonstrates that although there is some scatter for individual pairs the duplicate assay results generally correlate reasonably well with original results demonstrating the adequacy of field subsampling procedures.

Table 12: Velocity field duplicate results

	Full Range		0.1 to 5.0 g/t	
	Original (Au g/t)	**Duplicate (Au g/t)**	**Original (Au g/t)**	**Duplicate (Au g/t)**
Number	315		165	
Mean	**0.35**	**0.38**	**0.54**	**0.54**
Mean difference		**9%**		**1%**
Minimum	0.003	0.003	0.10	0.10
1st Quartile	0.05	0.04	0.17	0.18
Median	0.12	0.13	0.28	0.31
3rd Quartile	0.31	0.33	0.64	0.65
Maximum	6.05	9.73	4.94	4.46
Correl. Coef.	0.88		0.80	

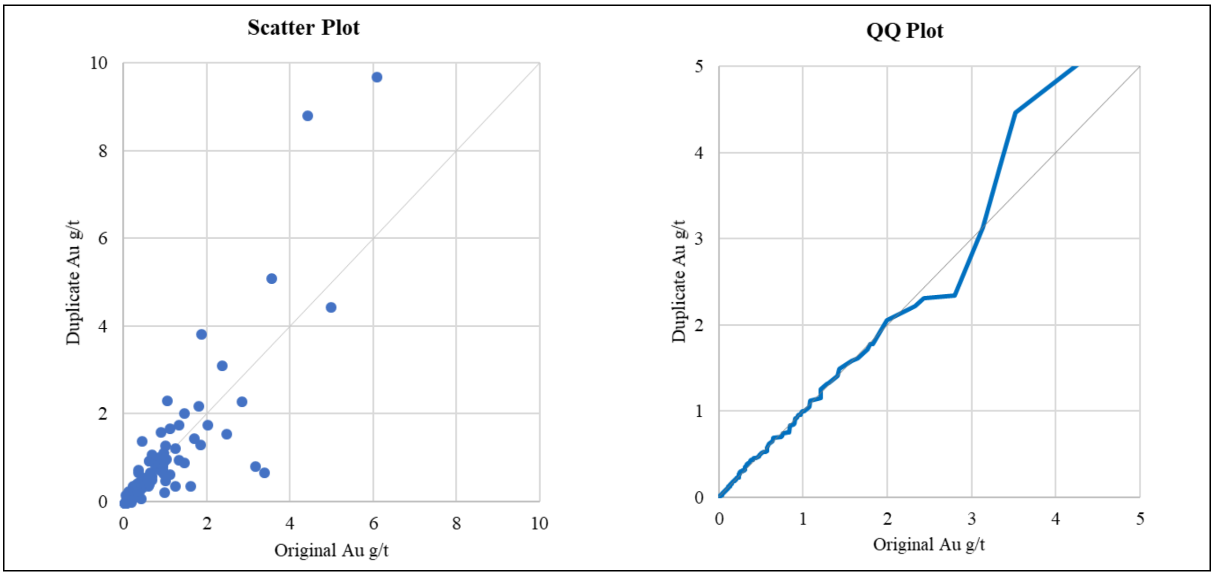


Figure 15: Velocity field duplicate results

Coarse Blanks

Velocity routinely included samples of un-mineralized marble collected from well outside the mineralized area in assay batches. These coarse blanks, which were blind to the assay laboratory were submitted at an average frequency of around one blank per 26 primary samples. They test for contamination during sample preparation, and provide a check of sample misallocation by field staff, the laboratory and during database compilation

Table 13 summarizes coarse blank results by assay month. For preparation of this table, samples assaying at below the detection limit of 0.005 g/t were assigned values of half the detection limit. Table 13 demonstrates that coarse blank assays show very low gold grades relative to typical Rozino mineralization with no indication of significant contamination or sample misallocation.

Table 13: ALS coarse blank assays

Assay date	No. of blanks	Assay (Au g/t)			Proportion <Detection
		Minimum	Average	Maximum	
August 2017	24	0.003	0.003	0.007	83%
September 2017	37	0.003	0.003	0.007	81%
October 2017	40	0.003	0.003	0.007	88%
November 2017	56	0.003	0.003	0.006	93%
December 2017	83	0.003	0.003	0.005	98%
January 2018	34	0.003	0.003	0.005	97%
February 2018	6	0.003	0.003	0.006	83%
March 2018	41	0.003	0.003	0.007	93%
April 2018	19	0.003	0.003	0.003	100%
Total	**340**	**0.003**	**0.003**	**0.007**	**92%**

Reference Standards

Samples of certified reference standards prepared by Geostats Pty Ltd, Perth, Western Australia were routinely inserted in assay batches at an average rate of around one standard per 27 primary samples.

As shown by Table 14, although there is some variability for individual samples, average assay results for standards generally reasonably reflect expected values, with no evidence of material biases.

Table 14: ALS reference standards assays

Standard	Expected (Au g/t)	No. of assays	Assays (Au g/t)			Average vs. expected
			Minimum	Average	Maximum	
G310-4	0.43	64	0.40	0.42	0.46	-2%
G312-1	0.88	61	0.76	0.88	1.02	0%
G315-2	0.98	64	0.94	0.99	1.07	2%
G910-8	0.63	71	0.59	0.62	0.67	-1%
G914-6	3.21	63	3.11	3.26	3.60	2%

11.3 Hereward and Asia Gold Drilling

Diamond holes drilled by Hereward and Asia Gold contribute around 28% and 5% of the Estimation Dataset respectively. The following description of sample preparation and analyses for this drilling is derived from Hogg (2017) and notes supplied by Velocity:

- Drill core was carefully arranged in core boxes and halved with diamond saw perpendicular to the dominant geological fabric.

- Half-core samples were collected in uniquely numbered plastic bags together with a sample number tag. The sample bag was tightly sealed and placed into 20-sample batches that included one field duplicate and one blank. Asia Gold's samples also included reference standards.
- Each batch was sealed with a security tag and stored in a secure facility prior to transportation to an accredited commercial laboratory for preparation and analysis.
- For the 2001 to 2005 drilling, the sample batches were transported by company personnel to Eurotest Control AD in Sofia, for preparation and analysis.
- For 2006 drilling, sample batches were transported by company to personnel to Sofia airport and shipped by a reputable courier service to Vancouver, Canada for preparation and analysis.
- A chain of custody for the samples was maintained at all times and care was taken that the samples were separately stored at the laboratory prior to preparation.

Hereward and Asia Gold's QAQC monitoring of sampling and assay reliability included duplicates and blanks for both data sets and certified reference standards for Asia Gold's drilling. These data are not available for the current review. Hogg (2017) reports that in early 2005, Barry W. Smee, Ph.D., P.Geo., an independent Qualified Person commissioned by Asia Gold audited Hereward's drill core sampling and assaying and considered the results to be of sufficient trustworthiness for use in preliminary resource estimation.

As discussed in Section 10 of this report, a paired comparison of 2 m down-hole composited gold grades from the combined dataset of Hereward and Asia Gold drilling with composites from Velocity drilling showed similar average grades. Although not definitive, this comparison supports the general reliability of drilling, sampling and assaying for the Hereward and Asia Gold drilling.

Velocity plans to re-sample and assay selected core intervals from Hereward and Asia Gold drilling. The author concurs with Velocity geologists that this work should usefully supplement the available QAQC information.

11.4 Dry Bulk Density Measurements

Bulk density measurements available for Rozino total 173 immersion measurements of diamond core, including 70 and 103 measurements of core from Hereward's and Velocity's drilling respectively.

Details of the methodology for Hereward's density measurements are not available. Velocity's density measurements were performed by Velocity field staff on core intervals averaging 0.18 m in length.

Table 15 summarizes the density measurements coded by the mineralization and oxidation wireframes used for resource modelling excluding five outlier Velocity measurements. These outliers appear to reflect small scale mineralization variability and, in the author's opinion, do not significantly affect general confidence in the measurements.

Notable features of Table 15 include the following:

- The available measurements are consistent with the author's experience of comparable mineralization styles.
- For fresh mineralization, Velocity's and Hereward's measurements show comparable average densities. These samples test different mineralization, and the comparison is far from definitive. It does, however, provide some confidence in the general reliability of Hereward measurements. Too few measurements are available for oxide and transitional material for comparable comparisons.
- Comparatively few measurements available for transitional material and very few are available for the oxide zone. Average densities of these zones have not been established with the same degree of confidence as for fresh mineralization.

The author considers that the available measurements have established average mineralization densities with sufficient accuracy for the current Inferred Mineral resource estimates. Additional test-work including independent check measurements of oven dried and wax-coated samples may be warranted as assessment of the Project continues and higher confidence estimates are targeted.

Table 15: Density measurements

Phase	Zone	Oxidation row labels	No. of measurements	Density (t/m^3)		
				Minimum	Average	Maximum
Hereward	Background	Fresh	5	2.47	2.61	2.69
	Mineralized Domain	Oxide	-	-	-	-
		Transition	4	2.33	2.44	2.49
		Fresh	61	2.30	2.60	2.74
Velocity	Mineralized Domain	Oxide	9	1.94	2.31	2.50
		Transition	28	2.20	2.40	2.62
		Fresh	61	2.33	2.55	2.71
Combined	Mineralized Domain	Oxide	9	1.94	2.31	2.50
		Transition	32	2.20	2.41	2.62
		Fresh	122	2.30	2.58	2.74

12 Data Verification

12.1 Database Verification

Verification checks undertaken by the author to confirm the validity of the database compiled for the current study include:

- Checking for internal consistency between, and within database tables
- Spot check comparisons between database entries and original field sampling sheets
- Comparison of assay entries with laboratory source files
- Comparison of assay values between nearby holes
- Comparisons between assay results from different sampling phases.

These checks were undertaken using the working database compiled by the author and check both the validity of Velocity's master database and potential data-transfer errors in compilation of the working database.

The consistency checks showed no significant inconsistencies.

While visiting the Velocity's field office in Ivaylovgrad, the author compared sample identifiers and down-hole depths shown by original field sampling sheets to database entries for 6,328 intervals from 20 Velocity holes. These checks showed no significant inconsistencies.

For all the 8,707 routine down-hole assay intervals from Velocity's drilling, the author compared database assay entries with laboratory source files supplied by Velocity. These checks showed no inconsistencies.

The author considers that the resource data has been sufficiently verified to form the basis of the current Inferred Mineral Resource estimates, and that the database is adequate for the current estimates.

13 Mineral Processing and Metallurgical Testing

13.1 Historical Testwork

13.1.1 Geoengineering

Metallurgical test-work carried out by Geoengineering gave reported recoveries of 93.6% and 89.8% from flotation and agitated cyanide leach tests respectively (Hogg, 2017). Details of this test-work are unknown.

13.1.2 Hereward and Asia Gold

Hereward commissioned metallurgical studies of samples of Rozino diamond drill core and concluded that the sulphide and gangue mineralogy was simple with very low base metal and deleterious element concentrations. Test- work showed that gravity separation returned low recoveries, but that static cyanide leach test-work showed high recoveries and low cyanide consumption.

Caracal conducted agitated cyanide leach test-work on samples representing oxide, sulphide and low pyrite mineralization (Table 16). The leach tests were carried out on differing size fractions and indicated that primary crushed oxide material (½ inch) had the potential to be exploited by conventional heap leach methods. Caracal considered that the volumes of oxide material at the Rozino Project to be insignificant.

Table 16: Agitated cyanide leach test results

Mineralization type	**% Au extraction**		
	12.7 mm	**1.7 mm**	**75 µm**
Oxide	50.7	77.0	94.7
Sulphide	29.0	65.5	93.00
Low pyrite	35.0	54.5	74.5
Average	**38.2**	**65.7**	**87.4**

Caracal concluded that grinding to -200 mesh (75 µm) increased recoveries but did not overcome the additional cost of milling and tank cyanidation at a gold price US$900/ounce and that a crush size of 1.7 mm appeared to show the most effective results with average recoveries capable of sustaining agglomerated heap leach processing.

13.1.3 Wardell Armstrong International Ltd (2018)

For confirmation of the historical metallurgical tests in November 2017, three composite samples were prepared and sent to Wardell Armstrong International Ltd (WAI), Baldhu, Truro, UK for bottle roll and agitated leach tests.

Three samples totalling 44.1 kg were submitted for the test program that involved head assay, coarse ore bottle rolls cyanidation and fine ore agitated leach cyanidation.

The samples were collected from three representative holes representing high, moderate and low-grade sulphide mineralization from the Rozino deposit (see Table 17).

Table 17: Sample drill-hole intervals/grades

Sample ID	Hole ID	From (m)	To (m)	Interval (m)	No. of samples	Average grade (g/t Au)	Average sample weight (kg)	No. of splits	Composite sample weight (kg)
RM001	RDD-001	94.90	106.90	12.00	12	5.95	2.89	1	9.94
RM002	RDD-004	63.50	94.50	31.00	31	1.25	3.17	2	15.62
RM003	RDD-011	15.90	81.20	65.30	65	0.62	3.33	3	18.50

Sample Representivity

The holes were located within the resource envelope (Figure 16) and represent the central zone of the main sulphide-type mineralization within the deposit. The length of each sample was 1 m but rarely could vary ± 20% due to core loss or lithological boundaries. The material used for the composite samples was -1.7 mm coarse rejects returned from the assay lab after completing the necessary assays. The initial weight of single samples was between 1.38 kg and 3.40 kg for half HQ core and 0.16 kg and 1.07 kg for four samples quarter HQ core. Each sample was split using a Jones riffle splitter to collect the minimum weight of 10 kg required by WAI to represent each individual master composite sample.

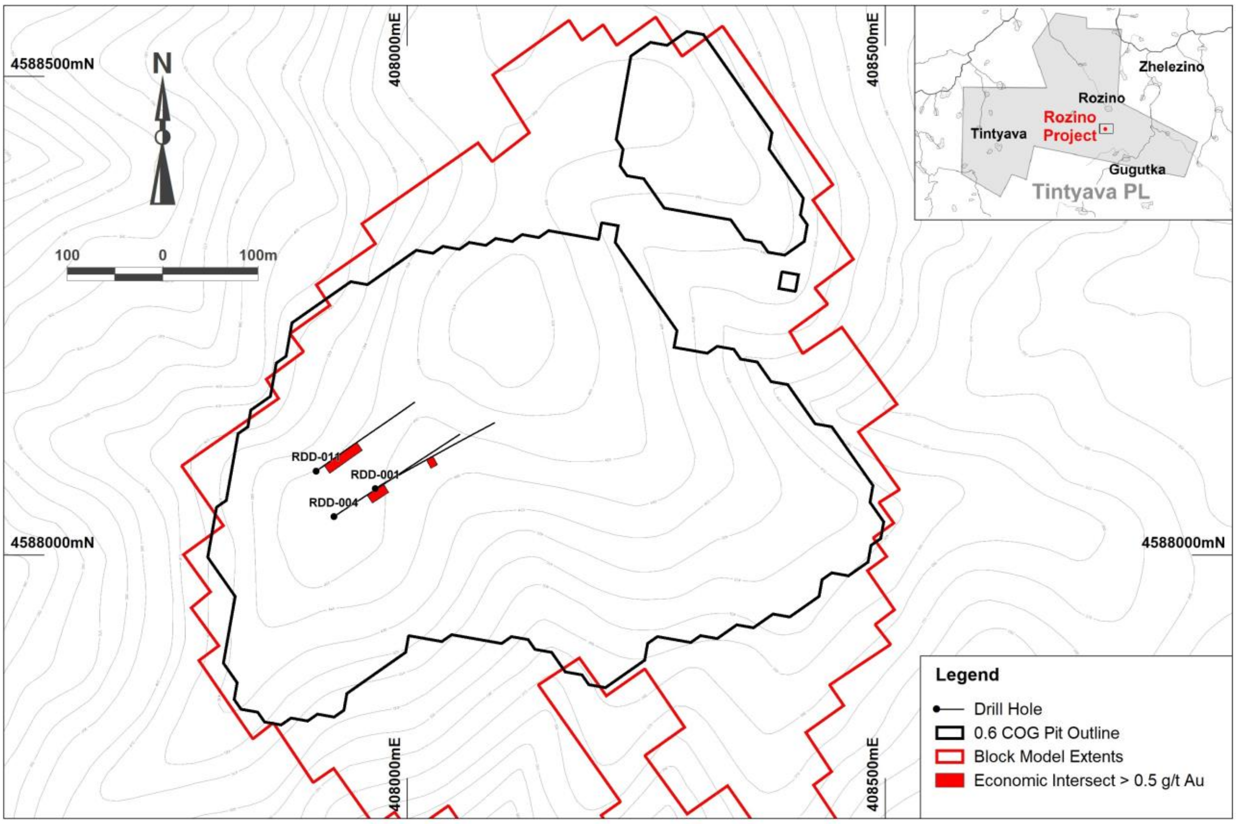


Figure 16: Plan view of metallurgical drill-holes used in metallurgical sample tested by Wardell Armstrong

Head Assays

Duplicate subsamples of each test composite were submitted for head assay. The average results of chemical analysis conducted on the three composites samples are given in Table 18.

Table 18: Head assays

Analyte	Units	Sample		
		RM001	RM002	RM003
Au	g/t	5.44	1.18	0.50
Ag	g/t	5.50	2.70	1.55
As	%	0.003	0.004	0.034
Fe	%	3.34	2.43	3.47
S_{TOTAL}	%	0.69	0.69	0.80
$S_{ACID\ SOL}$	%	0.01	0.02	0.02
$S_{SULPHIDE}$	%	0.67	0.67	0.78
$C_{ORGANIC}$	%	0.08	0.06	0.06

The assay results showed that the average gold grades ranged from 5.44 g/t gold to 0.5 g/t gold. The organic carbon contents were 0.08% C in sample RM001 and 0.06% C in RM002 and RM003.

Majority of the sulphur content in the sample consisted of 97.8% present as the sulphide form in samples RM001 and RM002 and 97.5% in RM003.

Coarse Bottle Roll Leach Tests

The material crushed to 100% passing 1.7 mm was subjected to bottle rolls testing and leached at 40% w/w solids; retention time of 72 hours; pH 10.5–11 (maintained); and cyanide concentration 1.0 g/l NaCN (maintained). Solution assays were taken at 6, 24, 30, 48, 54 and 72 hours.

The bottles were rolled continuously at a speed of 3 rpm and solution samples taken at the time periods described above. After 72 hours the pulps were filtered, and the residues washed and assayed for gold and silver. The results are summarized in Table 19 and Figure 17.

Table 19: Coarse bottle rolls – test results

		Sample	RM001	RM002	RM003
		Test ID	BRT1	BRT1	BRT1
Particle size	Crush	mm	100%<1.7	100%<1.7	100%<1.7
	Test	d80µm	1,003	1,094	885
Head grade	Measured	g/t Au	5.44	1.18	0.50
		g/t Ag	5.50	2.70	1.55
	Calculated	g/t Au	5.99	1.27	0.66
		g/t Ag	5.52	2.26	1.49
Residue grade	Au	g/t	2.57	0.50	0.21
	Ag	g/t	2.60	0.40	0.40
Consumption	Cyanide	kg/t	0.27	0.26	0.42
	Lime	kg/t	0.23	0.27	0.28
Recovery	Au	%	57.3	61.1	68.4
	Ag	%	35.4	34.3	48.8

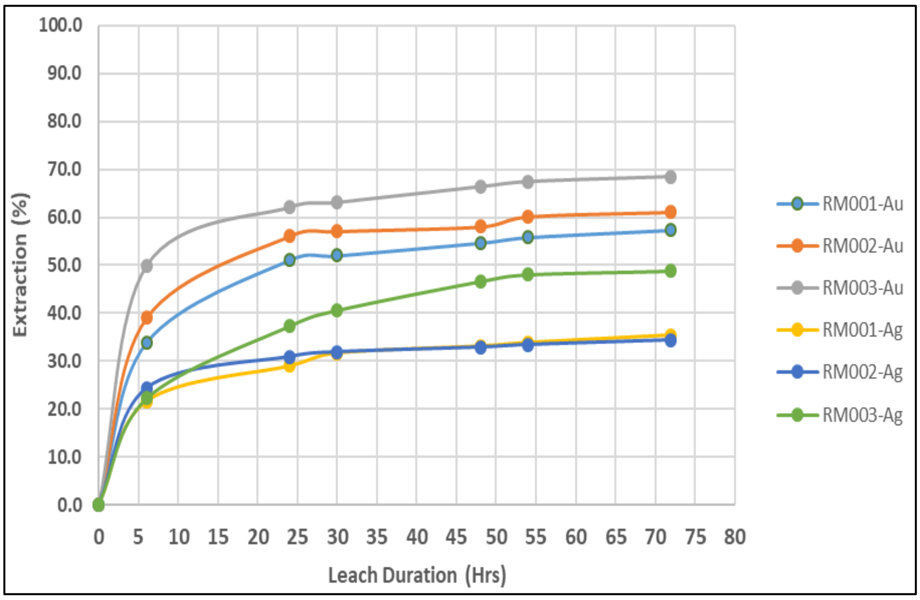


Figure 17: Coarse bottle roll leach test curves

Gold recoveries at the -1.7 mm crush size ranged from 57.3% (RM001) to 68.4% (RM003). Silver recoveries ranged from 34.3% (RM002) to 48.8% (RM003).

Cyanide consumptions ranged from 0.26 kg/t (RM002) to 0.42 kg/t (RM003). Lime additions ranged from 0.23 kg/t (RM001) to 0.28 kg/t (RM003).

Stirred Agitated Leach Tests

Each sample was milled to 80% passing 75 µm and subjected to agitated leach testing at 40% w/w solids; retention time of 48 hours; aeration at 3 l/min air, pH 10.5-11 (maintained), and a cyanide concentration 1.0 g/l NaCN (maintained).

Samples were taken for solution assays at intervals of 2, 4, 6, 24, 30 and 48 hours.

The pulps were agitated using an overhead stirrer and solution samples taken at the time periods described above. After 48 hours, the pulps were filtered, and the residues washed and assayed for Au and Ag. The results are summarized in Table 20 and Figure 18.

Table 20: Agitation leach test results

		Sample ID	RM001	RM002	RM003
		Test ID	STRLT1	STRLT1	STRLT1
Head grade	Measured	g/t Au	5.44	1.18	0.50
		g/t Ag	5.50	2.70	1.55
	Calculated	g/t Au	5.83	1.25	0.63
		g/t Ag	5.28	2.26	1.37
Residue grade	Au	g/t	0.42	0.15	0.16
	Ag	g/t	0.80	0.70	0.50
Consumption	Cyanide	kg/t	1.70	1.42	1.99
	Lime	kg/t	0.45	0.28	0.35
Recovery	Au	%	92.9	88.0	74.8
	Ag	%	84.9	69.0	63.5

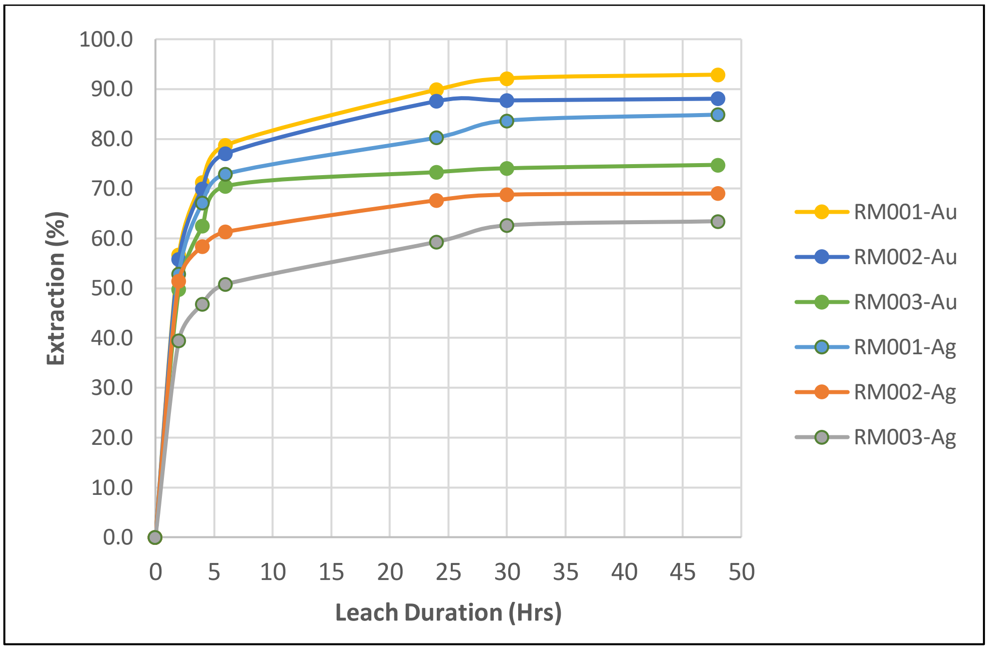


Figure 18: Agitation leach test curves

Gold recoveries in the agitated leach tests ranged from 74.8% (RM003) to 92.9% (RM001). Silver recoveries ranged from 63.5% (RM003) to 84.9% (RM001).

Cyanide consumptions ranged from 1.42 kg/t (RM002) to 1.99 kg/t (RM003). Lime additions ranged from 0.28 kg/t (RM002) to 0.45 kg/t (RM001).

Comparison of Coarse Bottle Roll and Fine Agitation Leach Tests

A comparison of the gold and silver recoveries between the two leaching methods shows that the gold leach recoveries are dependent on liberation size i.e. the finer the liberation size the higher the gold leach extractions.

The stirred agitated leach tests represent conventional CIL, whereas the coarse bottle roll leach tests represent conventional heap leach technology. Thus, based on these results the sulphide ore zone would be more amenable to processing using conventional CIL technology.

There does appear to be a relationship between head grade, sulphide content and metal extractions. Cyanide consumptions for the stirred bottle roll leach tests would be considered moderate to high. Lime consumption is considered to be low.

13.2 Recent Testwork

13.2.1 Eurotest Control EAD (2018)

In January 2018, a metallurgical composite sample was prepared for detailed flotation and cyanidation tests. A total of 1,621 sample coarse rejects from 124 mineralized intervals in 36 drill-holes were split according the flowchart shown in Figure 19 and sent to Eurotest, Sofia, Bulgaria for testing. The final composite sample (“2018 composite”) weight was 130 kg.

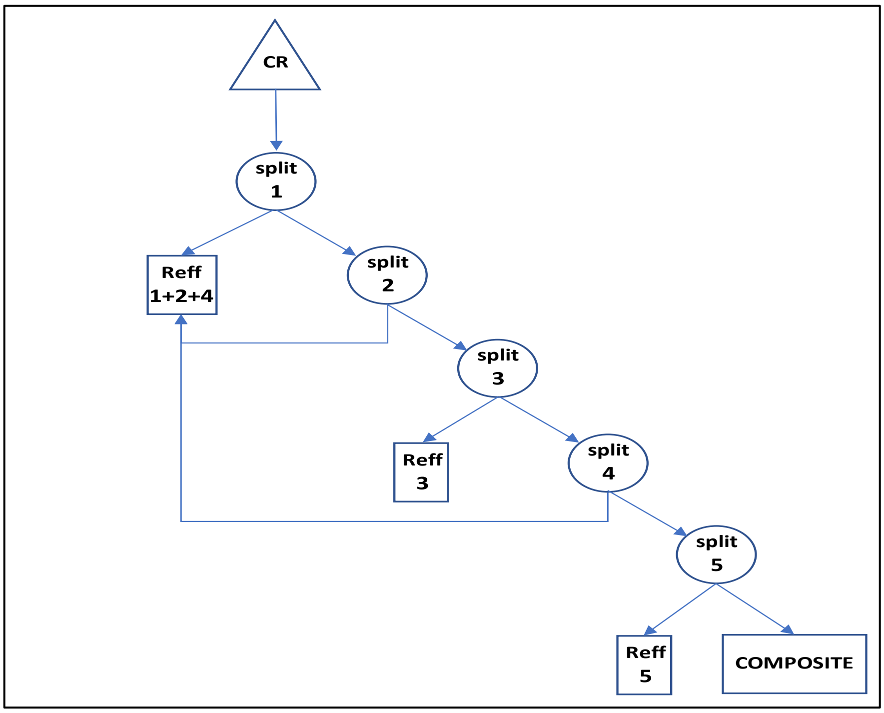


Figure 19: Sample splitting flowchart (CR = coarse reject, Reff = reference sample)

The holes are located across the entire deposit covering the preliminary block model (Figure 20) and represent the main sulphide and transitional type of mineralization. The length of each sample is 1 m but rarely could vary ± 20% due to core loss or lithological boundaries. The material used for the composite samples was -1.7 mm coarse reject material returned from the assay lab after completing the necessary assays. Each sample was split five times using a Jones riffle splitter. The initial sample parameters are shown in Table 21.

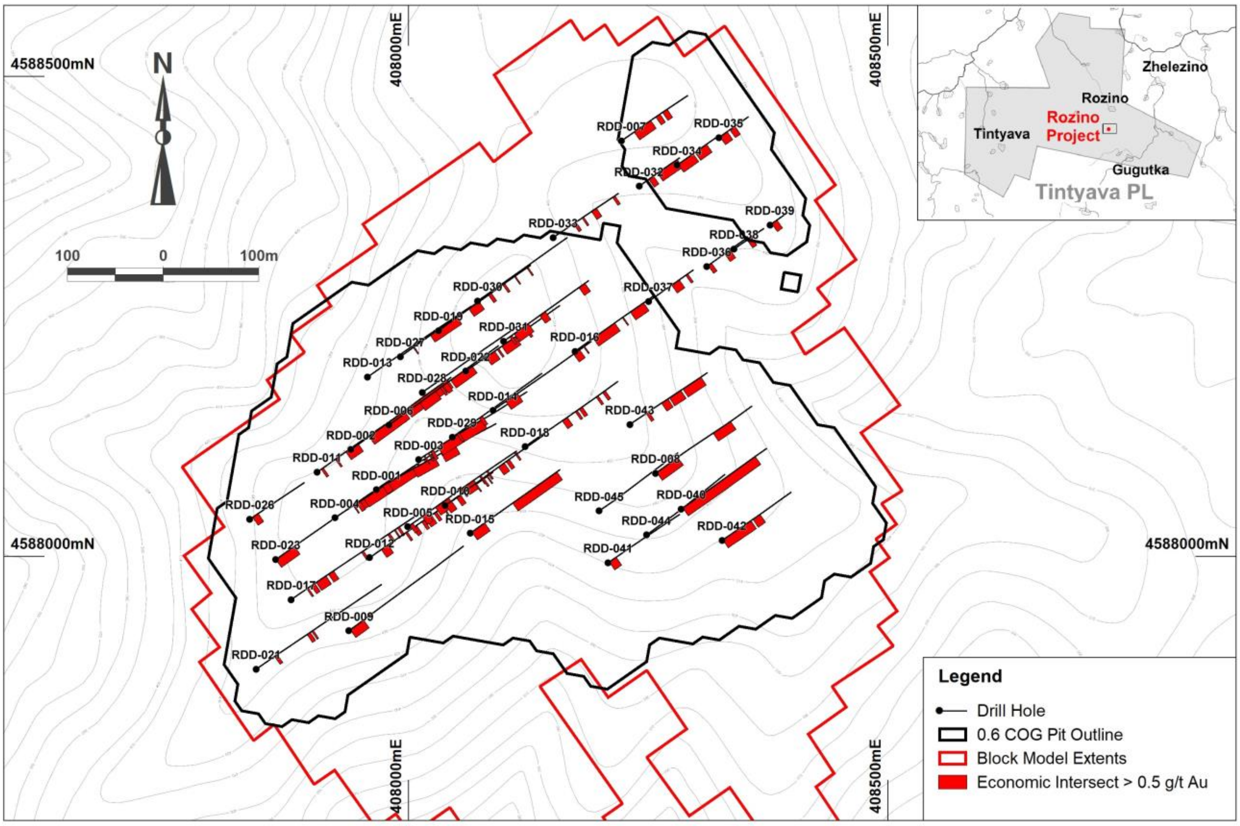


Figure 20: Plan view of geological drill-holes used to composite the bulk metallurgical sample for Eurotest

Table 21: Drill-hole sample intervals

Parameter	Range		Average
	From	To	
Sample interval	2.0m	144.7 m	1 m
Initial sample weight: Half core Quarter core	 0.620 kg 0.140 kg	 6.50 kg 2.18 kg	 2.54 kg 0.71 kg
5th single split weight	10 g	200 g	80 g
Sample grades	0.009 g/t	146 g/t	1.24 g/t
Sample interval grades	0.050 g/t	2.99 g/t	1.05 g/t

Sample Preparation

The received sample had a total weight of 130 kg and a grain size of 80% -1.7 mm. The Australian Standard – AS 3988-91 "Copper, Lead, Zinc, Gold and Silver Ores – Guidance for the Preparation of Gold Determination Tests" was used to prepare the sample.

The sample preparation was carried out according to the following steps:

- Shovelling – mixing the entire 130 kg material, five times
- Rotational mixing – in portions of 30 kg; each portion with mixing time of 30 minutes
- Homogenization by Jones splitter – twice, with subsequent merging
- Homogenization rotational splitter – twice, with subsequent merging
- Final splitting of the sample into1 kg portions.

Homogenization Test

In order to determine the homogeneity of the master composite sample a specific procedure according to ISO Guide 20:2014 – "*QCM Internal Preparation Guide*" was undertaken. This involved taking ten random samples (1 kg each) from the master composite sample. From each of the 10 samples, five portions were taken for testing, making a total of 50 tests. Each subsample was assayed for gold. Results of the statistical analysis are shown in Table 22 below.

Table 22: Statistical analysis

Technological sample				**Velocity**			
Tested component				Au, g/t			
Method:							
Number of series, *m*				10			
Number of samples in series, *n*				5			
Total number of samples, *N=m*n*				50			
Mass of the sample, g, *M0*				50			
Mass of the lowest weight sample, g, *M*				50			
j	*i* = 1	*i* = 2	*i* = 3	*i* = 4	*i* = 5	j	$\sum(x_{ji} - \bar{x}_j)^2$
1	1.399	1.415	1.488	1.324	1.446	1.414	0.014825
2	1.350	1.370	1.330	1.349	1.368	1.353	0.001067
3	1.399	1.350	1.414	1.353	1.366	1.376	0.003277
4	1.350	1.424	1.324	1.346	1.339	1.357	0.006071
5	1.433	1.452	1.462	1.418	1.418	1.437	0.001587
6	1.423	1.448	1.444	1.428	1.411	1.431	0.000931
7	1.380	1.341	1.318	1.328	1.334	1.340	0.002265
8	1.402	1.397	1.370	1.383	1.450	1.400	0.003701
9	1.370	1.450	1.350	1.370	1.420	1.392	0.006880
10	1.408	1.432	1.420	1.380	1.420	1.412	0.001568
					N	**QS_1**	**QS_2**
					1.391	0.05066	0.04217
Dispersions							
Total, s^2				0.001894			
Between series, s_1^2				0.005629			
In series, s_2^2				0.001054			
Fisher criterion, F				5.34			
Fischer criterion critical value, F_{crit}				2.12			

The difference between dispersions using the Fischer criterion is statistically significant, however the error of inhomogeneity is well within acceptable limits for gold homogeneity and based on this very thorough analysis the distribution of gold in the master composite is deemed to be homogeneous with the error of inhomogeneity (0.030247s_{het}) orders of magnitude less than the upper acceptable limits ($<\sigma max/3$ – 0.13913).

Head Assays

Head assay of the master composite used for the metallurgical test-work program is shown in Table 23.

Table 23: Master Composite head assays

Element	Units	Assay
Au	g/t	1.28
S	%	0.42
C	%	1.20

Results of an ICP scan carried out on the master composite head sample is shown in Table 24.

Table 24: ICP analysis

Element	Units	Content	Element	Units	Content
Ag	g/t	2.0	Mn	g/t	1,111
Al	%	1.37	Mo	g/t	5.0
As	g/t	125	Na	g/t	377
B	g/t	<1	Ni	g/t	49
Ba	g/t	62	P	g/t	397
Be	g/t	<1	Pb	g/t	28
Bi	g/t	<5	Sb	g/t	<5
Ca	%	2.58	Sn	g/t	<2
Cd	g/t	<1	Sr	g/t	47
Co	g/t	11	Te	g/t	<2
Cr	g/t	54	Ti	g/t	97
Cu	g/t	48	Tl	g/t	<2
Fe	%	2.79	V	g/t	18
Ga	g/t	<1	W	g/t	<20
K	g/t	3,014	Y	g/t	12
La	g/t	18	Zn	g/t	74
Li	g/t	23	Zr	g/t	1.3
Mg	g/t	9,375			

Data from chemical analyses on the master composite ore sample characterize it as gold-containing (1.28 g/t Au), with minimal contents of other useful components (Ag – 2 g/t; Cu – 48 g/t; Pb – 28 g/t; Zn – 74 g/t). The potential penalty elements in the ore (As – 125 g/t; Cr – 54 g/t; Cd <1 g/t) are negligible and are not expected to affect the quality of the final products.

X-Ray Diffraction

Radiographic studies of the sample were carried out using an automatic x-ray diffractometric system "D 500 SIEMENS" with computer control, copper-monochromatic radiation at 40 kV and 30 mA and inlet aperture blend.

Results of the x-ray diffraction (XRD) analysis are shown in Table 25.

Table 25: XRD analysis

Mineral	Content (wt %)
Quartz (SiO_2)	61
Clinochlore $\{[Mg,Al,Fe]_6[Si,Al]_4O_{10}(OH)_8\}_{11}$	11
Orthoclase ($KAlSi_3O_8$)	11
Muscovite $\{KAl_2[AlSi_3O_{10}](OH)_2\}$	7
Dolomite $\{CaMg(CO_3)_2\}$	6
Calcite ($CaCO_3$)	3
Pyrite (FeS_2)	1

The predominant gangue mineral is quartz assaying 61%, while the remainder is represented as clinochlore, orthoclase, muscovite, and dolomite minerals. Organic mass, with a carbon content of 1.2%, is also found in the sample. The XRD results confirm that the low sulphur analysis is related to pyrite and this extremely low sulphide content is an extremely favourable characteristic of the deposit making it amenable to low cost processing methodologies and potentially low environmental impacts for the project.

Mineralogy

Mineralogy carried out on mineralized samples indicated that the main sulphide minerals are pyrite, arsenopyrite, chalcopyrite and sphalerite. Present also are quartz, calcite, magnetite as well as minor hematite/limonite, and bornite. The primary sulphide mineral is pyrite. The remaining sulphide minerals are as single grains, with chalcopyrite being more evident. Pyrite precipitates as idiomorphic and hypidiomorphic grains and aggregates most common separately, rarely with chalcopyrite and sphalerite. The supergene changes have mostly affected pyrite, which in some places was completely pseudomorphs of hematite/limonite.

Naturally occurring gold has not been found. From the vein minerals only quartz, calcite is observed.

Hematite is also prevalent, which in many places is part of limonite changes, it can be seen very clearly on the different shades of grey. Several bornite grains have been identified.

Diagnostic Leach Test

A phase analysis of the master composite ore sample was performed on two grind sizes:

- 80% <75 µm
- 90% <75 µm.

Results of the phase analysis carried out at a grind size of 80% passing 75µm is shown in Table 26.

Table 26: Diagnostic leach test results (Test 1)

Stage	Au, g/t	Phase	Au %
Hg amalgamation	0.459	Free gold	58.61
Primary cyanidation	0.142	Cyanide soluble	28.58
Secondary cyanidation	0.138	Present as iron oxides	1.82
After chemical destruction	0.071	Locked in sulphides	7.81
		Associated with silicates	3.17
Feed	**1.109**		**100.00**

Results in Table 26 indicate that potential gold extraction by gravity would be high at 59%. The predicted cyanide recoverable gold content by adopting conventional CIL is 87.2%.

The analysis suggests that 7.81% of the gold in the sample is locked in pyrite, and that the finely dispersed mineralization associated with silicates (3.17%) is also not recoverable by cyanidation.

Results of the phase analysis carried out at a grind size of 90% passing 75 µm is shown in Table 27.

Table 27: Diagnostic leach test results (Test 2)

Stage	Au, g/t	Phase	Au %
Hg amalgamation	0.543	Free gold	52.16
Primary cyanidation	0.139	Cyanide soluble	35.59
Secondary cyanidation	0.144	Present as iron oxides	1.03
After chemical destruction	0.080	Locked in sulphides	7.72
		Associated with silicates	3.49
Feed	**1.135**		**100.00**

Results in Table 27 indicate that potential gold extraction by gravity would be high at 53%. The predicted cyanide recoverable gold content by adopting conventional CIL is 87.8%.

The analysis suggests that 7.72% of the gold in the sample is locked in pyrite, and that the finely dispersed mineralization associated with silicates (3.49%) is also not recoverable by cyanidation.

Results of the phase analysis indicate that both the potential for gravity recoverable gold ("GRG") is high and the potential gold extraction using conventional CIL is also high. Based on the phase analysis the highest gold extraction by CIL would be achieved at the finer grind size P_{90} -75 µm.

Bond Work Index Test

A Bond Ball Mill Work Index ("BWi") determination was carried out at the University of Sofia. Results of the BWi determination are shown in Table 28.

Table 28: Bond Work Index test results

Feed particle size (F_{80} mm)	Product particle size (P_{80} mm)	Product specific mass (g/rev)	Energy consumption (kWh/g)	Bond Work Index (kWh/t)
1.8	0.095	1.87	$5.7.10^{-3}$	14.52

Based on the BWi test results, the mineralization would be considered to be moderate to hard.

Whole Mineralization Cyanidation Leach Tests

Whole mineralization cyanidation leach tests were carried out to determine the potential gold extraction and leach kinetics. Mechanically stirred agitation leach tests were carried out at different grind sizes of P_{60} -75 µm and P_{80} -75 µm. Tests were carried out at a cyanide concentration of 1 g/l for 48 hours. Results of the whole ore cyanidation leach tests are summarized in Table 29.

Table 29: Whole ore cyanidation leach test results

Grind size (µm)	Recovery (%)	Reagent consumption (kg/t)	
		Lime	Cyanide
P_{60}	69.8	0.37	2.14
P_{80}	85.9	0.37	2.98

Gold leach kinetic curves are shown in Figure 21.

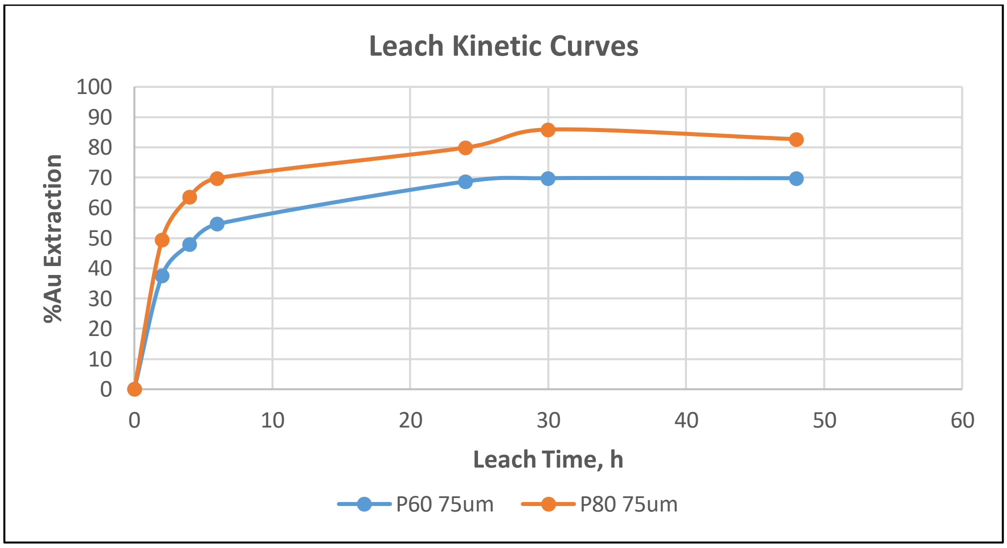


Figure 21: Gold leach kinetic curves of 60% and 80% passing micron sizes

Whole mineralization cyanidation leach results indicate that the highest gold extraction was achieved at the finer grind size P_{80} -75 µm. Leach kinetics are relatively rapid with 86% of the gold extracted after 30 hours of leaching. The leach curves do indicate some minor signs of "preg-robbing" due to the organic carbon present in the ore. However, this may also be due to minor errors in gold assaying.

The gold extraction obtained from mechanically agitated leach tests corresponds well to the results of the phase analysis, where grinding to 80% passing 75 µm resulted in a gold extraction of 87.2%.

Flotation Tests

Batch Rougher Tests

Various batch rougher flotation tests were carried out to determine the effect of:

- Grind size
- Collector type
- pH.

Results of the sighter rougher test carried out at a grind size P_{80} -75 µm are shown in Table 30.

Table 30: Rougher test #1 results

Product	Mass pull		Content		Recovery (%)	
	g	%	Au g/t	S %	Au	S
>1 mm	28.93	1.45	1.76	0.10	1.77	0.26
Rougher Concentrate	110.15	5.51	23.35	9.15	89.17	95.57
Middling 1	152.65	7.63	0.58	0.18	3.09	2.55
Tailing	1,708.27	85.41	0.10	0.01	5.98	1.62
Feed	**2,000.00**	**100.00**	**1.44**	**0.53**	**100.00**	**100.00**

Table 30 shows that 89.2% gold was recovered into a concentrate assaying 23.3 g/t gold.

Locked Cycle Tests

Locked cycle tests ("LCT") were carried out at the optimum grind size P_{80} -75 µm, with and without the addition of the promoter Aerofloat 242. The circuit configuration adopted for the LCTs included a rougher/scavenger circuit, with single-stage cleaning of the rougher concentrate. Scavenger concentrate was recycled back to the head of the rougher circuit.

Results of the LCTs are shown in Table 31 and Table 32.

Table 31: LCT #1 results

Cycle	Product	Yield		Content		Recovery, %	
		g	%	Au g/t	S %	Au	S
1	Concentrate	92.97	4.65	23.80	10.78		
	Tailing			0.11	0.01		
	Feed						
2	Concentrate	79.88	3.99	23.90	13.72	89.39	98.28
	Tailing			0.12	0.01		
	Feed		**100.00**	**1.07**	**0.56**		
3	Concentrate	71.03	3.55	33.30	15.88	90.41	98.32
	Tailing			0.13	0.01		
	Feed		**100.00**	**1.31**	**0.57**		
4	Concentrate	54.89	2.74	39.50	20.48	90.06	98.30
	Tailing			0.12	0.01		
	Feed		**100.00**	**1.20**	**0.57**		
5	Concentrate	69.12	3.46	33.30	17.31	91.27	98.41
	Tailing			0.11	0.01		
	Feed		**100.00**	**1.26**	**0.61**		

Table 32: LCT #2 results

Cycle	Product	Yield		Content		Recovery, %	
		g	%	Au g/t	S %	Au	S
1	Concentrate	35.36	1.78	59.1	30.08		
	Tailing			0.114	0.01		
	Feed						
2	Concentrate	87.04	4,35	22.4	12.46	91.15	98.27
	Tailing			0.099	0.01		
	Feed		100,00	1.07	0.55		
3	Concentrate	72.75	3.64	30.2	17.27	91.27	98.49
	Tailing			0.109	0.01		
	Feed		100.00	1.20	0.64		
4	Concentrate	81.81	4.09	27.8	13.33	90.12	98.27
	Tailing			0.13	0.01		
	Feed		100.00	1.26	0.55		
5	Concentrate	113.11	5.66	20.4	10.77	92.79	98.47
	Tailing			0.095	0.01		
	Feed		**100.00**	**1.24**	**0.62**		

The addition of A242 resulted in a more stable froth and better flotation conditions. Balancing the streams in closed cycle established that the grade-recovery relationships for both circuits were very similar, with an average of the last three cycles resulting in 90.6% gold recovery at a final concentrate grade of 35.4 g/t gold using the A242 collector, and 91.4% gold recovery at a final concentrate grade of 26.1 g/t gold using potassium iso-butyl xanthate (KIBK).

Results of the final cycle concentrate analysis is shown in Table 33.

Table 33: Final cycle concentrate analysis

Element	Units	Assay
Ag	g/t	41
As	g/t	1,993
Ba	g/t	20
Cr	g/t	143
Cu	%	0.13
Mo	g/t	26
Pb	%	0.044
Zn	%	0.057

Final cycle concentrate analysis indicates a relatively high arsenic content of 0.2% As.

XRD results for the final cycle concentrate are shown in Table 34.

Table 34: XRD results – final cycle concentrate

Mineral	Content (%wt.)
Quartz (SiO_2)	37
Clinochlore {$[Mg,Al,Fe]_6[Si,Al]_4O_{10}(OH)_8\}_{11}$	10
Microcline (KAlSi3O8)	6
Muscovite {$KAl_2[AlSi_3O_{10}](OH)_2$}	8
Dolomite {$CaMg(CO_3)_2$}	3
Calcite ($CaCO_3$)	2
Pyrite (FeS_2)	32
Siderite ($FeCO_3$)	1

Results in Table 34 indicate the cleaner concentrate contains quartz and pyrite as the predominant minerals.

Flotation Concentrate Cyanidation Leach Tests

Cyanidation leach tests were carried out on the cleaner flotation concentrate to determine the potential gold extraction, and reagent consumptions. Cyanidation leach tests were carried out with, and without, regrinding of the cleaner concentrate.

Leach tests were carried out at a cyanide concentration of 2 g/l, and a leach residence time of 48 hours.

Results of the concentrate cyanidation leach tests are shown in Table 35.

Table 35: Concentrate leach test results – flotation concentrate

Grind size	Recovery (%Au)	Reagent consumption (kg/t)	
		Caustic	Cyanide
88% - 75 µm	87.5	5	3.1
80% -20 µm	88.1	5	3.1

Regrinding of the flotation concentrate increased gold extraction by 0.6%. The content of gold in the tails is relatively high at 3.3 g/t Au. These losses are probably due to finely dispersed gold in quartz and pyrite, which is not leachable by cyanidation.

Gravity Tests

Gravity tests were carried out using a laboratory Knelson KC-MD3 unit. Two gravity tests were carried out on material with a particle size P_{80} -1.7 mm, and on a sample reground to P_{80} -75 µm using a sample weight of 10 kg. Results of the two batch gravity tests are shown in Table 36 and Table 37.

Table 36: Gravity test results – no grinding (-1.7 mm)

Product	Mass		Grade		Recovery	
	g	%	Au g/t	S %	Au %	S %
>1 mm	2,090	20.90	1.273	0.288	19.59	15.25
Pan concentrate	6.97	0.07	201.0	39.80	10.32	7.03
Residue	93.00	0.93	10.16	6.450	6.96	15.20
Final tails	7,810.03	78.10	1.098	0,316	63.14	62.53
Feed	**10,000.00**	**100.00**	**1.358**	**0.395**	**100.00**	**100.00**

Table 37: Gravity test results – grinding (-75 micron)

Product	Mass		Grade		Recovery	
	g	%	Au g/t	S %	Au %	S %
>1 mm	51.72	0.52	12.231	0.13	5.00	0.13
Pan concentrate	11.70	0.12	479.00	40.00	44.34	8.91
Residue	95.27	0.95	11.85	3.67	8.93	6.66
Final tails	9,841.31	98.41	0.536	0.45	41.73	84.31
Feed	**10,000.00**	**100.00**	**1.264**	**0.53**	**100.00**	**100.00**

Results show that at a fine grind size P_{80} -75 µm the GRG component is higher with 44% gold recovered to the pan concentrate assaying 480 g/t gold. It is evident that a portion of the gold in the feed is recoverable into a gravity concentrate.

Gravity-Flotation Test

A gravity-flotation flowsheet was tested on the Master Composite. The ore sample was subjected to gravity, followed by flotation of the gravity tail. Results of the gravity and flotation test are shown in Table 38 and Table 39.

Table 38: Gravity test results (80% passing 75 µm)

Product	Mass		Content		Recovery (%)	
	g	%	Au g/t	S %	Au	S
>1.7 mm	51.72	0.52	12.23	0.13	5.00	0.14
Pan concentrate	11.70	0.12	479.00	40.00	44.34	9.53
Residue	95.27	0.95	11.85	3.67	8.93	7.12
Tailings	9,841.31	98.41	0.54	0.42	41.73	83.21
Feed	**10,000.00**	**100.00**	**1.26**	**0.49**	**100.00**	**100.00**

Table 39: Flotation test results (gravity tail)

Product	Mass		Content		Recovery (%)	
	g	%	Au g/t	S %	Au	S
Concentrate	16.43	0.82	37.50	27.06	53.75	55.51
Mid. Product 2	53.30	2.67	1.47	4.38	6.85	29.15
Mid. Product 1	31.20	1.56	2.79	3.33	7.59	12.97
Final tailings	1,899.07	94.95	0.19	0.010	31.81	2.37
From gravity test № 2	2,000.00	100.00	0.57	0.400	100.00	100.00

The combined gravity-flotation recovery of 85% was lower than achieved by flotation alone, thus a gravity stage is not economically justifiable in the final circuit.

13.3 Metallurgical Data Interpretation and Predictions

13.3.1 Preferred Process Option

Test-work carried out by Eurotest investigated the following process options:

- Gravity
- Whole mineralization cyanidation leach – conventional CIL technology
- Flotation – production of a gold-bearing pyrite concentrate
- Cyanidation leach of the flotation concentrate
- Gravity-flotation.

Based on the metallurgical performance obtained from the 2018 testwork carried out at Eurotest, the Rozino mineralization will be treated using flotation technology to produce a gold-bearing sulphide concentrate for downstream processing.

Tests indicate that the gold-bearing sulphide concentrate is readily amenable to processing using conventional CIL.

13.3.2 Predicted Metallurgical Recovery

Based on results of LCTs carried out on the master composite sample the expected gold recovery to the gold-bearing sulphide concentrate in the Floatation Plant is 91.4% gold recovery, at a final concentrate grade of 26.1 g/t gold.

Results of LCTs indicate that the gold can be recovered into a low concentrate mass of 4.4% by weight.

The expected gold extraction, from the flotation concentrate, by conventional CIL in the CIL Plant is 87.5% (without regrinding). To take into account solution losses in the CIL and losses to slag during smelting, the gold extraction by CIL is adjusted to 99% elution plant recovery.

Hence, the overall expected gold recovery to doré is 91.4% (Flotation Plant) x 87.5% (CIL Plant) x 99% (solution losses/gold room) = 79.2%.

13.3.3 Predicted Reagent Consumption

The predicted reagent consumptions in the CIL circuit are expected to be 5 kg/t caustic and 3.1 kg/t cyanide. Future concentrate leach tests will aim to test lime as the pH modifier in the CIL circuit.

13.3.4 Predicted Leach Cycle Time

Leach residence time in the concentrate leach circuit is expected to be between 36 hours and 48 hours.

14 Mineral Resource Estimates

14.1 Introduction

The author estimated recoverable resources for Rozino by Multiple Indicator Kriging (MIK) with block support correction, a method that has been demonstrated to provide reliable estimates of resources recoverable by open pit mining for a wide range of mineralization styles. The general modelling approach is consistent with that used for the March 2018 Mineral Resource estimates (Abbott, 2018).

The estimates are based on diamond drilling data supplied by Velocity in May 2018. Details of this sampling and assay are described in previous sections of this report.

The estimates are reported below a topographic wireframe produced by Velocity from DGPS surveys.

Micromine software was used for data compilation, domain wireframing and coding of composite values and GS3M was used for resource estimation. The resulting estimates were imported into Micromine for resource reporting.

The Mineral Resource estimates have been classified and reported in accordance with NI 43-101 and the classifications adopted by CIM Council in May 2014 (CIM, 2014). The estimates are classified as Inferred, primarily reflecting the drill-hole spacing and uncertainty over the reliability of sampling data collected prior to Velocity's involvement.

14.2 Resource Dataset

The compiled sampling database includes 197 diamond holes for 31,338 m of drilling completed by Velocity, along with Hereward and Asia Gold during the mid-2000s and vertical holes completed by Geoengineering in the 1980s (Table 9).

Although data from surface trenches and Geoengineering drilling were used to aid mineralized domain interpretation, these data were excluded from the Estimation Dataset, which comprised angled diamond holes drilled by Hereward, Asia Gold and Velocity.

Surface trench samples were excluded from the resource dataset, along with peripheral drill-holes not relevant to the estimates. The Estimation Dataset comprises composited gold grades from 90 diamond holes for 13,588 m. Relative to the dataset available for the March 2018 estimates, the current sampling database contains assay results for an additional 12 holes for 1,580 m of drilling.

The Estimation Dataset comprises 6,734 composites with gold grades ranging from 0.00 g/t to 154.1 g/t and averaging 0.50 g/t. Samples from Velocity's diamond drilling provide 67% of the Estimation Dataset, with angled diamond holes drilled by Hereward and Asia Gold contributing 28% and 5%, respectively.

14.3 Mineralization Interpretation and Domaining

The Inferred Mineral Resource estimates are constrained within a mineralized domain interpreted from 2 m down-hole composited gold grades and geological logging from diamond drilling and surface trenches. The mineralized domain captures intervals of greater than 0.1 g/t with the lower boundary reflecting the contact between variably mineralized sedimentary rocks and un-mineralized basement. Domain boundaries were digitized on cross-sections aligned with Velocity's drilling traverses with snapping to drill-hole traces where appropriate, and wireframed into a three-dimensional solid. Data from the vertical Geoengineering holes and surface trenches were used to aid domain interpretation.

Velocity supplied surfaces representing the base of oxidation and the top of fresh rock interpreted from drill-hole logging which were used for density assignment. Within the resource area the depth to the base of complete oxidation averages around 8 m with fresh rock occurring at an average depth of around 19 m.

Subset to the resource area, the domain covers an area around 700 m by 800 m and extends to a maximum depth of 190 m. Figure 22 shows the surface expression of the mineralized domain relative to the resource model extents and drill-hole traces coloured by drilling phase. Figure 23 presents an example cross-section of the resource domains relative to drill-hole traces coloured by composited gold grade.

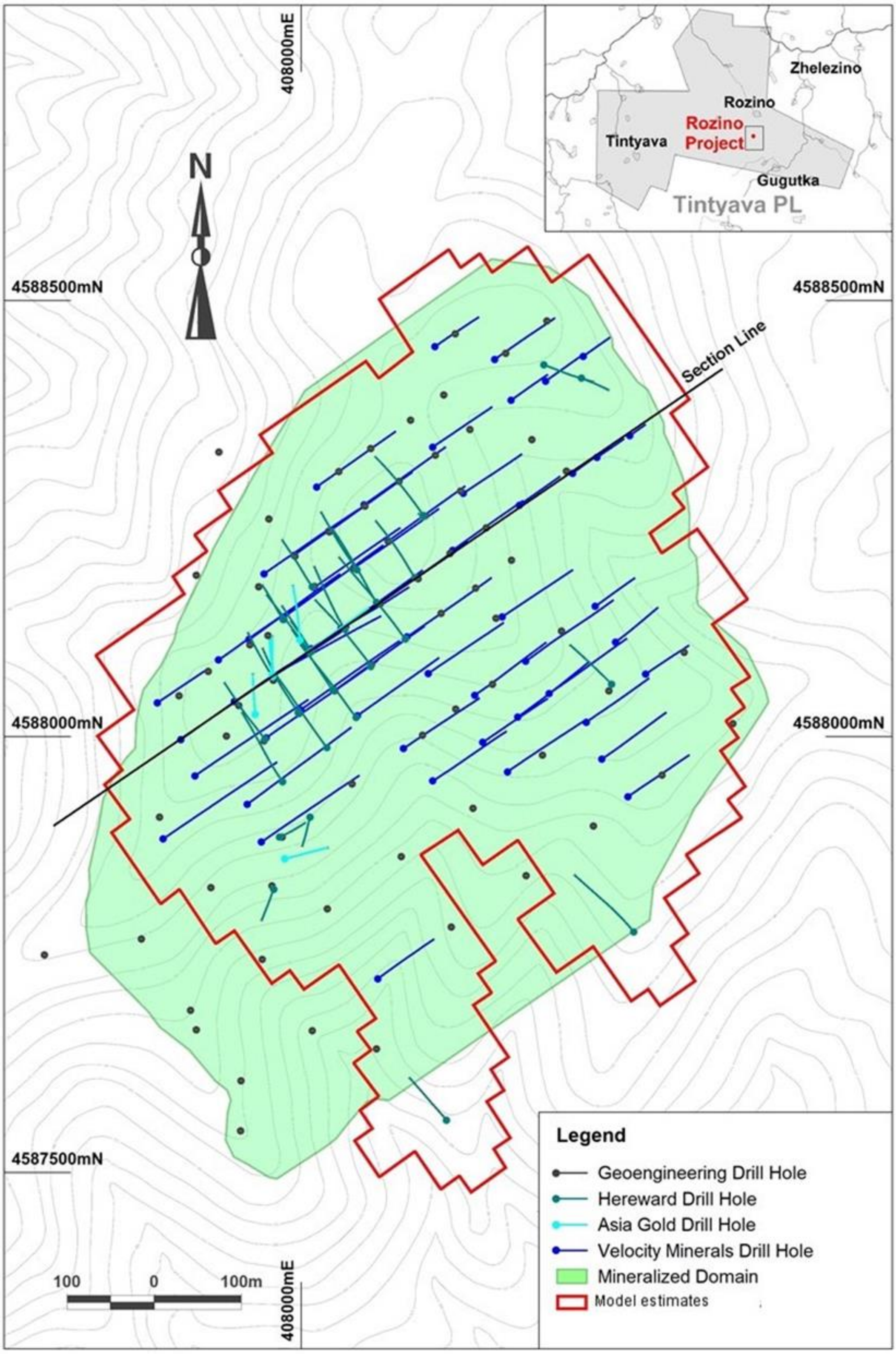


Figure 22: Drill-hole traces and surface expression of mineralized domain

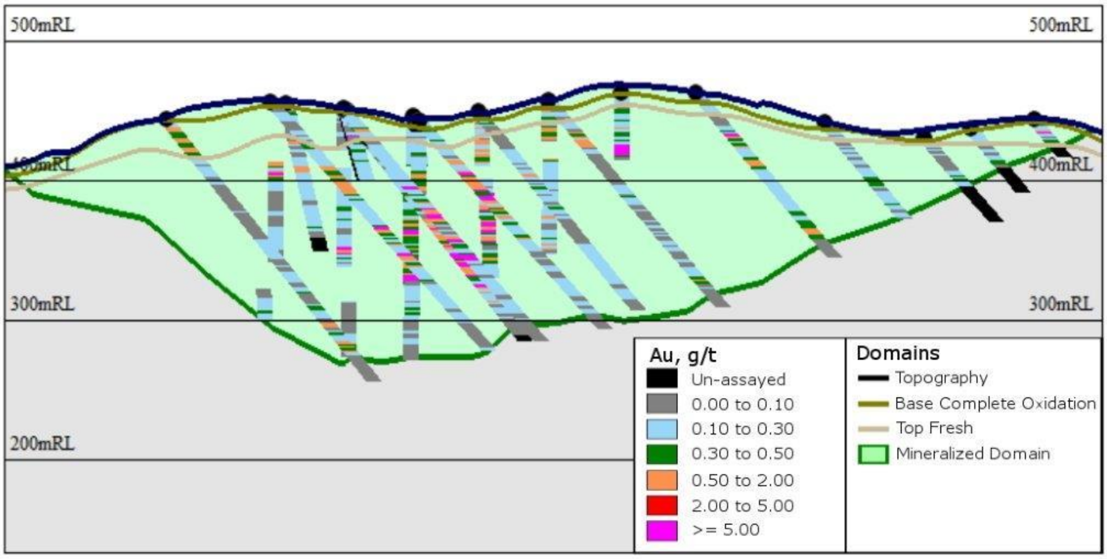


Figure 23: Example cross-section of mineralized domain and drill traces

14.4 Estimation Parameters

14.4.1 Indicator Thresholds and Bin Mean Grades

Indicator thresholds were defined using a consistent set of percentiles representing probability thresholds of 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.85, 0.9, 0.95, 0.97 and 0.99 for data in each domain (Table 40).

Indicator class grades used for the MIK modelling were determined from the mean gold grade of each indicator class. The impact of extreme grades on estimates was reduced by cutting seven outlier composites with gold grades of greater than 40 g/t for determination of the mean grade for the highest indicator class. This approach was adopted to reduce the impact of a small number of outlier composites. In the author's experience this approach is appropriate for MIK modelling of highly variable mineralization such as Rozino. No high-grade composites were excluded from the Estimation Dataset and the entire composite dataset was used for the MIK modelling.

Table 40: Mineralized domain indicator thresholds and class grades

Percentile	Threshold (Au g/t)	Mean (Au g/t)	Comment
10%	0.040	0.022	
20%	0.055	0.049	
30%	0.090	0.072	
40%	0.126	0.107	
50%	0.172	0.148	
60%	0.239	0.204	
70%	0.336	0.286	
75%	0.404	0.369	
80%	0.508	0.454	
85%	0.670	0.585	
90%	0.974	0.802	
95%	1.596	1.229	
97%	2.255	1.902	
99%	5.561	3.380	
100%	154.100	20.182	Assigned 14.06 g/t

14.4.2 Variogram Models

Indicator variograms used for MIK modelling were derived from those used for the March 2018 modelling. This approach is justified by the comparatively small change in the Estimation Dataset and stage of project evaluation. These variograms were modelled for each indicator threshold from the mineralized domain composites (Table 41). For determination of variance adjustment factors a variogram was modelled for composite gold grades. The spatial continuity observed in the variograms is consistent with geological interpretation and trends shown by resource composite gold grades.

Table 41: Variogram models

Rotation relative to model axes (y-15)							
Percentile	Nugget	First Structure (Exponential)		Second Structure (Spherical)		Third Structure (Spherical) (Spherical)	
		Sill	Range (x,y,z)	Sill	Range (x,y,z)	Sill	Range (x,y,z)
10%	0.20	0.40	25,23.5,7.5	0.22	52,48,15	0.18	170,93,110
20%	0.19	0.40	26,45,6.5	0.16	70,53,54	0.25	187,83,170
30%	0.18	0.35	29,35,7	0.21	74,87,33	0.26	178,98,230
40%	0.18	0.35	29,30,7	0.21	68,70,45	0.26	182,133,148
50%	0.19	0.32	26,28,6.5	0.24	67,66,29	0.25	167,147,878
60%	0.20	0.32	25,44,6.5	0.24	66,52,26	0.24	134,150,936
70%	0.21	0.34	27,32,7	0.22	87,53,23	0.23	103,164,204
75%	0.23	0.34	28,20,7	0.22	92,43,25	0.21	101,181,153
80%	0.24	0.34	25,25,7	0.22	81,32,22	0.20	102,126,118
85%	0.26	0.36	23,39,7.5	0.20	77,50,14	0.18	101,92,379
90%	0.27	0.42	25,24,7	0.14	97,45,16	0.17	99,75,489
95%	0.31	0.44	25,23,6.5	0.12	80,48,17	0.13	100,85,374
97%	0.33	0.53	24,25,6	0.05	60,50,83	0.09	90,80,440
99%	0.39	0.57	20,25,6	0.03	30,48,8	0.01	52,75,95
100%	0.30	0.04	16,30,4	0.55	35,41,5	0.11	92,84,34
Au g/t	0.20	0.40	25,23.5,7.5	0.22	52,48,15	0.18	170,93,110

14.4.3 Block Model Dimensions

The block model frame work used for the MIK modelling covers the full extents of the composite dataset. The model is aligned with the 055 trending Velocity drilling traverses and includes panels with dimensions of 25 m by 15 m by 5 m vertical. The plan-view panel dimensions reflect drill-hole spacing in more closely drilled portions of the deposit.

14.4.4 Search Criteria

The three progressively more relaxed search criteria used for MIK estimation are presented in Table 42. The search ellipsoids were aligned with dominant domain orientation.

Table 42: Search criteria

Search	Radii (m) X,Y,Z	Minimum data	Minimum octants	Maximum data
1	50,50,8	16	4	48
2	100,100,8	16	4	48
3	100,100,8	8	2	48

14.4.5 Variance Adjustment

The Resource estimates include a variance adjustment to give estimates of recoverable resources above gold cut-off grades for SMU dimensions of 4 m east by 6 m north by 2.5 m in elevation. The variance adjustments were applied using the direct lognormal method and the adjustment factors listed in Table 43.

Table 43: Variance adjustment factors

Block/Panel	Information effect	Total adjustment
0.293	0.866	0.254

14.5 Bulk Density Assignment

Estimated Resources include densities of 2.31 t/bcm, 2.41 t/bcm and 2.58 t/bcm for oxide, transitional and fresh material respectively. These values are based on the average of the available density measurements

The author considers that the available measurements have established average mineralization densities with sufficient accuracy for the current Inferred Mineral Resource estimates. Comparatively few measurements available for transitional material and very few are available for the oxide zone. Average densities of these zones have not been established with the same degree of confidence as for fresh mineralization.

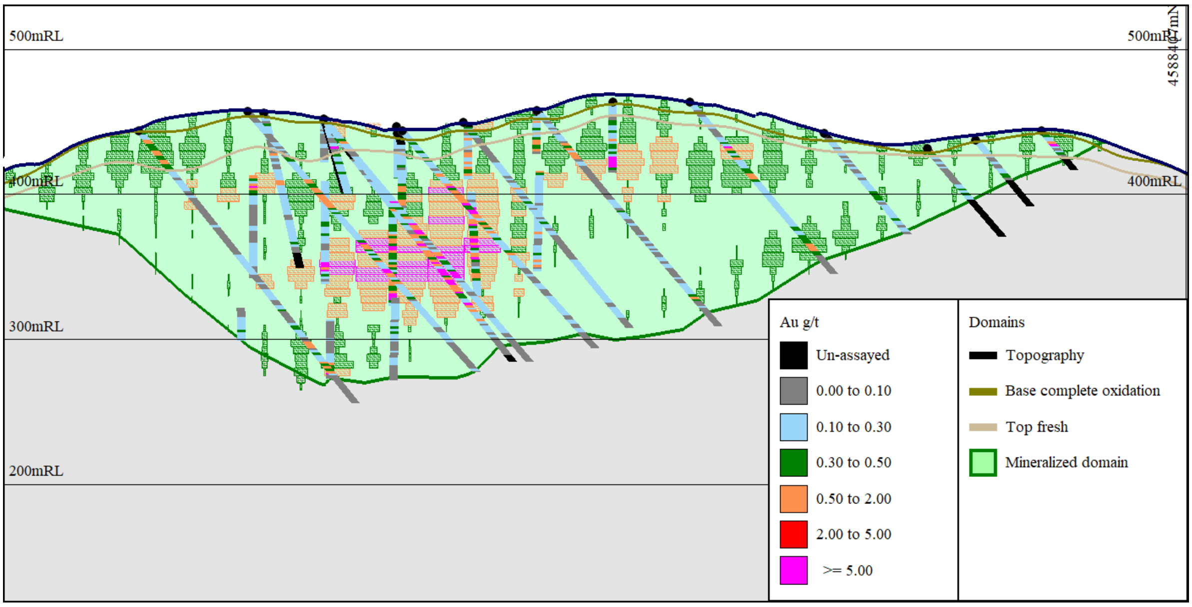
Oxide and transitional material represent around 13% and 16% of estimated Resources respectively and the lack of comprehensive density measurements for these zones does not significantly affect confidence in the current Inferred Mineral Resources.

14.6 Model Reviews

Model reviews included comparison of estimated block grades with informing composites. These checks comprised inspection of sectional plots of the model and drill data and review of swath plots and showed no significant issues.

Figure 24 shows a representative cross-section of the Rozino resource model. This plot shows model panels scaled by the estimated proportion above 0.5 g/t cut-off and coloured by the estimated gold grade above this cut-off relative to the resource domains and drill-hole traces coloured by 2 m composited gold grades.

It should be noted that when viewing the vertical section through the resource model there are situations where the model blocks appear to be un-correlated to the mineralized intercepts in the neighbouring drill-holes. This is occurring because of the way the resource models have been presented. The model blocks plotted are only those that contain an estimated resource above 0.5 g/t Au cut-off and the proportion above cut off has been used to scale the dimensions of the model block for presentation purposes. The scaling occurs about the model block centroid coordinate and therefore introduces the apparent mismatch between data and the resource model blocks.



Section line, looking northwest

Figure 24: Example cross section of the model estimates at 0.5 g/t gold cut-off

The swath plots in Figure 25 compare average estimated mineralized domain panel grades and average composite grades by model axes. The average composite grades include an upper cut of 40 g/t which represents 99.9th percentile of mineralized domain composites and reduces the impact of a small number of outlier composite gold grades of up to 154.1 g/t.

The plots in Figure 25 show that although, as expected, average block grades are smoothed compared to average composite grades they generally closely follow the trends shown by composite mean grades with the exception of areas of variably spaced or limited sampling. There are minor local deviations between the model and composite trends seen on the plots and these are influenced due to the following features;

- The data used in the estimation of the MIK panel grades are coming from a greater volume than the vertical slices being compared which are consistent with model panel dimensions
- Areas of variable spacing, with drilling preferentially clustered in higher, or lower-grade mineralization causes apparent inconsistencies between average composite and model grades as presented in the swath plots.

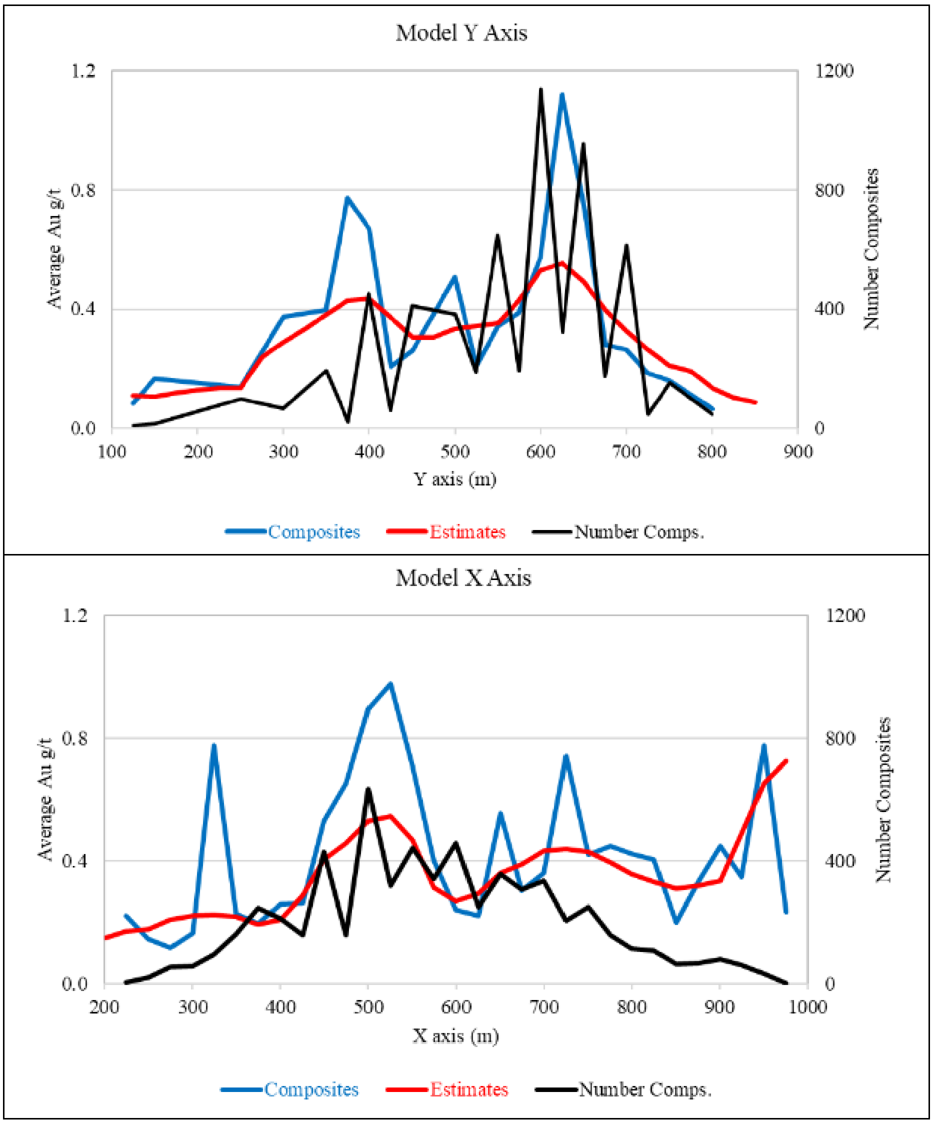


Figure 25: Average panel grades versus composite grades

14.7 Mineral Resource Estimate

Table 44 shows the Inferred Mineral Resource estimates for Rozino for a range of cut-off grades. The figures in this table are rounded to reflect the precision of the estimates and include rounding errors.

Estimated Mineral Resources extend to the base of mineralized drilling at around 190 m depth, with around 90% of estimates from depths of less than 105 m and less than 1% from below 140 m.

Assessment of the economic potential of the Rozino mineralization is at an early stage of evaluation. Mineral Resources that are not Mineral Reserves do not have demonstrated economic validity. The extents to which mining, metallurgical, marketing, infrastructure, permitting, marketing and other financial factors may affect the Mineral Resource estimates are not well defined.

Table 44: Rozino Inferred Mineral Resource estimates

Effective date of estimates: 10 September 2018			
Cut-off (Au g/t)	**Tonnes (Mt)**	**Grade (Au g/t)**	**Metal (Au koz)**
0.2	50	0.59	948
0.3	31	0.80	797
0.4	22	0.98	693
0.5	17	1.17	639
0.6	13	1.37	573
0.7	9.7	1.57	490
0.8	7.8	1.78	446
0.9	6.4	1.98	407
1.0	5.4	2.18	378
1.2	4.0	2.56	329
1.5	2.8	3.07	276

15 Mineral Reserve Estimate

The Rozino Project reviewed in this Technical Report does not have defined Mineral Reserves, since current Mineral Resources are classified in the Inferred category under CIM guidelines. However, a PEA has been completed based on Inferred Mineral Resources. A summary of PEA study work is contained in Sections 16 to 22 below.

It should be noted that the Preliminary Economic Assessment is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that the economic results of the Preliminary Economic Assessment will be realised.

16 Mining Methods

16.1 Mineral Resource Estimate Block Model

The geological Resource model was created by MPR, as at 12 September 2018 and the final version used in the PEA in September 2018. Wireframe solids for the topography, ore zones, domains, structures and ancillary wireframe data was obtained from Velocity.

The Mineral Resource estimate block model supplied used a MIK technique of estimation for a range of cut-off grades in 0.1g/t gold increments from 0.2 to 1.0 and additionally 1.2g/t gold and 1.5 g/t gold, including fields for resource classification, proportion and grades fields at each cut-off:

Waste was included in the Mineral Resource estimate model.

16.2 Engineering Model Generation

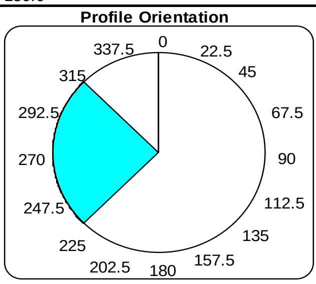
In order to prepare the Mineral Resource estimate block model for import into the pit optimization software, the following model generation steps were undertaken:

- Mineral Resource estimate model file imported in Graphical Mining Package
- Model generated on rotated framework
- Oxide, transitional and fresh wireframe surfaces used to define geotechnical zones
- Model sub-celled to topography
- Mineral Resource estimate validation of tonnes, grade and density to original model import revealed no material differences
- Model sub-celled further in the Z axis for a series of cut-offs splitting into "above cut-off" material and "below cut-off" materials
- Mining cost adjustment factors ("MCAF") were calculated based on pit depth and cost increase factors.

16.3 Pit Slopes

The overall slope angle ("OSA") for the open pit was set to 30° for the weathered material (Regolith and Oxide), 35° for the transitional and 45.3° for fresh material. These material types were coded into the block model. The Western sector of the pit required a flatter OSA for the fresh material and required an OSA of 40°.

Depth (m)	BSA (degrees)	IRA (degrees)	OSA (degrees)
Section 1			
0.0			
-20.0	37.8	29.9	29.9
Section 2			
-20.0			
-40.0	51.6	41.9	35.0
Section 3			
-40.0			
-150.0	43.4	41.9	39.8
Section 4			
-150.0			
-150.0			
Section 5			
-150.0			
-150.0			



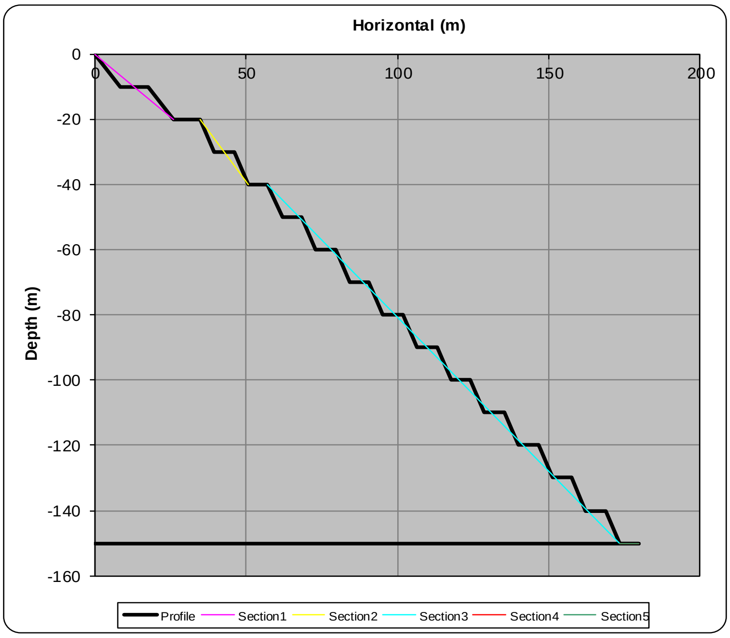
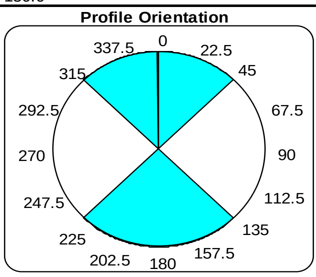


Figure 26: Geotechnical slope recommendations for west pit sector

Depth (m)	BSA (degrees)	IRA (degrees)	OSA (degrees)
Section 1			
0.0			
-20.0	37.8	29.9	29.9
Section 2			
-20.0			
-40.0	51.6	41.9	35.0
Section 3			
-40.0			
-150.0	51.8	50.3	45.3
Section 4			
-150.0			
-150.0			
Section 5			
-150.0			
-150.0			



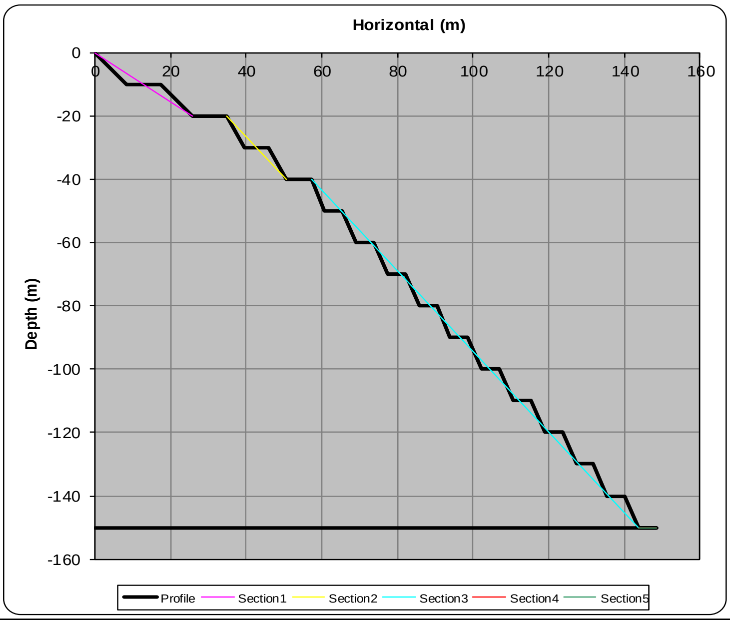


Figure 27: Geotechnical slope recommendations for north, east and south pit sectors

16.4 Metal Price and Selling Cost

The pit optimizations and LOM production profile are based on a metal price of US$1,250/Troy oz. A two- and three-year trailing price has considered, to determine the gold price used in the optimizations.

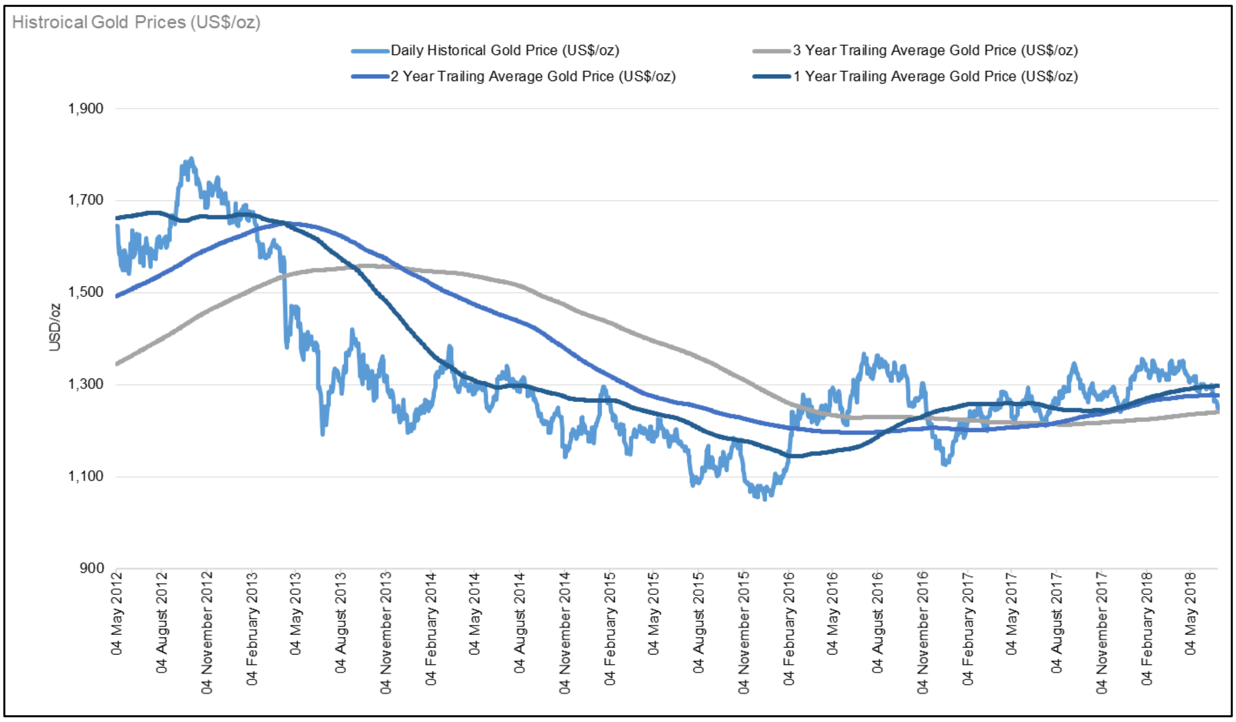


Figure 28: Trailing average gold price determination

16.5 Mining Depletion

For the purposes of Mining Depletion, the Rozino deposit is a "greenfields" project and no significant historical depletion has been noted.

16.6 Mining Recovery and Dilution

Mining modifying factors for mining recovery and dilution were kept at unity for the purposes of the PEA. The Mineral Resource estimate has been estimated using a MIK technique that estimate the average grade within an SMU at particular cut-offs within the defined "panel". Spatially the location of the SMU is not defined however it estimates that the SMU will be minable at a particular cut-off. Due to the SMU principle, no additional dilution or mining loss has been applied in the optimization. This is considered acceptable practice at PEA level of study.

16.7 Metallurgical Parameters

Following the results of the metallurgical test-work, the below metallurgical parameters have been used in the pit optimizations:

1) A metallurgical recovery of 91.4% was used for the proposed Flotation Plant to be constructed at Rozino. Concentrate produced at 30 g/t gold resulting in a 4.4% mass pull.
2) The existing CIL Plant leach recovery of 87.5% and gold room recovery of 99% resulting in an 86.6% CIL recovery to doré.
3) An overall metallurgical recovery of 79.2% was used in the pit optimization process for the Rozino Floatation Plant and CIL Plant recovery to doré.
4) A 4.4% mass pull and 8% moisture in concentrate has been used to determine the mass of concentrate required to be transported to the CIL Plant.

16.8 Mineral Royalty

Bulgarian state royalties are determined at the time of granting of a mining licence based upon projected profitability of the operation in line with the mining plan submitted to the government. Royalties are generally between 0.5 and 2.5% NSR.

A deduction of 2% was made to account for royalty payments resulting in a revenue deduction of US$25/oz (payable).

16.9 Smelting and Refining

An additional refining cost of US$4.5/oz has been allowed for in the pit optimization.

16.10 Exchange Rate

An exchange rate of CAD$1.00 to US$0.75 was used in the optimization where applicable.

16.11 Mining Production and Processing Limit

The processing tonnage limit was tested at 3,000 t/d, 4,000 t/d and 5,000 t/d to determine optimal throughput. Two calendar quarters have been allowed for site establishment activities (mining) and one quarter for Flotation Plant ramp-up.

Based on this and an expected maximum strip ratio of 3:1 (waste:ore), a total mining tonnage limit of 7.0 Mtpa was derived for the 5,000 t/d scenario.

16.12 Constraints

Constraints in the open pit optimization typically consist of mining, processing and element selling limits. The following constraints/target were used in the various open pit optimizations.

Table 45: Constraints in the open pit optimization

Constraint/Target	Units	Constraint/Target
Total mined tonnage	Mtpa	7.0
Ore tonnage	Mtpa	1.75
Processing throughput	Mtpa	1.75
Element limit	oz/yr	Nil

No geographical constraints were identified surrounding the Rozino deposit that required the optimization to be constrained. No areas were excluded from the pit optimization by the application of "heavy-blocks" or excessive MCAFs. Environmentally sensitive and private ownership areas and water catchment areas were considered during the conceptual placement of infrastructure (tailings management facility, water storage dam, plant location and waste rock dump).

16.13 Mining Cost

Operating costs for mining have been developed from international benchmarked contractor mining rates based on similar-sized mining operations utilizing similar mining equipment for drill and blast, load and haul, support equipment and incremental depth increases in cost. The mining costs in addition also allow for dewatering, re-handle and grade control drilling. The unit costs have been used in conjunction with the detailed bench mining schedule to develop a cost profile commensurate with the mining plan.

The mining costs comprise of:

- A reference load and haul cost of US$0.77 and US$0.85/tonne for waste and ore respectively

- A drill and blast cost for basalt of US$0.81 and US$0.97/tonne for waste and ore respectively (including pre-splits in final walls)
- Ancillary and support equipment at US$0.07/tonne
- A contractor monthly management fee of US$110,000/month
- A pit dewatering cost of US$0.16/tonne
- A grade control drilling cost of US$0.7/tonne ore
- An additional US$0.68/tonne has been applied to the processing cost to allow for the ore incremental cost (ore re-handle, blast pattern differences, etc.)
- A load and haul incremental cost, to allow for longer hauling distances as the pit deepens, was set at US$0.10/tonne for volumes mined below 390 m above mean sea level (AMSL), and US$0.07/tonne for volumes mined above 390 m AMSL
- The reference mining cost (waste at 390 m AMSL) is US$2.65/tonne mined.

Table 46: Mining costs

Mining costs		**Units**	
Reference elevation		m AMSL	390
Reference drill and blast		**US$/t**	**1.16**
Oxide – Waste		US$/t	0.47
Trans – Waste		US$/t	0.87
Fresh – Waste		US$/t	0.81
Oxide – Ore		US$/t	0.64
Trans – Ore		US$/t	1.04
Fresh – Ore		US$/t	0.97
Reference load and haul		**US$/t**	**0.77**
Oxide – Waste		US$/t	0.89
Trans – Waste		US$/t	0.76
Fresh – Waste		US$/t	0.77
Oxide – Ore		US$/t	0.91
Trans – Ore		US$/t	0.73
Fresh – Ore		US$/t	0.85
Dewatering cost		US$/t	0.16
Ancillary and support equipment		US$/t	0.07
Grade control cost		US$/$t_{ore}$	0.70
Ore re-handle cost (33%)	33%	US$/$t_{ore\ dry}$	0.33
Rehabilitation costs		US$/t	0.00
Ore incremental cost – Oxide		US$/$t_{ore}$	0.62
Ore incremental cost – Trans		US$/$t_{ore}$	0.58
Ore incremental cost – Fresh		US$/$t_{ore}$	0.68
Extra over – hauling		US$/t/100m	0.020
MCAF – Positive		US$/t/Vm	0.007
MCAF – Oxide		US$/t/Vm	0.010
MCAF – Trans		US$/t/Vm	0.010
MCAF – Fresh		US$/t/Vm	0.010
Reference Mining Cost		***US$/t***	***2.65***
Monthly Management Fee		**US$/month**	**110,000**
Reference Mining Cost @ SR 2.5:1		***US$/month***	***2.87***

16.14 Processing Cost

The Rozino flotation processing costs have been developed from international benchmarked operating costs based on similar-sized processing plant and adjusted for local energy and reagent costs.

Table 47: Processing costs

Processing costs (float plant)	Units	
Processing variable costs	**US$/t**	**3.68**
Labour	US$/t	0.09
Power	US$/t	1.06
Maintenance	US$/t	1.12
Spares	US$/t	0.99
Reagents	US$/t	0.32
Assaying	US$/t	0.10
Fixed Cost Portion	**US$/month**	**102,094**
Total Fixed Cost	***US$/month***	***102,094***
Total Variable Cost	***US$/t***	***3.68***
Total Applied Cost	***US$/t***	***4.42***

The CIL Plant processing costs have been developed from Gorubso's actuals and budget and adjusted based on required throughput of concentrate.

Table 48: Gorubso processing costs

Processing costs (Gorubso CIL plant)	Units	
Processing costs	**US$/t**	**39.03**
Labour and associated costs	US$/t	11.60
Administrative costs	US$/t	3.28
External services	US$/t	0.40
Reagents/Chemicals	US$/t	9.20
Materials	US$/t	3.52
Power	US$/t	5.31
Maintenance	US$/t	0.32
Fuels and oils	US$/t	5.40
Fixed Cost Portion	**US$/month**	**111,393**
Total Fixed Cost	***US$/month***	***111,393***
Total Variable Cost	***US$/t***	***21.21***
Total Applied Cost	***US$/t***	***39.03***

For the purposes of the pit optimization, all fixed cost components were added to the processing cost and include:

- Ore incremental cost
- Contractor monthly managements fee
- General and administrative monthly costs
- Off-mine fixed costs.

16.15 On-Mine Costs

On-mine costs largely comprise of general and administrative costs and have been calculated from first principles based on local labour rates (derived from similar operations within the region) and includes provision for stores and equipment.

Table 49: On-mine costs

On-mine costs	Units	
Fixed		**257,100**
Administration	US$/month	82,422
Production Supervisory	US$/month	13,549
Technical Services	US$/month	49,684
Human Resources	US$/month	12,226
Health and Safety	US$/month	64,509
Security	US$/month	34,709
Total Applied Cost	***US$/t***	***1.85***

16.16 Off-Mine Costs

A concentrate transport cost of US$0.14/tonne has been used to calculate the cost attributable to the transportation of the gold-bearing concentrate. The concentrate is required to be trucked 85 km to the CIL Plant, equating to an additional transport cost of US$11.9/tonne concentrate or US$0.6/tonne milled ore.

16.17 Environmental Provision

An environmental provision of US$0.75/tonne ore has been applied for the purposed of site rehabilitation following the end of the LOM.

16.18 Sustaining Capital Provision

A 4% sustaining capital provision has been applied in the optimizations and equates to US$0.44/tonne ore.

16.19 Discount Rate

An 8% discount rate has been applied in the optimizations for the purposes of calculating discounted future cash flows.

16.20 Operating Cost Summary

The total operating cost summary is presented in Table 50 below.

Table 50: Operating costs

Total operating costs	Units	
Reference mining cost	US$/$t_{ore}$	2.65
Ore incremental cost – Oxide	US$/$t_{ore}$	0.62
Ore incremental cost – Trans	US$/$t_{ore}$	0.58
Ore incremental cost – Fresh	US$/$t_{ore}$	0.68
Flotation – Rozino	**US$/t ROM**	4.42
Variable processing cost	US$/t ROM	3.68
Fixed processing cost	US$/month	102,094
CIL – Gorubso	**US$/t ROM**	1.69
Variable processing cost	US$/t ROM	0.88
Fixed processing cost	US$/month	111,393
On-mine costs	US$/month	257,100
Off-mine costs	US$/month	82,147
Contractor fixed cost	US$/month	110,000
Environmental provision	US$/t ROM	0.75
Sustaining capex provision	US$/t ROM	0.43
Total Fixed Cost	***US$/month***	**662,734**
Total Variable Cost	***US$/t***	**13.35**
Total Applied Cost – Fresh	***US$/t***	**13.84**
Total Applied Cost – SR 2.5	***US$/t***	**20.47**

16.21 Cut-Off Grade Calculation

The cut-off grade calculation based on the cost summary above is shown below. A simplified cut-off grade equation is shown below.

$$Cutoff\ Grade = Cost/((Price - Selling\ Cost)\ x\ Metallurgical\ Recovery)$$

The cut-off for the Rozino deposit is calculated as:

1) 0.35 g/t gold for cost applied to processing (no mining costs applied).
2) 0.45 g/t gold for breakeven for mining and processing ore.
3) 0.65 g/t gold for breakeven for mining at strip ratio of 2.5.

Following a series of trade-offs of cut-off grade and processing throughput a 0.6 g/t gold cut-off grade was selected as the base case presenting favourable economic and mine life.

16.22 Project Schedule Assumptions

Mining is planned to start Q1 2022 (contractor site and services establishment are planned six months ahead of feeding ore to the processing facility for wet commissioning and ramp-up, i.e. Q2 2022).

The flotation processing facility with a nameplate capacity of 1.75 Mtpa is planned to start wet commissioning in Q2 2022, ramping up to nameplate capacity by H2 2022.

Procurement of long lead items is planned for Q1 2020 with site construction starting in H2 2020.

16.23 Pit Optimization

16.23.1 Pit Optimization Process

A series of pit shells were determined by varying the price factor in equal incremental steps of from ~30% of metal price up to a maximum of 200%. The pit limit was selected at a price factor of 100% in order to maximise the mineral inventory with immaterial changes to the indicated discounted pit value. A set of interim pit-shells were selected based on suitable minimum mining widths in the selection of the pushbacks.

16.23.2 Pit Optimization

The standard Lerch-Grossman (LG) pit optimization was run to determine the economic limits for the deposit. The block value for mineralized material was estimated from the revenue and costs discussed above and “Geological Potential” Resources were treated as waste.

16.23.3 Optimization Results

Run 0 formed the basis of the production schedule for the mining study. The selected option is inclusive of Inferred material only. The purpose of this optimization is to provide a key mechanism in determining the open pit potential of the Rozino deposit.

The open pit optimization software, following the generation of incremental nested pit shells will generate three sequencing alternatives (for the purpose of final pit size selection), namely; Worst Case, Specified Case and Best Case. The sequencing alternatives can be described as follows:

1) The “Best Case” refers to each incremental pit shell being mined completely before mining the next incremental pit shell. This case represents an increasing stripping ratio scenario and will produce the highest theoretical discounted pit value (green line in Figure 29). This case is typically not considered practical as mining equipment and blasting techniques require a minimum mining width in which to operate successfully.
2) The “Worst Case” refers to the incremental pit shells being mined in horizontal “slices” in a top-down approach. This case represents a decreasing stripping ratio scenario and will produce the lowest theoretical discounted pit value as significant waste stripping is required upfront (red line in Figure 29). This is considered practical; however, increased mining costs upfront reduce the discounted pit value significantly.
3) The “Specified Case” refers to the selection of a number of interim pit shells that meet minimum mining width requirements. The selection of a number of practical “pushbacks” or “cutbacks” allows practical sequencing and control over ore and waste stripping targets to obtain the highest value practically mineable extraction sequence (blue line in Figure 29). Depending on orebody geometry, the selection of pushbacks may produce a constant, increasing or decreasing stripping ratio over the LOM.

The Rozino open pit optimization pit shell selection is based on the Specified Case (indicated by the blue line in Figure 29).

Pit shell 36 (revenue factor 1.0 pit shell) was chosen as the largest pit within a 1% indicated discounted pit value peak of the optimal pit 34.

Pit shell 36 formed the basis of the production schedule and financial analysis.

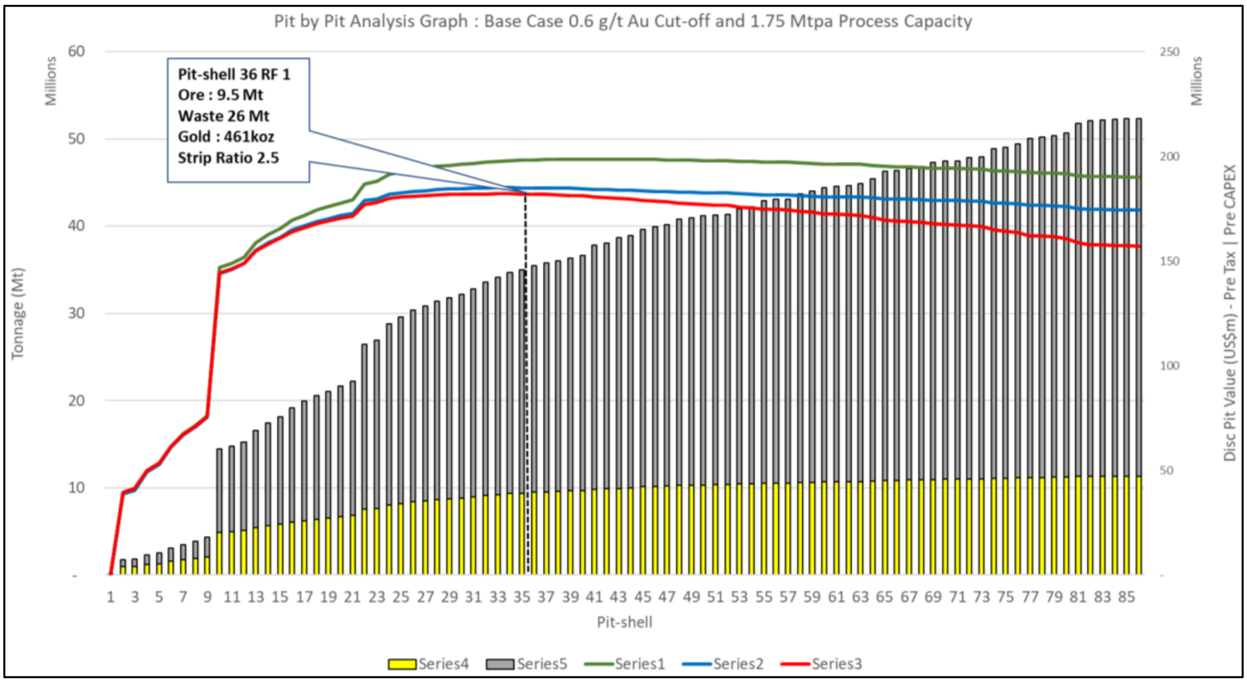


Figure 29: Pit-by-pit analysis graph

The pit-by-pit analysis graph in Figure 29 shows an optimal pit value at pit shell 34. Pit shell 22 through to pit shell 36 demonstrate that the indicated discounted pit value changes within ± 5% of the peak pit value, indicating that the Rozino pit value appears relatively robust for a range of ultimate final shells (26 Mt to 35 Mt total ore and waste).

16.23.4 Pit Optimization

The following pit size sensitivities were conducted to determine the robustness of the Rozino pit to changes in economic and technical conditions:

- Run 1 – 0.4 g/t cut-off 1.0 Mtpa processing throughput
- Run 2 – 0.4 g/t cut-off 1.45 Mtpa processing throughput
- Run 3 – 0.4 g/t cut-off 1.75 Mtpa processing throughput
- Run 4 – 0.5 g/t cut-off 1.0 Mtpa processing throughput
- Run 5 – 0.5 g/t cut-off 1.45 Mtpa processing throughput
- Run 6 – 0.5 g/t cut-off 1.75 Mtpa processing throughput
- Run 7 – 0.6 g/t cut-off 1.0 Mtpa processing throughput
- Run 8 – 0.6 g/t cut-off 1.45 Mtpa processing throughput
- **Run 9 – 0.6 g/t cut-off 1.75 Mtpa processing throughput (“Base Case”)**
- Run 10 – 0.7 g/t cut-off 1.0 Mtpa processing throughput
- Run 11 – 0.7 g/t cut-off 1.45 Mtpa processing throughput
- Run 12 – 0.7 g/t cut-off 1.75 Mtpa processing throughput.

Table 51: Pit optimization sensitivities for the Rozino deposit

Scenario	DCF (US$M)	Ore (Mt)	Waste (Mt)	ROM grade (g/t)	Payable metal (koz)	LOM (quarters)	Strip ratio (Wt:Ot)
Run 1	124.4	14.8	21.3	1.1	433.3	57.2	1.4
Run 2	159.0	14.9	21.3	1.1	433.7	42.4	1.4
Run 3	181.0	14.9	21.3	1.1	433.7	34.3	1.4
Run 4	128.5	11.9	24.3	1.3	400.1	46.8	2.0
Run 5	165.4	11.9	24.3	1.3	400.1	34.7	2.0
Run 6	184.5	11.9	24.3	1.3	400.1	28.1	2.0
Run 7	136.7	9.5	26.0	1.5	364.8	37.1	2.7
Run 8	168.7	9.5	26.0	1.5	364.8	28.0	2.7
Base Case	**184.9**	**9.5**	**26.0**	**1.5**	**364.8**	**23.0**	**2.7**
Run 10	140.3	7.6	26.7	1.7	332.3	30.4	3.5
Run 11	169.7	7.6	26.7	1.7	332.3	24.7	3.5
Run 12	182.2	7.6	26.7	1.7	332.3	19.8	3.5

Run 9 formed the basis of the pit design and financial modelling as it produced the best discounted pit value.

16.24 Pit Design

The selected economic pit shell (pit shell 36 of Run 9) was used as the basis for pit design. The pit design was evaluated against the pit optimization shells to ensure they no major deviations were present during the pit design. The ultimate design contained approximately 2% less ore and 4% larger than the optimized pit shell. This is considered reasonable considering the requirement for ramps and other practical mining considerations at a PEA level of study.

The mining operation is planned to be carried out via two intermediate and a final third cutback (phases 1 to 3). Interim cutbacks were not designed at a PEA level of study. The final pit is up to 140 m deep from highest elevation and approximately 90 m deep measured from the reference elevation of 390 m AMSL. The main pit is approximately 630 m wide at surface (east-west) and 420 m (north-south).

Figure 30 below illustrates the pit design compared to the Revenue Factor 1 pit shell (selected for financial valuation and the Revenue factor 2 pit shell.

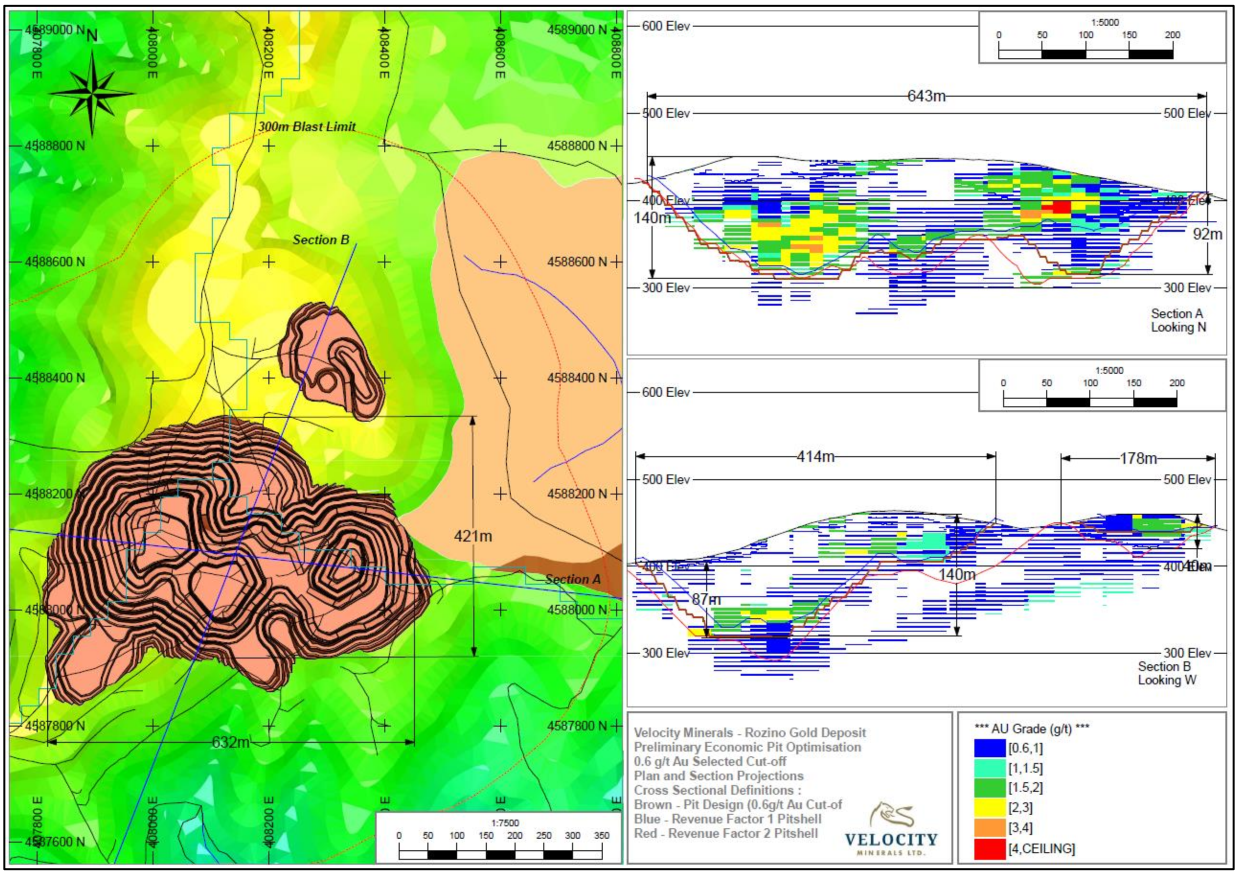


Figure 30: Illustration of pit design versus the revenue factor 1 and 2 pit shells from the 0.6 g/t gold cut-off optimization

16.25 Mining Methods

Mining by conventional open pit methods such as drill and blast followed by load and haul will be employed. Drilling and blasting will be performed on 5 m benches, as will loading of the blasted material. Where possible in the near surface weathered zone, “free dig” mining will be carried out (i.e. without drilling and blasting). Ripping by bulldozer may also be employed in transitional to reduce the quantity of drilling and blasting required.

The envisaged scale of mining at the Rozino deposit is relatively small scale with a peak total material movement of approximately 7 Mtpa. The annual processing plant feed requirement is approximately 1.75 Mtpa.

16.25.1 Load and Haul Equipment

The mining fleet will consist of hydraulic excavators in backhoe configuration (90-tonne class) and 45-tonne capacity off highway articulated dump trucks. The estimated fleet size 3 x 90-tonne class excavators and 18 x 45-tonne class trucks will be the peak requirement. It is not anticipated the fleet size will increase significantly due to topography and the reference elevation. The primary mining fleet of trucks and excavators will be supported by standard open-cut drilling and auxiliary equipment.

Waste material will be hauled to the allocated waste rock dump positions to the east of the pit.

16.25.2 Drill and Blast

Rock fragmentation, aside from any free dig or ripping of ore, will be accomplished through drilling and blasting.

Drilling will be with drill rigs capable of drilling up to 165 mm vertical and inclined holes. The rigs will be supported by a stemming tractor-loader-backhoe plus explosive delivery vehicle and several special purpose light-duty vehicles for carrying personnel and explosive accessories.

The bench height and waste material type suits drill rigs capable of drilling 127–165 mm diameter blast holes. Drill burden, spacing and sub-drill design will be functions of the varying material types of the deposit.

A bench height of 5 m has been selected to ensure selective mining of the ore. The bench will be blasted on 5 m intervals and loaded on two flitches of 2.5 m.

An emulsion-based product with water resistant characteristics and a high velocity of detonation is recommended to achieve good fragmentation.

The blast pattern is dictated by the powder factor required to ensure appropriate fragmentation and heave.

As part of the geotechnical optimization of the pit, pre-split blasting will be required for the final walls. The pre-split blasting will reduce ground vibration and improve the final high wall condition.

16.25.3 Pit Support Equipment

Pit support equipment for the Rozino operation will consist of a fleet of at least one each of the following: dozer, grader, fuel bowser, water bowser, hydraulic rock breaker, front-end loader and tractor-loader-backhoe. The function of this equipment will be to support the primary mining equipment by the maintenance of pit floor and haul road conditions, cleaning up around the excavators to prevent excessive tyre damage, secondary breakage of oversize rocks and to water-down road surfaces to suppress dust.

16.25.4 Re-Handle Equipment

Majority of the plant feed material is planned to be loaded directly from the pit into the primary crusher reception bin. It has been assumed a small buffer stockpile will be maintained at 10% of the total monthly feed tonnage.

Re-handle equipment for the operation will consist of a CAT 966 or 980 (or equivalent) front-end loader and CAT 745 articulated dump truck (or equivalent) haul trucks when re-handling from the stockpiles.

16.25.5 Ancillary Equipment

Ancillary equipment for the operation will consists of service trucks, tyre handlers, mobile crane, water pumps, lighting plants and light-duty vehicles. The function of this equipment will be to support the pit equipment and maintenance workshops.

16.25.6 Grade Control

Grade control drilling and sampling will form part of the mine planning and execution to control ore definition at the Rozino deposit. It is planned to drill three benches in advance of the mining to develop a grade control model that will inform the short-term and medium-term mine planning.

Table 52: Grade control drilling and sampling

Grade control drilling and sampling	Units	Value
SG of ore	t/m3	2.6
Ore tonnes required per annum	t/a	1,750,000
Ore volume required per annum	m^3/a	678,295
Area factor – as some waste will be drilled	m^2	1.1
Area required to be drilled per annum	m^2/a	49,742
Drill-hole spacing (m) – Strike	m	5.0
Drill-hole spacing (m) – Dip	m	5.0
Area per drill hole	m^2	25
Volume per drill hole	m^3/hole	375
Sample interval (m)	m	1.0
Average depth of drill holes	m	15
Dip of holes	°	-90
Bench height	m	15
Area drilled per annum	ha	5.0
Number of drill holes	no.	1,990
Meters drilled per annum	m	29,845
Number of samples per drill hole within bench	no.	15
% of holes to be assayed	%	100%
Total number of samples per year	no.	29,845
Total number of samples per week	no.	574
Total number of samples per day	no.	82
Assay drilling cost	US$/lin m	41.09
Assay drilling cost per year	US$	1,226,329
Assay drilling cost per ROM ore tonne	US$/t ore	0.70

16.25.7 Pit Dewatering and Drainage

In-pit water management will primarily consist of runoff control and sumps. The dewatering infrastructure and equipment will be sized to handle groundwater inflows and precipitation. The surface water handling plan will be based on diverting as much surface water as possible away from the open pits, collecting it using ditches and sumps and then pumping it where necessary to a mine water pond. As the pit deepens, intermediate sumps may be required on the pit walls as well as on the surface between the pit and the mine water pond.

As the mine pit progresses, dedicated high lift pumps will eventually be required. Pontoon-mounted pumps will be used to draw from a pit bottom sump. This will ensure the pumps are not submerged when sump water levels rise rapidly in response to a rainfall event. Pumping infrastructure will have to keep up with the active mining as it advances deeper. The key operational requirements will be to minimise water flows into the pit using perimeter bunds, drains and fill, where practicable, by:

- Providing pit pumping capacity for foreseeable extreme events
- Maintaining pit wall drainage
- Providing permanent and temporary sumps capable of handling the expected water inflows
- Installing settling ponds for the removal of solids prior to discharge off-site.

16.25.8 Mining Contractor Human Resources

The mining schedule has assumed that the operations work 24/7 365 days in a year, less 15 days for unscheduled delays such as high rainfall events which may cause mining operations to be temporarily suspended.

A contract mining approach will be adopted, and an estimate of the mining contractor staff required to ensure delivery of the production mining plan is outlined in Table 53, based on 2 x 12-hour shifts for the operators, with a third shift on break.

Table 53: Estimated mining contractor labour requirements

Estimated contractor miner labour force	No. of employees (7 Mtpa mining rate)
Indirect labour	30
Engineering labour	70
Operator labour	115
Total workforce	**215**

16.25.9 Waste Rock Dumps

Location of the waste rock dumps ("WRD") is proposed within the valley catchment area that contains the tailings management facility ("TMF") and the water storage dam. The proposed WRD is in close proximity to the pit exit located to the east of the pit. Approximately 12 Mm^3 space will be required to store 23 Mt of waste rock. A valley fill method from 390 m AMSL (top of WRD) to valley floor at 280 m AMSL will provide approximately 12 Mm^3 storage capacity using the valley fill method with a final dump profile of 18.5° (1:3 gradient).

The WRDs associated with mining operations will be constructed to meet the requirements of the Bulgarian Mining Regulations and international best practices. They will initially to be constructed with the natural rill angle of approximately 37°, which is the angle of repose of the dumped material. This is then to be contoured progressively to a lower slope angle to allow for slope stability and revegetation. The waste dump will be progressed by tipping from a higher level against a windrow and progressively pushing the waste out with a dozer. Figure 31 illustrates the proposed location of the 12 Mm^3 waste rock storage facility.

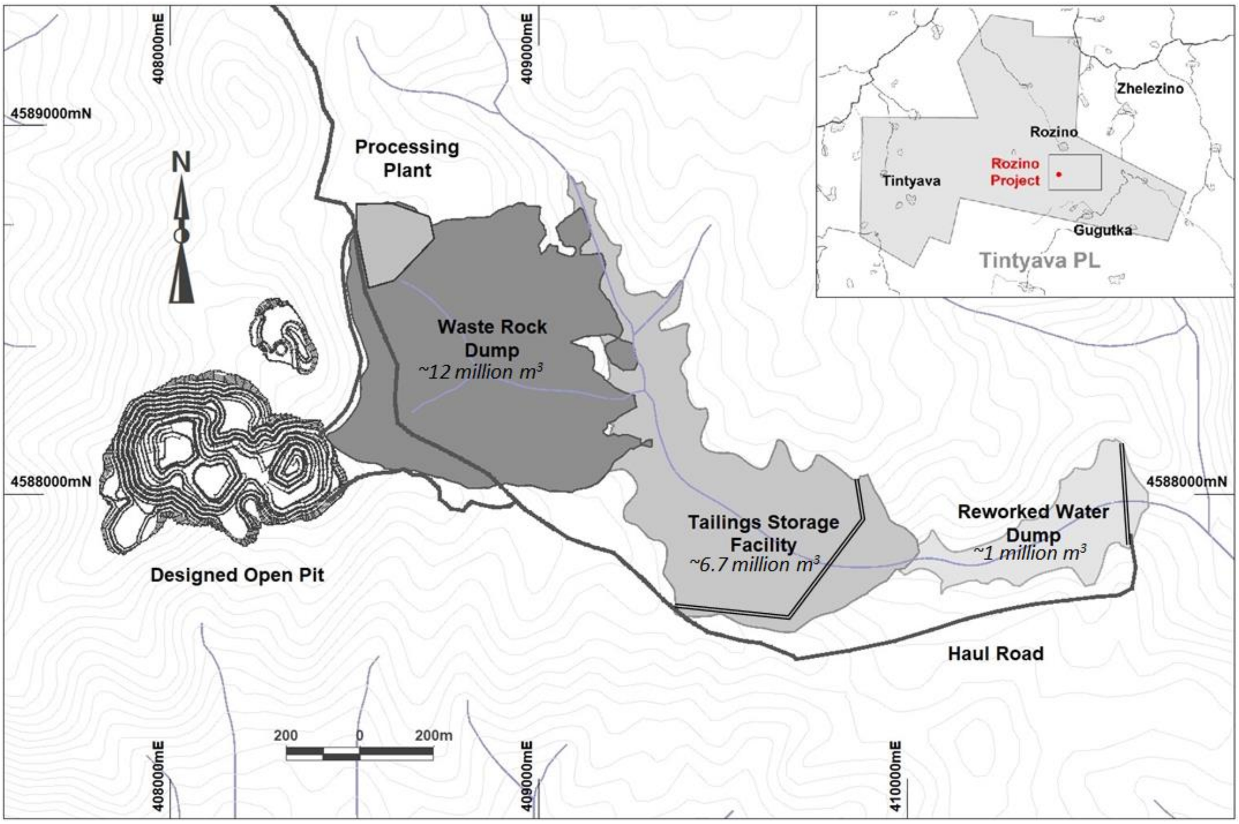


Figure 31: Diagram illustrating the proposed waste rock storage

Waste dumps will be progressively rehabilitated with topsoil, where possible. Surfaces of dumps will be contoured to minimise batter scour. Where practical, such rehabilitation work will be carried out progressively. Seepage and shallow groundwater flow along the perimeter of the mine residue deposits will be controlled with suitable toe drains.

Selected waste rock may also be used for the construction of the ROM pad, TSF walls and other infrastructure items during the site construction phase and for further TSF wall lifts during the LOM.

Good mining practice dictates that mine sites be rehabilitated to a sustainable state after the mining operations reach completion. Hence, all areas impacted by the project, including all waste and tailings dumps, tailings dams and water dams will be stripped of topsoil before commencement of construction. This topsoil will be stockpiled for future rehabilitation work at the end of the mine production life.

16.25.10 Mine Production Schedules

The mine production schedule is illustrated in Figure 32. An increased stripping ratio is required in the initial years in order to prevent a bottleneck in the ore production. As a result, years 2023 and 2024 will require a higher stripping ratio to prevent a bottleneck in the pit.

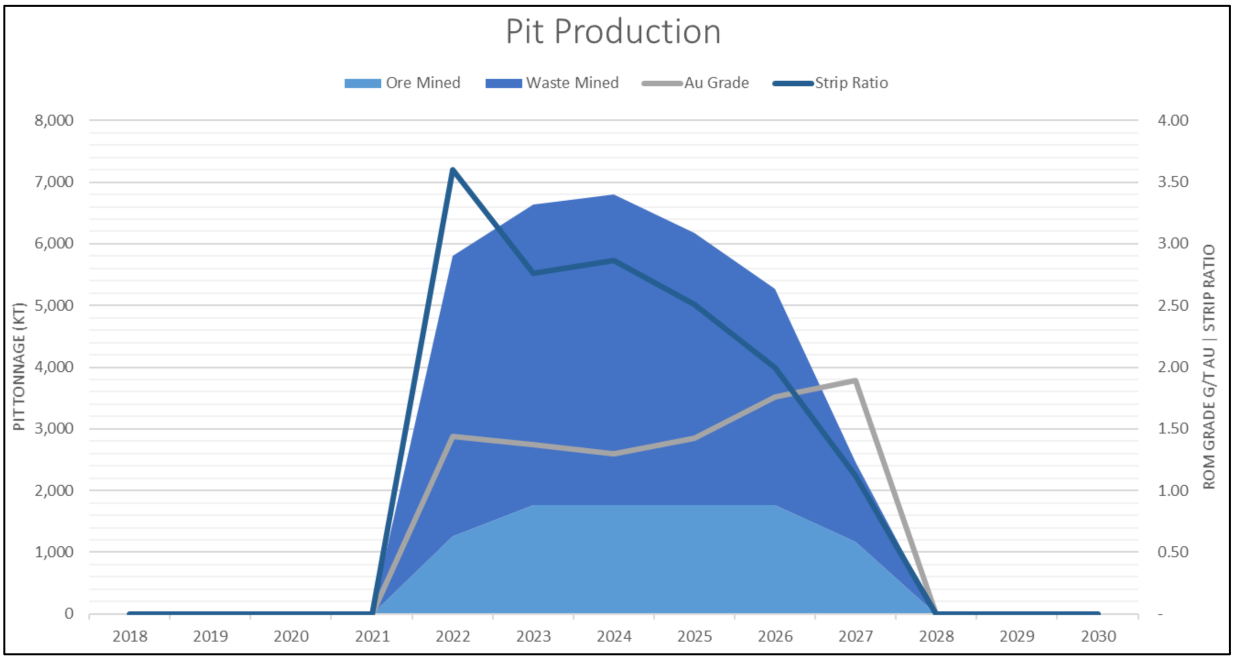


Figure 32: Pit production schedule

16.25.11 Plant Feed Schedules

The plant feed schedule is developed from the expected commissioning dates for the plant and the expected ramp-up of ore supply from the open pit. Cognisance is taken of stockpiling and re-handling in scheduling of the tonnages albeit minimal stockpiling is required throughout the LOM. Figure 33 shows the processing plant feed tonnage schedule for the Rozino flotation plant.

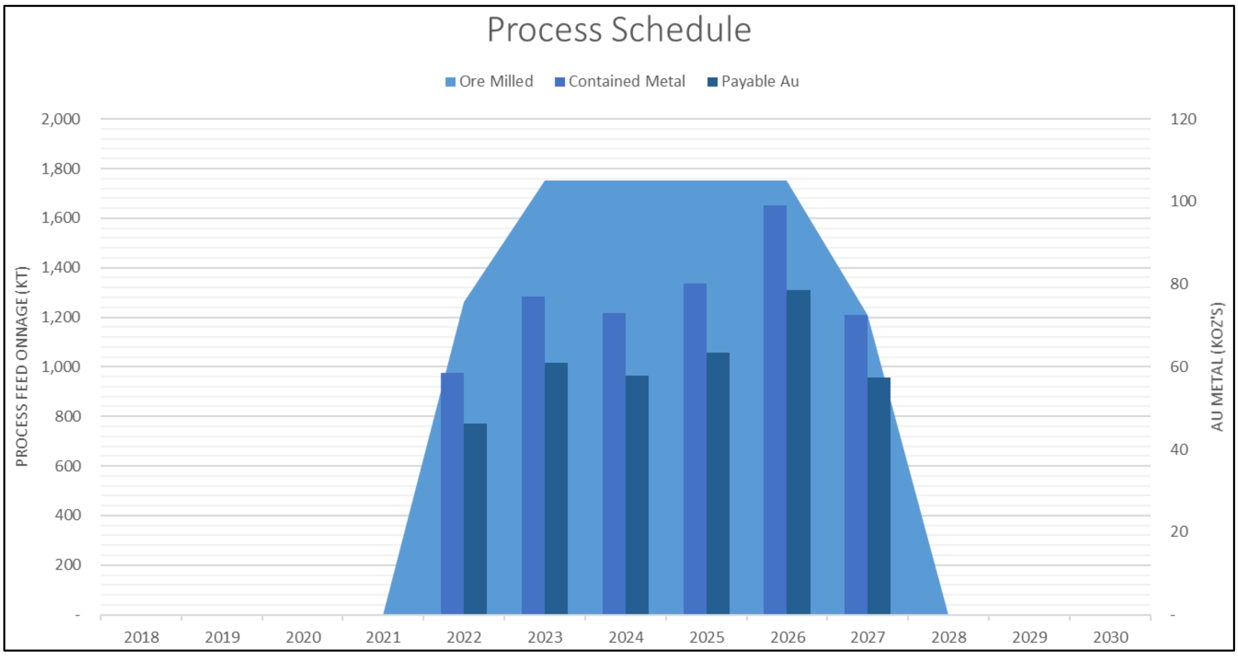


Figure 33: Plant feed schedule

16.25.12 Stockpiling Schedules

The methodology for stockpiling is to minimise the amount a re-handle required by maximising direct feed to the plant. It is anticipated a small buffer stockpile will be maintained ahead of the plant primary crushing facility.

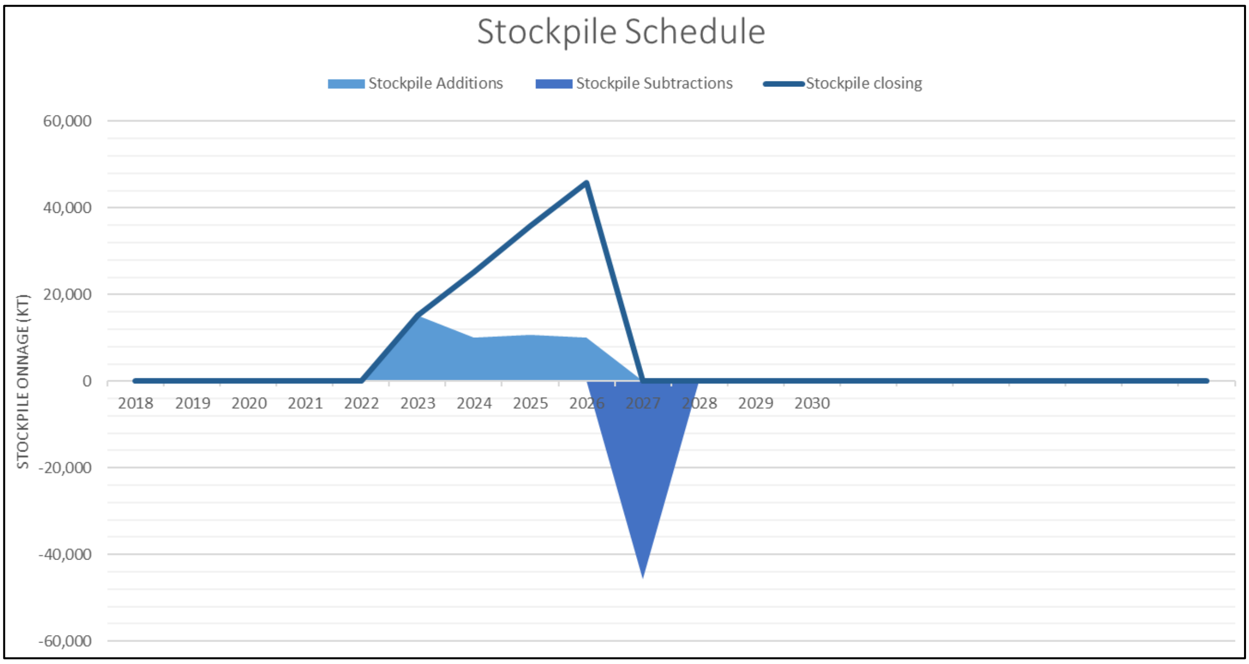


Figure 34: Stockpile additions, subtractions and closing balances

16.25.13 Mineral Reserve Estimate

There are currently no Mineral Reserves Estimated for the Rozino Project.

No Mineral Reserve can be disclosed on the basis that Inferred Mineral Resource material has been included in the pit optimization process.

16.25.14 Mineral Resources included in the Rozino PEA Pit

The process to estimate the Mineral Resources included in the pit shell for the Rozino deposit is detailed in the preceding sections of this report:

1) The open pit optimization for the Mineral Resource has been undertaken on the Inferred Mineral Resources only. Geological Potential material has been excluded.
2) The grades and tonnes of the Mineral Resource model have not been modified by a mining recovery mining dilution due to the nature of the SMU definition used in the MIK estimation process.
3) The Whittle™ suite of optimization software was used to perform the pit optimizations. Whittle™ is an accepted industry open pit optimization tool. A range of sensitivities testing cut-off grade and process throughput were applied to determine the Base Case.

The parameters are summarized below, along with the source of the information:

- A gold price of US$1,250/oz was used in the optimization.
- A government royalty of 2%.
- Geotechnical recommendations to maintain pit slope stability was used in the optimization. The OSAs used in the pit optimization process were 34.8°, 40.7° and 45.6° for weathered, transitional and fresh material respectively. The western sector for the fresh material was additionally flattened to 39.8° as per geotechnical recommendations.
- The processing plant requires a throughput of 1.75 Mtpa.
- Processing strategy assumed Flotation Plant construction at Rozino with trucking of gold-bearing concentrate to the CIL Plant.

- Mining costs are based on international benchmarked mining contractors operating at similar mining operations. The base date for the mining costs is Q3 2018. A reference mining cost of US$2.65/tonne and a fixed monthly management fee of US$110,000/month has been used in the open pit optimization.
- A range of economic cut-off grades resulted in a 0.6 g/t Au cut-off grade selection.

Table 54 summarizes the mineral inventory statement for the Rozino deposit based on the work detailed above.

Table 54: Mineral Resource contained within the optimized Pit-shell (Pit 36) at 0.6 g/t Au cut-off.

Resource classification	Tonnes (Mt)	Au grade (g/t)	Au metal (koz)
Inferred	9.5	1.51	461
Total	**9.5**	**1.51**	**461**

17 Recovery Methods

17.1 Process Route

The optimal process route for treating the Rozino sulphide mineralization is flotation to produce a gold-bearing sulphide (pyrite) concentrate, followed by cyanidation of the concentrate in a conventional CIL circuit to produce doré.

17.2 Design Basis

This section provides design factors and site information used in the design of the processing plant and CIL plant.

17.2.1 Process Design Criteria

The design criteria form the basis for the design of the processing facility and the required site services.

Given the early stage of the Project's development, limited test-work data was available to support the design. Database information, vendor advice and assumptions based on experience have been used in lieu of Project-specific criteria. The criteria allow for the definition of a preliminary mass balance, as well as the design and specification of equipment for the derivation of the Project capital cost estimate.

In addition, it allows for the development of operating cost requirements such as power, water and reagents.

17.2.2 Flotation Plant Production Criteria

The Flotation Plant is designed to process 1.75 Mtpa of ore over the LOM following ramp-up. Being essentially a pyrite concentrator containing gold values, sulphur feed grades are expected to largely dictate concentrate production rates but, for basis of design for the CIL Plant equipment sizing, a final concentrate mass pull of 4.5% by weight has been adopted.

Assuming a Flotation Plant availability of 92%, the operating regime for the concentrator has been set at 8,059 hours per annum (h/a), which is typical for a plant of this level of complexity and size. This sets the nominal throughput at 217 dry tonnes per hour.

Recoveries of sulphur and gold to flotation concentrate have been estimated from the available test-work carried out on the bulk metallurgical sample by Eurotest representing sulphide mineralization throughout the Rozino deposit, as described in Section 13.

Key production criteria for the concentrator are provided in Table 55.

Table 55: Concentrator production criteria

Criteria	Units	Value
Annual processing capacity	**t/a**	**1,750,000**
Operating time		
- Primary crushing	h/a	6,570
- Concentrator	h/a	8,059
Nominal processing rate		
- Primary crushing	t/h	266.4
- Concentrator	t/h	217.1
Head grade – design		
- Gold	g/t Au	1.37
- Sulphur	% TS	0.42
Concentrate mass pull		
- Nominal	%Wt.	4.4
- Design	%Wt.	5.0
Gold recovery to concentrate	**%**	**91.4**
Concentrate grade	**g/t Au**	
- Nominal	g/t Au	26.1
- Design	g/t Au	30.0
Concentrate moisture content	**%**	**8.0**

17.2.3 CIL Plant Production Criteria

Based on a concentrate mass pull of 4.4% by weight, the existing CIL Plant is designed to process approximately 80,000 t/a of concentrate.

Assuming a plant availability of 92%, the operating regime for the CIL Plant has been set at 8,059 h/a, which is typical for a plant of this level of complexity and size. This sets the nominal throughput at 10 dry t/h.

The concentrate leach recovery has been estimated from the available test-work carried out on the cleaner concentrate sample obtained from the open cycle cleaner test (using Aerofloat 242 as the collector) undertaken at Eurotest on the master composite sample.

Key production criteria for the CIL Plant are provided in Table 56.

Table 56: Gorubso CIL production criteria

Criteria	Units	Value
Annual processing capacity	**t/a**	**77,000**
Operating time – CIL	h/a	8,059
Nominal processing rate		
- CIL	t/h	9.55
Head grade – design		
- Gold	g/t Au	30
Leach residence time		
- Nominal	h	36
- Design	h	48
Loaded carbon grade		
- Design	g/t Au	3,500
Leach recovery	%	87.5
Smelter recovery	%	99.0
Recovery to doré	%	79.2

17.3 Processing Flowsheet and Plant Description

17.3.1 Flotation Plant

The Flotation Plant has been designed to process 1,750,000 t/a of open pit ore. The plant has been designed to operate seven days per week at a nominal treatment rate of 217 dry t/h. The Flotation Plant utilises recognised technology for sulphide mineralization processing and follows a processing route of:

1) Three-stage crushing to produce a crushed product <13 mm.
2) Grinding in a ball mill to P_{80} of 75 µm in closed circuit with classification cyclones.
3) Rougher/scavenger flotation.
4) Single-stage cleaner flotation.
5) Concentrate thickening and bagging.
6) Tailings disposal

An overall process flow diagram for the plant is shown in Figure 35.

Crushing Circuit and Storage

A three-stage crushing plant comprising of primary jaw crusher, secondary and tertiary cone crushers, a double deck product screen, associated conveyors and ancillary equipment. The crushing plant is sized to treat 266 t/h and produce a crushed product of 99% passing 13 mm and 80% passing 10 mm, suitable for ball mill feed.

Ore reclaimed from the crushed ore stockpile will be reclaimed onto a onto the mill feed conveyor.

Grinding and Classification Circuits

The grinding circuit will consist of a single-stage overflow ball mill that will operate in closed circuit with hydro-cyclones to produce a ground product size P_{80} of 75 µm.

Ore reclaimed from the fine ore stockpile will discharge onto mill feed conveyor and thence into the ball mill. The mill feed conveyor will have a weightometer fitted to enable mill feed rate control. A crosscut conveyor belt sampler will be provided to cut a sample for metallurgical accounting purposes.

New feed ore will discharge from the mill feed conveyor into the feed box of the ball mill where it will combine with cyclone underflow pulp and dilution water. The rubber lined ball mill will be nominally 5.40 m inside shell diameter and have an effective grinding length of 8.0 m and will be equipped with a 3,700 kW motor. The mill will operate in overflow configuration, at 75% critical speed and with a ball charge of 35% by volume. The pulp density of the mill discharge has been designed to be 75% solids w/w. Slurry exiting the mill will pass through a trommel screen having 8 mm by 18 mm slotted aperture polyurethane screen panels. Lime slurry will be dosed to the mill feed to provide alkalinity for the downstream flotation circuit as required.

The trommel oversize will be washed by process water sprays and the oversize scats will discharge into the scats bin provided.

The ball mill discharge will report to the cyclone feed hopper. The cyclone feed hopper will be fitted with two (duty/standby) variable speed cyclone feed pumps. The pulp will be diluted to the correct cyclone feed density before being pumped to the cyclone cluster for classification. The cyclone cluster will consist of three 250 mm diameter cyclones (two duty and one standby) which have been designed to operate at a pressure of approximately 100 kPa with a feed density of 54% solids w/w and a design mill circulating load of 250%. Cyclone underflow, at a pulp density of approximately 73% solids w/w, will gravitate to the mill feed box.

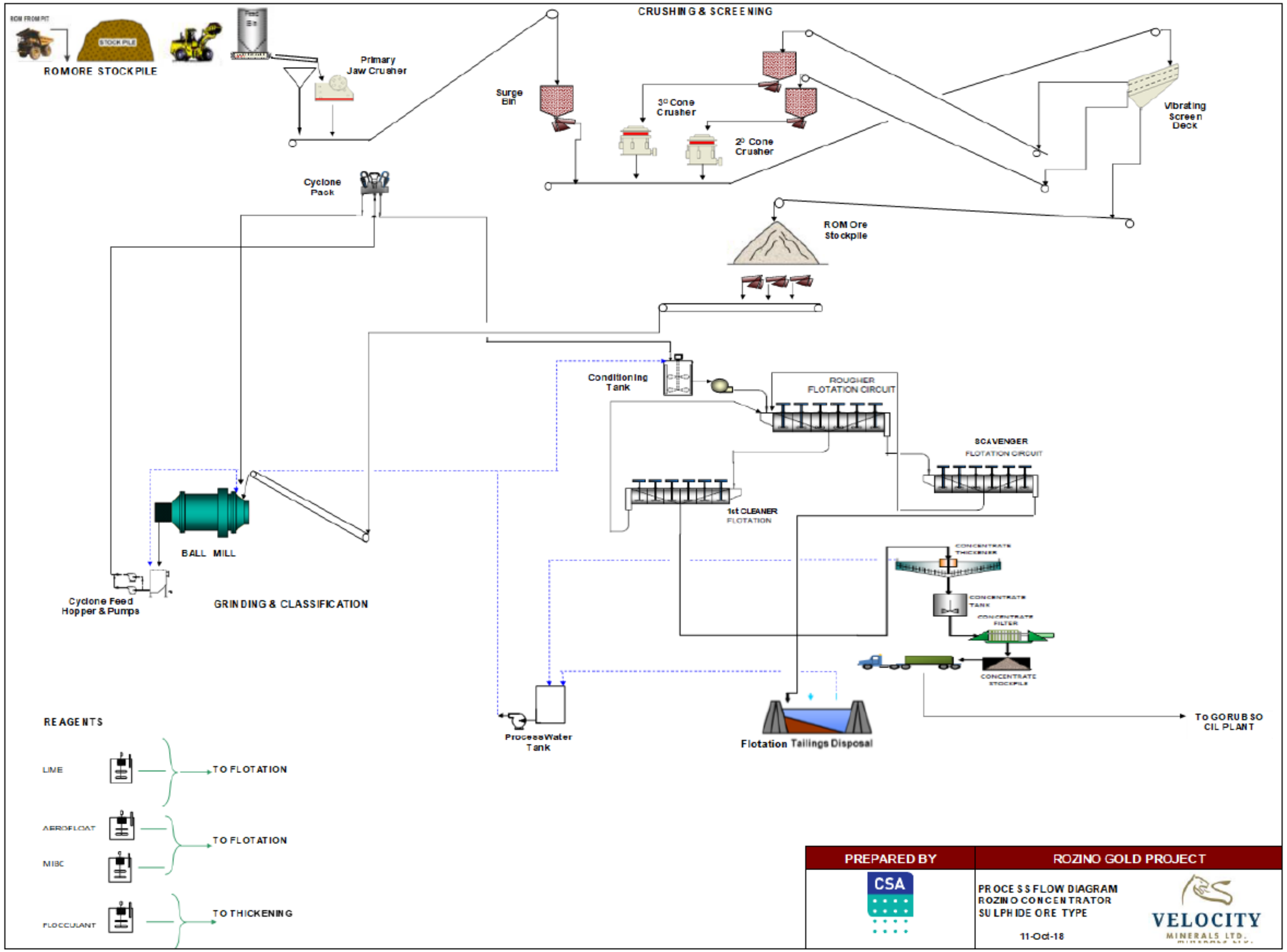


Figure 35: Rozino concentrator overall process flow diagram

Cyclone overflow, at a density of 31% solids w/w, will flow by gravity to the trash screen feed box. A single 1.2 m-wide by 2.4 m-long horizontal vibrating trash screen fitted with 1 mm by 16 mm slotted aperture modular polyurethane screen panels will remove trash from the leach feed. Oversize trash will gravitate directly to a trash bin located at ground level. Undersize product from the trash screen will gravitate to the rougher flotation conditioning tank.

Charging of steel grinding media into the ball mill will be achieved via the use of a dedicated electric hoist and ball kibble arrangement, which will be filled manually with the required steel balls. Balls will discharge into the ball mill feed chute via an impingement box as required. Any spillage from the grinding circuit will be contained within a bunded concrete slab beneath the ball mill. The slab floor will be sloped to direct spillage to one of two sumps located within the bunded area. Each sump will be equipped with a vertical spindle pump to direct spillage back into the mill discharge hopper.

A grinding circuit davit crane will be installed to assist maintenance activities.

Flotation Circuit

The flotation circuit is standard for floating a bulk sulphide (pyrite) concentrate. The bulk sulphide flotation circuit consists of tank, forced air addition flotation cells for the roughing and scavenging duty, a single stage of cleaning and one stage of cleaner scavenging.

Conditioning is the first stage of the pyrite flotation circuit. The agitated flotation conditioning tank has a total effective volume of 15 m³. The conditioning tank volume provides a total of 3–5 minutes of conditioning for reagent addition stage to the rougher/scavenger circuit. Reagents dosing occurs at the first pyrite flotation conditioning tank, pyrite rougher and first pyrite scavenger cell feed boxes. This tank's volume provides a 3–5-minute conditioning residence time at the design pulp flow rate. A variable speed centrifugal slurry pump fed directly from the first conditioning tank pumps to the first pyrite rougher feed launder at a controlled rate.

Flotation feed (or cyclone overflow) is automatically sampled for analysis by the in-stream analysis (ISA) to provide a flotation feed assay and feed slurry density.

The pyrite rougher and scavenger flotation circuit consists of two 20 m³ rougher tank cells followed by three 20 m³ capacity scavenger flotation tank cells arranged to produce separate rougher and scavenger concentrates. The five x 20 m³ flotation cells have a total effective pulp volume of 85.0 m³ and a nominal residence time of 15 minutes.

The cells are arranged as two cells in series followed by a single bank of three cells in series. The pyrite rougher and first pyrite scavenger cells are both equipped with a feed box.

The flotation cells are supplied with air mass flow control to enable each bank of cells to be controlled. Level control is via pinch valves and level elements. The rougher concentrate gravitates to the pyrite rougher concentrate pump-box and is pumped to the head of the cleaner bank, whilst the scavenger concentrate is recycled back to the head of the rougher bank via the scavenger concentrate pump-box.

A sampler on the discharge side of the scavenger tailings pump provides a sample to the ISA.

Water sprays are provided in the flotation cell launders to assist froth breakdown and concentrate flow.

The agitated pyrite cleaner conditioning tank has an effective volume of 10 m³. The tank volume provides 4–5 minutes of conditioning residence time for the pyrite first cleaner circuit. Reagents dosing occurs at the conditioning tank and various points in the pyrite cleaner circuit. A centrifugal slurry pump fed directly from the conditioning tank pumps the rougher concentrate to the head of the pyrite first cleaner bank.

Three 10 m³ tank flotation cells operate in the pyrite first cleaner duty with the flotation cells arranged in a single bank of three cells. The total effective volume for the pyrite first cleaner cells equates to 26 m³ which results in a residence time of 11–13 minutes.

The pyrite first cleaner concentrate is final concentrate and reports to the pyrite concentrate thickener feed hopper. The target final concentrate grade is between 25 g/t Au and 30 g/t Au, depending on the %TS grade in the plant feed.

The pyrite cleaner concentrate pump is a fixed speed vertical froth pump. The discharge side of the pyrite first cleaner concentrate pump is fitted with a slurry sampler to provide a sample for the ISA.

The pyrite first cleaner flotation cells are supplied with air mass flow control to enable each bank of cells to be controlled to an operator inputted value. Level control is via dart valves and level elements controlled to an operator set point.

An ISA system is installed in the plant to provide analysis of the key process streams in the plant. The following six streams are analysed by the ISA in the pyrite flotation circuit:

- Flotation feed
- Pyrite rougher concentrate
- Pyrite scavenger tail
- Pyrite final concentrate.

Analytical results from the ISA are displayed and recorded on a monitor in the plant control room and shift composite subsamples are collected for metallurgical accounting purposes.

Reagent addition rates are controlled automatically to operator inputted flow rates. The addition of frother (Methyl Isobutyl Carbinol – MIBC), collector (Potassium Amyl Xanthate – PAX) and promoter (Aerofloat 242 – A242) is via dedicated pumps or lines running off individual ring mains.

The pyrite flotation area floor has sump pumps to collect any spills from the circuit. The pyrite rougher flotation area sump pump discharges into the rougher feed conditioning tank.

Concentrate Thickening Circuit

Concentrate from the pyrite flotation circuit is pumped to the pyrite concentrate thickener feed hopper and diluted to the correct feed density before being pumped to a de-aerator, from where it gravitates to the feedwell of an 8 m or 10 m diameter concentrate thickener. The concentrate thickener is fitted with a de-aerator with the feed pump speed is controlled automatically to maintain a set pressure in the de-aerator. Overflow from the de-aerator gravitates back to the pyrite concentrate thickener feed hopper with the level allowed to vary between a high and a low limit to maintain the de-aerator operating pressure set point.

An auto-dilution system is retrofitted on the feed-well of the pyrite concentrate thickener to increase the settling rate and the facility to add flocculant to the feed-well is provided for the pyrite concentrate thickener. The design thickener underflow density is 60% solids.

A bed level measuring device is installed to monitor the thickener bed depth. The addition rate of flocculant is controlled according to the bed depth.

The thickener is equipped with two variable speed peristaltic underflow pumps arranged in a duty/standby configuration which are controlled to maintain thickener bed pressure. A nucleonic density gauge measures the density of the thickened slurry to the pyrite concentrate filter storage tank.

Thickener torque is maintained in pre-set ranges automatically via the thickener local control panel which raises and lowers the thickener rakes according to torque readings. Torque readings and rake status (i.e. running/stopped/fault) are displayed on the control system. Pyrite concentrate thickener overflow gravitates to the thickener overflow tank before being used as water for re-use in the plant process water system.

There is a pyrite concentrate area floor sump pump to collect any spills. The concentrate area sump pump discharges into the pyrite concentrate thickener feed hopper.

The pyrite concentrate filtration section consists of an agitated filter feed storage tank, dual filter feed pumps and horizontal plate pressure filter. The pyrite concentrate tank has a working capacity equivalent to 16 hours of concentrate production, providing suitable surge capacity between the flotation and filtration unit operations. The tank has an ultrasonic level device to monitor levels. On low tank level, the filter will stop operating.

The thickened concentrate slurry is pumped from the pyrite concentrate tank to a batch pressure filter for dewatering. The thickened concentrate is filtered in a horizontal plate and frame pressure filter with 1.5 m-wide by 1.5 m-high plates and a 40 mm thick chamber to provide sufficient filtration area. The pressure filter dewaters the slurry to produce a filter cake containing nominally 8% w/w moisture and a filtrate containing minimal solids.

The dewatered filter cake discharges onto the pyrite filter cake conveyor, which in turn transfers the filtered concentrate to a vendor supplied bagging plant. Bagged pyrite concentrate is weighed and loaded onto haulage trucks for dispatch to the Gorubso CIL treatment facility.

A filtrate air separator is used to remove air from the filtrate before being pumped to the filtrate hopper. During normal operation, the filtrate is collected in the pyrite concentrate filtrate tank before being pumped to the dirty water collection sump. Filtrate is then pumped to concentrate thickener to remove additional fine solids prior to re-use in the plant process water system. This has a local control panel which controls the operation of the filter and associated valves and pumps, including the feed pumps and the cloth wash water pump.

The pyrite concentrate filter area has a sump pump to collect any spills. The concentrate filter area sump pump discharges into the pyrite concentrate storage tank.

Tailings Disposal

Flotation tailings from the scavenger flotation cells discharge into the tailings thickener stock tank and are then pumped to the 18 m or 24 m diameter conventional tailings thickener. Flocculant is added to increase the settling rate and underflow density to approximately 55–60% solids w/w. Tailings thickener overflow gravitates directly to the process water tank for re-use in the grinding and flotation circuits.

A bed level measuring device is installed to monitor the thickener bed depth. The addition rate of flocculant is controlled according to the bed depth. The thickener is equipped with two variable speed peristaltic underflow pumps arranged in a duty/standby configuration which are controlled to maintain thickener bed pressure.

Thickener torque is maintained in pre-set ranges automatically via the thickener local control panel which raises and lowers the thickener rakes according to torque readings. Torque readings and rake status (i.e. running/stopped/fault) are displayed on the control system.

Tailings thickener underflow is pumped to the thickened tailings holding tank. Thickened tailings are then pumped from the tailings holding tank to the TSF. Thickener overflow gravitates to the thickener overflow tank, where it is then pumped to the process water tank for distribution on the grinding and flotation areas.

A sump pump will be installed in the tailings thickener area for return of process spillage to the circuit and for clean-up purposes.

Reagents Mixing, Storage and Distribution

The following process additives are necessary to operate the processing facilities:

- Hydrated Lime
- Frother: MIBC
- Collector: PAX
- Promoter: A242
- Flocculant
- Antiscalant.

Packaged reagents are delivered to site and placed in the reagent compound. A forklift is used to transfer the drums or pallets to the preparation area.

Water Services

Raw Water

Raw water sourced from the mine is directed to settling ponds to remove suspended solids. Raw water supply pumps draw from the final settling pond to feed the raw water tank.

Raw water is stored in a raw water tank adjacent to the plant site. Duty and standby raw water pumps draw from the base of the raw water tank to feed raw water to the following:

- Process water make-up
- Tailings filters cooling and seal water make-up
- Reagent mixing
- Flocculant make-up
- Gland service requirements.

The lower portion of the raw water tank provides a dedicated fire water reservoir for the fire water system. The fire water system includes an electric driven “jockey” pump and a diesel driven fire water pump to ensure a continuous supply of water to the fire system in the event of a power failure.

Fire hydrants and hose reels are placed throughout the process plant, fuel storage and plant offices at intervals that ensure coverage in areas where flammable materials are present.

Process Water

Process water is stored in a tank adjacent to the plant site. Duty and standby process water pumps draw from the base of the process water tank to feed process water to the following:

- Crushing area dust suppression
- Grinding area dilution water
- Trash screen sprays
- Flotation area dilution and knock down water
- De-aerator dilution water
- General purpose hose down points.

Process water is recycled from the concentrate thickener overflow, concentrate filtrates and TSF. Concentrate thickener overflows and filtrate liquors are directed to overflow tanks prior to be pumped to the process water tank prior to re-use in the grinding and flotation circuits.

Potable Water

Potable water is produced from a bore located in the regional aquifer and pumped to the potable water tank for storage. Potable water gravitates from the potable water tank to service the administration complex, plant offices, control room, site laboratory, ablution facilities and the safety shower network.

17.3.2 CIL Plant

The CIL Plant has the capacity to process 80,000 t/a of sulphide concentrate produced from the Flotation Plant. The plant will operate seven days per week at a nominal treatment rate of 10 dry t/h. The CIL Plant utilises recognised technology for gold processing circuits and follows a processing route of:

- Concentrate re-pulping
- Pre-leach thickening
- Leaching and CIL adsorption of gold onto activated carbon
- Recovery of loaded carbon, elution and electrowinning of gold and silver from the pregnant eluate
- Calcining and smelting doré
- Tailings thickening and disposal.

An overall process flow diagram for the CIL Plant is shown in Figure 36.

Concentrate Re-Pulping Circuit

Concentrate from Rozino will be fed into the existing CIL circuit using a re-pulping system. Concentrate big bags will be split over a bag splitter and discharge into a re-pulping tank. From here the slurry will be pumped into the pre-leach thickener feed well.

Pre-Leach Thickening and CIL Circuits

The leach circuit comprises of a pre-leach thickener and a CIL leach and adsorption circuit comprising of a single leach tank, followed by five stages of adsorption.

The thickener will remove water that was added during the re-pulping stage and thicken the slurry to approximately 35–40% solids, which will be diluted suitable for concentrate leaching.

The pre-leach thickener is a lamellae thickener. Flocculant is pumped to the thickener feed-box and feed-well (multi-point dosing) to assist in settling of the solids. Dilution water will be added to the flocculant before addition to the thickener feed. A bed level measuring device will be installed to monitor the thickener bed depth. The addition rate of flocculant will be controlled according to the bed depth.

The leach circuit comprises of a pre-leach thickener and a CIL leach and adsorption circuit comprising of a single leach tanks followed by five stages of adsorption.

Trash screen underflow will report to the feed box of the pre-leach thickener. The thickener will remove water that was added during grinding and flotation, from the leach feed slurry and thicken the slurry to approximately 50% solids, which will be diluted suitable for leaching.

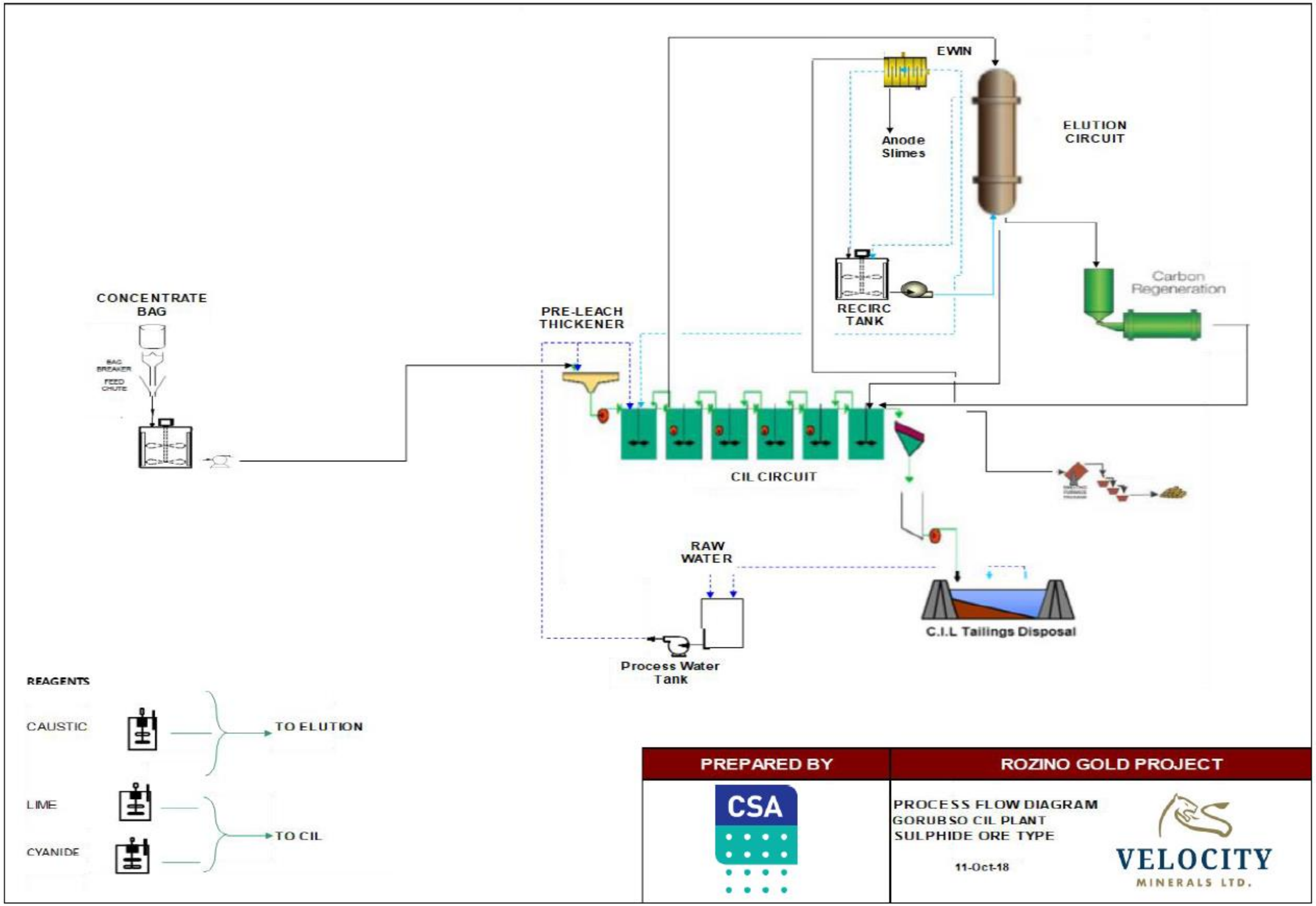


Figure 36: Gorubso CIL plant

Thickened underflow will be pumped by one of two thickener underflow pumps (duty and standby) which will be controlled to maintain a constant thickener bed pressure. Clarified thickener overflow will gravitate to a hopper and be pumped to the process water transfer tank and thence to the process water tank.

Thickener underflow reports to the leach tank. An automatic cross flow slurry sampler will be provided to cut a sample for metallurgical accounting purposes. An in-line density meter and flow meter will provide mas flow indication to the leach tank.

Leach feed pulp is dosed with sodium cyanide solution to leach the gold and silver and lime slurry will be added to provide protective alkalinity. A free sodium cyanide level of 1 g/l will be maintained throughout the leach train via staged addition of cyanide. Mixing of the slurry is carried out by agitators fitted with dual axial flow impellers driven with a hollow shaft for air addition. Air is sparged into the leach tanks and first adsorption tanks.

The leach adsorption circuit comprises of a single 260 m^3 leach tank and five 260 m^3 adsorption tanks. The leach adsorption time will be 12 hours at a design slurry density of 35% solids. Each adsorption tank is fitted with a vertical mechanically wiped inter-stage screen to retain the carbon in the tank. The design carbon concentration in the adsorption tanks will be 30–40 g/l. Air lifts will be used for intermittent, counter current carbon forwarding. A recessed impeller pump is used to recover loaded carbon from the first adsorption tank. The loaded carbon pump discharges onto a 1.2 m-wide by 1.8 m-long loaded carbon screen for dewatering. Sprays will be located above the screen to assist with washing the slurry off the carbon. Clean loaded carbon gravitates from the loaded carbon screen into the loaded carbon hopper.

Barren carbon from the elution circuit or the regeneration kiln will be returned to the adsorption circuit CIP tank 5/6 after dewatering on a sieve bend.

Leach slurry from the last adsorption tank discharges onto the carbon safety screen to recover any fine or misplaced carbon from the tails slurry. The carbon safety screen is a 1.2 m-wide by 1.8 m-long horizontal vibrating screen fitted with 0.8 mm aperture screen panels. Safety screen underflow will report to the tails hopper. Two CIL tails pumps are installed (one duty, one standby) and pump the CIL tails to the TSF.

There is a sump pump installed in the leach area to return any spillage back to the process.

Elution and Gold Recovery

Elution of the loaded carbon is carried out utilising a one tonne capacity pressure Zadra circuit with a high pressure column for elution.

Loaded carbon will be first acid washed to remove salts from the carbon prior to elution. The carbon will be washed with a solution containing 3% hydrochloric acid before being rinsed with raw water. Concentrated hydrochloric acid (32%) will be injected into the water line feeding the bottom of the column and mixed with raw water to attain a diluted strength of 3% acid. An acid soak time may be specified in the elution control system if required. After acid washing the carbon will be rinsed for two hours using raw water then allowed to drain. Acid solution and rinse solution will be neutralised in a tank with caustic solution to slightly alkaline and then will be pumped to the pre-leach thickener.

Elution is effected with a solution of 0.2% cyanide and 2% caustic soda at 120°C and at a pressure 300 kPa. Fresh water from the potable water reverse osmosis plant will be used to make the eluate solution. A diesel fired, oil heater and two heat exchangers are used for elution heating. Eluate leaving the elution column reports to a flash vessel where it will boil and lose temperature to below boiling prior to reporting to the single electrowinning cell to recover the gold and silver out of solution. Barren eluate from the electrowinning cell reports to the eluate tank and be reheated to temperature and recycled through the column. A typical elution cycle is approximately 12 hours.

The gold and silver eluted from the carbon will be recovered onto steel wool cathodes, which is then calcined and smelted into bullion. Barren eluate will be pumped to the leach tank splitter box.

Periodically, precious metal containing cathodes are manually removed from the electrowinning cells and transferred to a calcining oven. The cathodes are calcined (overnight) at 800°C to oxidize the remaining steel wool. Calcined cathode material is then mixed with fluxes and smelted in a diesel fired tilting furnace to produce doré ingots. Slag is returned to the ball mill feed. Exhaust from the electrowinning cells, drying oven, and smelt furnace are discharged to atmosphere.

Provision has been made in the design for a cold cyanide wash (to remove copper) in addition to an acid wash and elution in the elution circuit. This has been done to enable elution of carbon from an external source.

Eluted barren carbon is transferred hydraulically to either the regeneration kiln for regeneration or to the dewatering screen located above the final CIL tank and thence into the CIL circuit.

Barren carbon is periodically regenerated utilising a diesel fired horizontal rotating kiln at 750°C. The regeneration kiln capacity will be 50 kg/h or 20 hours to regenerate a batch of carbon. Regenerated carbon from the kiln reports to a quench tank and then transferred hydraulically to the dewatering screen above the last CIL tank.

There is provision to add new carbon to the circuit via the regeneration kiln quench tank system.

The gold room includes security access and electronic surveillance equipment, gold room vault and associated equipment for handling and weighing gold and silver precious metals product.

Sump pumps located in the elution area and gold room, pump clean up back to the mill or to leach feed.

Detoxification Circuit and Tailings Disposal

Prior to disposal of the tailings there is a cyanide destruction stage to reduce the WAD cyanide levels down to permissible levels in the TSF. Detoxification is carried out using the INCO process with addition of sodium metabisulphite and copper sulphate.

The discharge from the detoxication circuit is them pumped to the TSF.

Reagents

The following reagents and are necessary to operate the process:

- Quicklime
- Sodium cyanide
- Hydrochloric acid
- Sodium hydroxide
- Flocculant
- Activated carbon
- Diesel
- Gold room fluxes.

Quicklime

Quicklime slurry will be supplied from local suppliers is distributed via a pumped ring main to the mill feed and leach circuit. Lime slurry dosing is carried out by automated solenoid valves to attain a set point pH. pH meters are located in various places in the leach circuit to monitor the pH via the control system.

Provision will be made to add lime slurry to the following three points in the circuit:

- Ball mill feed
- Leach tank 1

- CIL tank 2.

A sump pump is located in the reagent mixing areas to permit spillage return to the process.

Sodium Cyanide

Cyanide is supplied in one tonne bulk bags and manually mixed with raw/clean water to a 20%w/v solution in an agitated mixing tank. One bag per mix is used. A dust hood and exhaust fan will be provided for personnel protection.

Cyanide solution is transferred to a storage tank for distribution and use. Cyanide solution is distributed via a pumped ring main to the leach circuit, the eluate tank, and to the cold cyanide wash tank. Two distribution pumps (one duty, one standby) are installed provided. Cyanide solution dosing to the leach circuit is carried out using needle valves to attain a set flow rate and thus concentration. Rotameters are installed in the main dosing point lines to measure the cyanide solution flow. Cyanide strength in the circuit will be monitored by titration. A titration hut is located on the leach tank floor for this purpose.

Cyanide is added to the following two points in the circuit from the ring main:

- Leach tank 1
- CIL tank 1.

Hydrochloric Acid

Hydrochloric acid is supplied in 200 litre or 1,000 litre intermediate bulk containers ("IBC") and dosed neat via a dedicated dosing pump to the elution column.

A dedicated sump pumps spillage back to the leach tails hopper.

Sodium Hydroxide (Caustic Soda)

Caustic soda is supplied in bags and manually mixed with raw/clean water to a 20% w/v solution in an agitated tank. A dust hood and exhaust fan will be provided for personnel protection. Caustic soda solution is dosed via dedicated pumps to the eluate tank. Provision will be made to add caustic solution to the cyanide mixing tank prior to a mix utilising the eluate tank dosing pump.

Flocculant

Flocculant is supplied in bags and automatically mixed with raw/clean water to a 0.25% w/v solution in a dedicated flocculant mixing plant. The flocculant will be loaded manually into the hopper of the mixing plant.

Flocculant is dosed to the pre-leach thickener via dedicated dosing pumps (one duty, one standby).

Activated Carbon

Activated carbon is supplied in 1-tonne bulk bags and added to the leach circuit via the regeneration kiln carbon quench tank.

Diesel

Diesel is supplied from bulk tanker and pumped into a bunded storage tank. Diesel will be distributed to the elution circuit and regeneration kiln via two dedicated distribution pumps (one duty, one standby).

Gold Room Smelting Fluxes

The smelting flux constituents will be:

- Borax

- Soda ash
- Nitre
- Silica flour.

The reagents are delivered to the CIL Plant and stored in a warehouse prior to use.

Water Services and Reticulation

Raw Water

Raw water is sourced from bores. Duty and standby pumps draw from the base of the raw water tank to feed raw water to the following:

- Reagent mixing
- Gold room requirements
- Gland water supply
- Fire water tank.

Clean water from the clean water system will be recycled back to the raw water tank.

Process Water

Process water is recovered from the process via the pre-leach thickener and clean water from the tailings storage dam and is stored in the process water tank. Duty and standby pumps will draw from the base of the process water tank to feed process water to the following:

- Milling and classification
- Leach circuit
- Clean up hose points.

Fire Water

A separate fire water tank receives feed water from the raw water system. Reticulation to the distribution points is via a dedicated fire water pump with a back-up diesel powered pump. Line pressure in the fire water system is maintained by an electric jockey pump.

Fire hydrants and hose reels are placed throughout the process plant, fuel storage and plant offices at intervals that ensure coverage in areas where flammable materials are present.

Potable Water

Potable water is supplied from the local water supply. Pumps draw water from the potable water tank to service the following:

- Administration complex
- Plant offices
- Control room
- Site laboratory
- Ablution facilities
- Safety showers
- Elution.

Gland Water

Gland water pumps (duty and standby) draw water from the raw water tank and supply the following slurry pumps with gland seal water:

- Cyclone feed pumps
- Leach feed pumps
- CIL tails pumps.

18 Project Infrastructure

18.1 Infrastructure

For the purposes of infrastructure requirements, the Rozino deposit is a greenfields mining prospect and no infrastructure currently exists at the proposed mining operations. The site is currently accessed from the main sealed road via an unsealed dirt road in reasonable repair. The village of Rozino is located • km to the north and is electrified with a 22 kV supply stepped down from 110 kV main distribution line located some 22 km to the north.

Preliminary surface water and groundwater estimates have indicated that the Project will have a negative water balance and approximately 50% of the mining and processing requirements will be augmented by a planned well field.

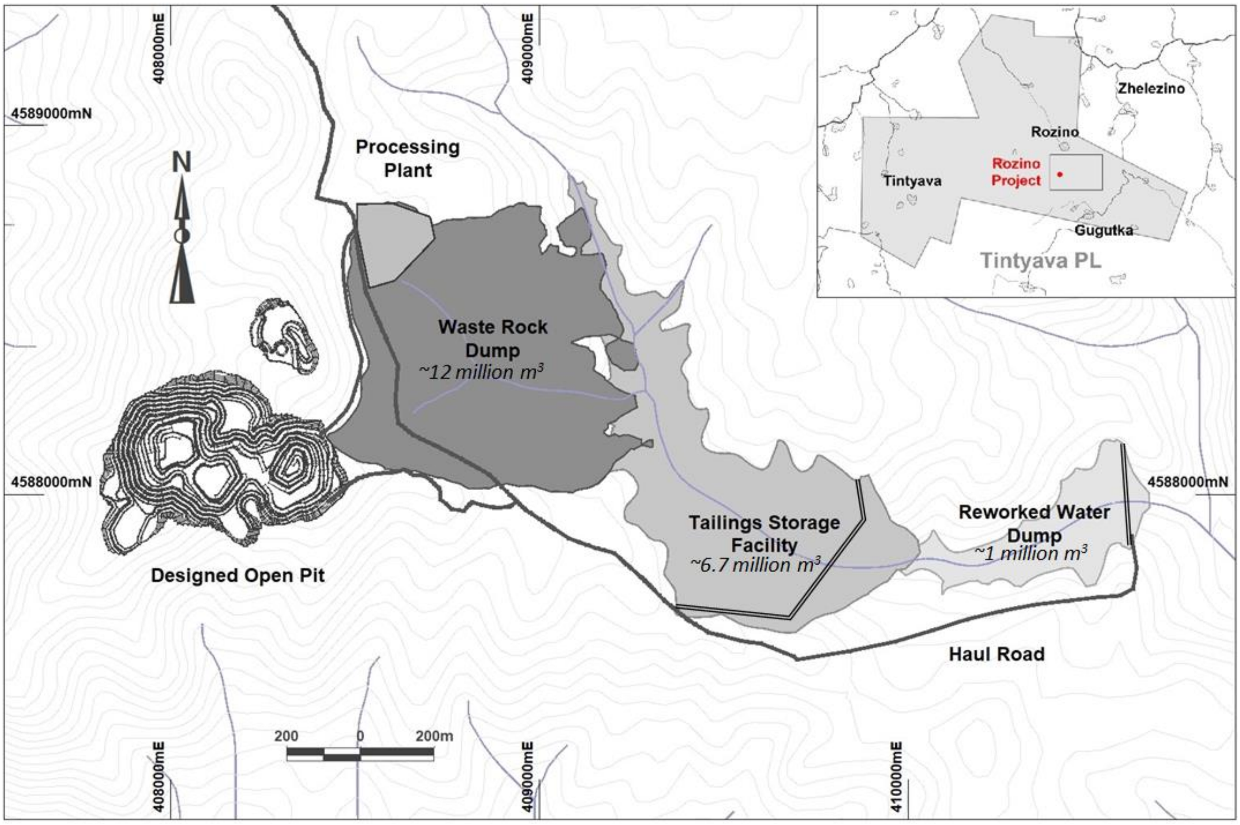


Figure 37: Proposed infrastructure capacities and spatial placement of key infrastructure at Rozino

18.2 Electrical Supply

The plant electrical power will be supplied by the local power authority via an overhead high voltage transmission line supplied from the Rozino 20 kV substation. A 20 kV main substation will be established at the plant site to facilitate power distribution to various areas within the plant. Within the main substation, a tariff metering system will be established to allow for reading of whole of plant power consumption. The conductor size and number of conductors of the 20 kV line has not been established and may require additional conductors strung from the 110 kV line located to the north of the Project.

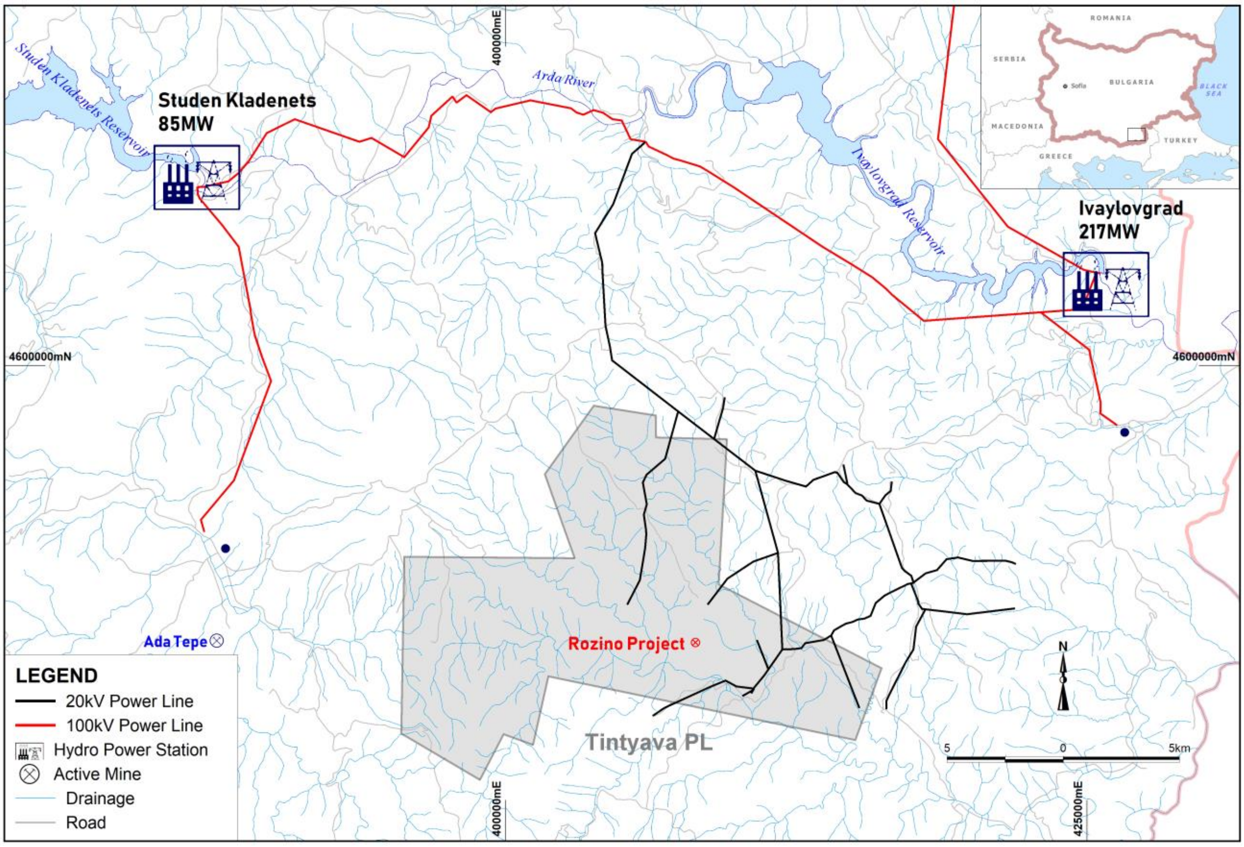


Figure 38: Local power distribution network

Source: Velocity, 2018

18.3 Water

The Project water management plan is central to maintaining an appropriate environmental and operational performance for the Project. The principle adopted for site water management is to intercept and control water flowing within the operational areas to ensure that it stays within a single watershed area located to the east of the mine operations. This contact water (contained within a single watershed) will report to the water storage facility located at the lowest elevation of the watershed. The water will then be pumped back to the water storage tanks located at the processing facility for use in the process plant and mining operation.

The proposed water storage facility will have a capacity of 1 million m^3 (approximately 75% of the annual consumption at a usage of 0.8 m^3 per tonne processed). A preliminary hydrological study has indicated that up to 650,000m^3 per annum of surface runoff and groundwater inflows is to be expected. Considering this, it is anticipated the Project will have a negative water balance on an annual basis and will require additional sources of make-up water to supplement the groundwater and surface runoff quantities.

It is planned for the additional water requirements to be made up from a well field of bore-holes on the periphery of the pit. The average deficit has been calculated to be 55,000 m^3 per month should average rainfall and average groundwater inflows occurs and a maximum demand of 110,000 m^3 should no groundwater of rainfall occur. This equates to 76 m^3 per hour and approximately 150 m^3 per hour required make-up water respectively. Assuming a single bore-hole can yield 10–20 m^3 per hour, up to 15 bore-holes will be required to augment the groundwater and surface water yields for processing and mining requirements.

The Project water management plan has been developed to ensure minimum impact on the surrounding community users. All surface water within the processing facilities area and mining area will be collected in a channel (if required) or allowed to gravitate to the water storage facility. The groundwater and surface water reporting to the open pit will be collected in a sump and pumped into a channel that will divert water to the water storage facility located at the lowest elevation within the watershed area to the east of the main pit.

Discharge of water from the water storage facility into the environment (outside the watershed area) is not expected as there is a negative water balance.

18.4 Tailing Disposal

The concept of the Flotation Plant TSF is to place flotation tailings into a main storage impoundment (located directly to the east of the main pit within a valley and watershed area) from mine rock and/or dehydrated tailings.

It is envisaged that the starter wall (~750,000 m^3) will be constructed of mine rock (or alternatively borrow pit material) to provide an initial 24 months of storage capacity at a processing rate of 1.75 Mtpa. Subsequent lifts of the TSF wall will use mine waste rock to raise the wall an increase storage capacity over the LOM. The final wall volume will require an additional 1.5 Mm^3 of waste rock to raise the wall to the final height and capacity of ~9.5 Mt.

Water reporting to the underdrain will be gravitated to the water storage facility located southeast of the open pit, downstream in the watershed valley from the TSF. Water for processing plant and mining will be pumped from the water storage facility to a RAW water make-up tank located at the processing plant facility.

18.5 Communications

The mine site will be linked to the nearest accessible public network using fibre-optic cable which will support both data and voice communications. A repeater system will provide the infrastructure to enable handheld and mobile radio sets to communicate around the site.

18.6 Effluent

Sewage from the various plant and mine site buildings will be dealt with by means of a packaged tertiary wastewater treatment system. Waste such as hydrocarbons from equipment maintenance and chemical waste from the laboratory will be collected and stored for collection by contractors who will remove from site and dispose of in accordance with the applicable regulations. Office waste and general waste will be collected by a cleaning contractor who will dispose of the waste materials in a solid Municipal landfill site.

18.7 Roads

The proposed access road to the plant site is an existing unsealed road approximately 13 km in length which runs from the 59 main sealed road through Konnitsi village to the Rozino village, thereafter the roads become exploration dirt tracks with varying condition.

The exploration dirt tracks leading from the Rozino village to the proposed processing plant site (some 1.5 km) will require upgrade to allow access of heavy vehicles. It is anticipated that the mine site will maintain the approximate 14.5 km of unsealed roads leading to the mine site from the main sealed road.

On site a 600 m long road will connect to an exit of the mine open-pit to the processing and site administration buildings. New unsealed roads and upgraded existing exploration tracks (approximately 2.5 km) will be required to be constructed from the main pit entrance to the TSF wall and water storage facility wall to allow for the construction of these walls.

18.8 Fuel Storage and Distribution

Diesel fuel storage will be provided to supply fuel to light vehicles, the mining fleet and mobile plant and equipment. All fuel required at the plant site will be delivered in tanker trucks by commercial suppliers. The fuel storage area will be bunded to prevent spillage of fuel contaminating the site area or watercourses. Minor quantities of petrol that may be required can be obtained from local fuel distributors.

18.9 Wash Bay Facilities

A vehicle washdown facility will be provided adjacent to the diesel fuel refuelling area. It will comprise a bunded concrete slab sloping to a settling sump. Captured rainfall and diesel spillage from the adjacent diesel refuelling facility will also be directed to this sump. A sump pump will transfer dirty water to an oil/water separator.

18.10 Buildings

Infrastructure buildings are classified as either architectural, control rooms or industrial. Architectural buildings include administration offices and ablution facilities. Control rooms include the crusher control room and the main process plant control room. Industrial buildings include workshops, stores and buildings that house process equipment.

As far as possible the proposed buildings will be temporary and semi-mobile in nature taking into consideration the LOM and ease of demobilization once site is required to be rehabilitated.

18.11 Security

All persons entering the flotation plant and mine facilities areas will be required to pass through the continuously manned boom gate adjacent to the administration building on the access road. Security guards located within the administration building will control all entry and exit of vehicles and personnel. Search and inspection of personnel, bags and items leaving the plant will be carried out at this facility.

A stock fence will be constructed around the all project facilities including the process plant, integrated mine waste facility, mine, and raw and process water reservoir. Security fencing with lockable access gates will be installed locally around the remote pumping facilities and the explosives magazine.

Additional security fencing will be provided around the warehouse yard.

18.12 Fire Protection

Fire protection will consist of the provision of fire hydrants, fire hose reel cabinets and fire extinguishers placed strategically around the facilities in accordance with the requirements of the relevant regulations. Firefighting water will be supplied from a dedicated volume in the firefighting water reservoir. Water is gravity fed to fire water pumps at the process plant. Jockey, duty and diesel-powered standby pumps will be provided. Various types of fire extinguishers will be provided in areas where water as a means of fire control is undesirable. These include motor control centres and control rooms.

19 Market Studies and Contracts

No market studies have been completed by the Company to date, and no existing contracts are in place.

20 Environmental Studies, Permitting and Social or Community Impact

20.1 Introduction

Velocity has retained Eco-stim EOOD ("Eco-stim"), a Bulgarian consultancy, and Mineesia, a UK-based consultancy to undertake an assessment of the environmental and social conditions relating to the Rozino Project.

The environmental and social requirements to support the PEA primarily include:

- Preliminary evaluation of the Project setting for potentially significant environmental and social constraints for site data
- Collection and review of available data relating to environmental and social studies, assessments or audits
- Applicable laws and regulations, regulatory inspections and any management plans or training programs
- Conceptual plans for mitigating any identified and significant environmental issues
- General overview of permitting conditions
- Preliminary overview of environmental risks.

At this stage of the Project, mitigation plans are based on good industry practice and depend upon the results of any monitoring programs.

20.2 Legal Setting

Under the Bulgarian Environment Protection Act ("EPA") (SG issue 91/25.09.2002 and subsequent amendments) the development of an economically viable mining reserve will require an ESIA.

The Project location occurs within the Eastern Rhodope mountains, an area of wide biodiversity. A compatibility assessment for the Project is required to comply with the Bulgarian Law on Biodiversity (SG Gazette No. 77/9.08.2002 and subsequent amendments), and the European Union Natura 2000 Habitats Directive (EEC Directive 92/43) before the Project could proceed. An initial compatibility assessment was conducted for the approved prospecting licence area by Eco-stim in 2017 (Eco-Stim, 2017) and a second assessment is underway as part of the ESIA process.

All necessary permits to conduct the work proposed for the property have been obtained and there are no known significant factors or risks that may affect access, title or the right or ability to perform work on the Property. The prospecting licence agreement for Rozino has been signed with the Minister of Energy and exploration activities have been approved by the Ministry of Environment.

20.3 International Requirements and Guidelines

The Project would be classified as a Category A development in accordance with International Finance Corporation (IFC) Guidelines. Mining projects are also classified under Annex I of the EU Directive for Environmental Assessment (2011/92/EU), under Items 4(b) and 19 (should the pits exceed 25 ha). As such, the Project is subject to an EIA process, in line with Bulgarian legislation.

The primary requirement for any International Project is to comply with local and national regulations of the host country. These regulations are often supplemented by standards and guidelines from international financial institutions, particularly with regard to environmental and social components of the Project. The IFC Sustainability Framework, with associated Performance Standards on Environmental and Social Sustainability provide the basis for most EIA assessments.

The Project will adopt Velocity policies and implement its Environmental Management Plan ("EMP") to guide environmental and social management, and stakeholder and community relations. The Project will aim to conform to the environmental and social requirements of the IFC Performance Standards, its associated Environmental Health and Safety guidelines, International Council for Mining and Metals and Equator Principles where they are relevant to the Project.

20.4 Project Permitting

In order to attain a permit for mining, the following stages are required:

1) Exploration assessment and exploration permitting.
2) Prepare a Technical and Economical Assessment report including Bulgarian compliant resource estimation and preliminary economic assessment for submission to the Ministry of Energy (MOE).
3) Defence of the Technical and Economical Assessment to a Governmental Interdisciplinary Expert Council at the MOE.
4) Announcement of an investment intention.
5) Prepare an environmental impact assessment report to Bulgarian regulations (OVOS).
6) Defence of the OVOS to the Interdisciplinary Environmental Council at the Ministry of Environment and Waters (MOEW).
7) Exploitation Compatibility Assessment and exploitation permitting.
8) OVOS approval and mining concession application.
9) Construction permits for various facilities depending upon final Project design.
10) Legal, financial and economic analyses for determination of royalties.
11) Concession contract for mining and processing of mineral resources.
12) Mining decision.

The OVOS will also be used to develop an ESIA suitable for lending institutions, based upon information collated and assessed by local and international experts.

20.5 Project Design

It is anticipated that the Project design will include the following:

- Open pit mine – to be developed using standard open cast mining techniques
- Flotation Plant – ore concentrate for transport and treatment at the CIL Plant
- Waste facilities – comprising waste rock dumps for stockpiling overburden and waste material from the open pit, a TSF for storage of slimes from the concentration plant, and a domestic waste facility for non-mineral wastes
- Water supply – including a storage reservoir and potentially a water treatment plant, including associated waste disposal ponds
- Power plant – either overhead transmission line from the 110 kV line at Byal Gradets (approximately 2.5 km south)
- Associated infrastructure – including haul roads, access roads, offices, workshops, ablutions and sewage treatment systems, explosives storage and a laboratory.

The design and location of Project facilities (Figure 39) has taken into account a number of environmental and land use considerations, including:

- Placement of facilities on State and municipal owned land and avoidance of privately-owned land wherever possible
- Placement of facilities in a single watershed to avoid obstruction of river and stream flows
- An activity exclusion zone of 300 m around the Egyptian vulture nesting zone below Tashlaka hill, outside of the area of works.
- A commitment not to disturb sites of archaeological interest close to the Project. The nearest archeological site is defined as an Ottoman watchtower and is well outside the area of works.

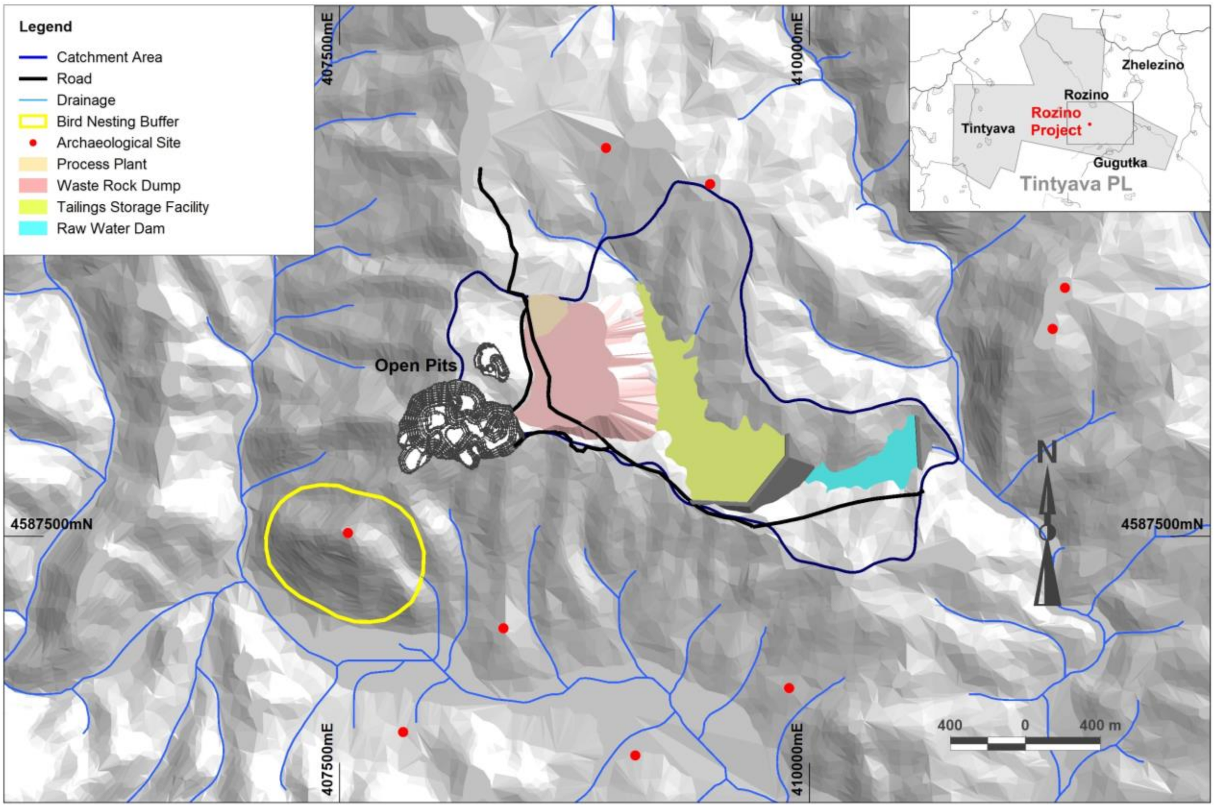


Figure 39: Rozino Project infrastructure with relation to exclusion zones

20.6 Baseline Environmental Setting

Figure 40: View looking north from the road in to Rozino village

20.6.1 Air Quality

Given the lack of industry within 10 km of the Project, there are no obvious sources of anthropogenic noise and vibration. The nearest towns are Ivaylovgrad (21 km), Krumovgrad (21 km) and Haskovo (59 km), none of which have any heavy industry. The closest Government air quality management and assessment station is located at Haskovo, while another station at Krumovgrad collects meteorological and hydrological data.

20.6.2 Soils

The soils found in the area are mainly lightly leached to leached dark brown soils and cinnamon-coloured forest soils (Andrew, 2009). Agriculture is one of the most prominent sectors in the Ivaylovgrad municipality. Soils and climatic conditions determine the type of agricultural crops that can be grown. In this area, these crops are grapes, grain / fodder crops, tobacco and vegetables.

20.6.3 Noise and Vibration

Given the lack of industry in the area, there are no distinctive sources of anthropogenic noise and vibration. Intermittent use by road traffic, agricultural and forestry machinery are the most discernible sources of such. Given the low population level in the region impacts are likely to be minimal.

20.6.4 Surface Water

The main water resources in the district are the Byala Rejka, and Luda Rejka rivers and their tributaries. These link into the regional Arda river drainage, which is situated in an unconnected regional watershed stretching 10km to the north and 10 km downstream of the Ivaylovgrad reservoir. The Ivaylovgrad reservoir is the lowest dam along the Arda River and is one of eight small hydroelectric dams present in Bulgaria (Andrew, 2009). The Rozino Project is within the catchment of the Byala Rejka. There is a seasonal variation in surface water flows in the region, therefore infrastructure has been constructed and regulations developed to manage its use. Most surface water is seasonal, with no flow during the dry season.

There are more than 117 water reservoirs in the area, the main one being the Ivaylovgrad Reservoir that has some potential for the development of tourism, recreation and water sports. All populations have access to local sources of drinking water.

20.6.5 Groundwater

Groundwaters are formed in colluvial sediments in the river terraces, and feed seasonal streams in the region. Levels decrease during the dry season, when the seasonal streams are dry. There is limited groundwater data available for the area, and wells have been installed to monitor groundwater levels. These wells indicate water levels are between 17 m and 40 m below surface. Further monitoring will include water quality analysis.

20.6.6 Flora and Fauna

The Eastern Rhodope Mountains region forms part of the European Ecological Network NATURA 2000. The network covers in total about 34.3% of the territory of Bulgaria (Lazarov, 2013), including the Tintyava Property. The Eastern Rhodope Mountains region has a wide range of biodiversity, with more than 1,335 species of plants, 350 species of butterflies, 21 species of fish, 10 species of amphibians, 26 species of reptiles, 273 species of birds and 59 species of mammals.

An ecological study was commissioned for the Tintyava Property as part of an Exploration Compatibility Assessment for the exploration work (Eco-stim, 2017). A Compatibility Assessment is a screening study of a potential development against Natura 2000 requirements. Additional work focusing on specific potential project footprints is currently underway.

The study obtained data on current biodiversity within the Tintyava Property and provided an initial baseline for future and more detailed studies. As such, attention was focused on natural habitats and species subject to conservation in the eastern half of the Eastern Rhodope region. The study examined bird species in the Byala Rejka Protected Area, which is located southeast of the licence area. Initial assessment targeted species with higher conservation status, i.e. those defined by the International Union for Conservation of Nature as being endangered and rare, and that would be expected to occur in the Tintyava Property. No protected bird species have been identified within the Project footprint area.

The results of the Exploration Compatibility Assessment identified 28 habitats within the Tintyava Property, seven of which are natural habitats subject to conservation measures. Within the potential project footprint, 16 habitats (as classified by EUNIS (Davies *et al.,* 2004)) were identified, of which eight types are potentially directly affected. Of conservation significance are seven types of habitats, which are included in Annex 1 of the Biodiversity Act and therefore subject to conservation in the Rhodopes-Eastern Protected Zone. Of these, only three (Table 58) are directly affected, and for the three affected habitats, areas affected are negligible (less than 1% of the area of the respective habitats in the area) and no known environmental restrictions currently prohibit the advancement of the project.

Table 57: Types of habitats in the surveyed area

No.	EUNIS code	Habitat	Annex 1	IP area	Area directly
1	C2.31	Upper currents of permanent, slow-flowing rivers and streams		10.420	4.810
2	E1.22	Semi-natural dry grass and shrub communities in limestone (Festuco Brometalia) (important orchid habitats)	6210(*)	120.129	14.426
3	E5.2	Meadows		65.727	13.945
4	F5.13	Juniperus spp.	5210	35.750	0.000
5	F5.31	Helene-Balkan pseudomarkus		33.069	0.000
6	G1.111	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	91E0*	3.369	0.000
7	G1.38	The forests of Platanus orientalis	92C0	11.983	0.000
8	G1.737	Eastern oak forests	91AA*	1,472.269	376.973
9	G1.76	Balkan-pine forests	91M0	3,499.512	976.317
10	G3. F1	Coniferous crops		631.707	340.571
11	G5.81	Recently cut down places, former deciduous forests		65.996	11.717
12	H2.58	Southeast European thermophilic silicate screes		1.432	0.000
13	H3.6	Silicate rocks with pioneer vegetation of Sedo-Scleranthion or Sedo albi-Veronicion dillenii	8230	2.619	0.000
14	H5.61	Roads without sidewalks		26.281	7.751
15	I1.53	Unprocessed, non-irrigated fields with annual and perennial weed formations		6.410	0.000
16	X25	Yard seats		2.698	0.000
		Total		**5,989.371**	**1,746.510**

Notes: App. 1 – code of Annex 1 of the BDA (- priority habitat); IP area – area in research area (ha); Area directly – area within buffer range of 50 m around IP (ha). Source: Eco-Stim, 2018.*

Table 58: Expected direct impact on natural habitats protected in the protected zones (PZ) according to MOEW (2013)

No.	Annex 1	Area of PZ	Direct/decars	Direct /%
1	6210(*)	6,341.000	14.426	0.23
2	5210	30,227.700	0.000	0.00
3	91E0*	101.500	0.000	0.00
4	92C0	311.500	0.000	0.00
5	91AA*	142,259.000	376.973	0.26
6	91M0	632,631.700	976.317	0.15
7	8230	14,799.300	0.000	0.00

Notes: Direct area within the buffer of 50 m around the IP; Direct /% - affected area compared to the area in PZ. Source: Eco-Stim, 2018.

With regards to fauna, 85 species of vertebrates were identified in the study area, to which a further 18 were identified during the 2018 study (Table 59).

Table 59: Newly-established vertebrate species in the Project area

No.	Species	Species (scientific name)
Reptiles		
1	Slowworm	*Anguis fragilis*
2	Aesculapian snake	*Elaphe longissima*
3	Dahl's whip snake	*Platyceps najadum*
4	Viper	*Vipera ammodytes*
Birds		
5	Grey heron	*Ardea cinerea*
6	Eurasian sparrowhawk	*Accipiter nisus*
7	Long-legged buzzard	*Buteo rufinus*
8	European honey buzzard	*Pernis apivorus*
9	Little owl	*Athene noctua*
10	Middle spotted woodpecker	*Dendrocopos medius*
11	Black woodpecker	*Dryocopus martius*
12	White-throated dipper	*Cinclus cinclus*
13	Eurasian wren	*Troglodytes troglodytes*
14	Black redstar	*Phoenicurus ochruros*
15	Song thrush	*Turdus philomelos*
16	Eurasian nuthatch	*Sitta europaea*
Mammals		
17	Edible dormouse	*Glis glis*
18	Golden jackal	*Canis aureus*

Source: Eco-Stim, 2018

Species that are subject to preservation measures include, the Stag Beetle (*Lucanus cervus*) and the Jersey tiger moth (*Euplagia quadripunctaria*). Two protected reptiles (Greek tortoise – *Testudo graeca* and Heman's Tortoise – *Testudo hermanni*) and one amphibian (yellow bellied toad – *Bombina variegata*) were also identified in the Tintyava Property. These species require relocating prior to significant ground disruption outside of the fenced area.

The Exploration Compatibility Assessment determined that exploration activities would have a negligible impact on the natural habitats and species subject to conservation in the Rhodopes-Eastern Rhodopes Protected Site. Mitigation measures including a buffer zone of 300 m and managing drilling activities were recommended by the Ministry of Environment and Waters to reduce potential impacts on bird species protected by a bird nesting protection zone located south of the Project (see Figure 37). Additional observations are required during the bird nesting season of birds to assess the potential for impact on bird species. Both these actions have been implemented by Velocity, although these areas fall outside of the Project footprint.

20.6.7 Protected Areas

No designated protected areas have been identified within the Project facilities footprint.

20.7 Baseline Social Setting

Within a 10 km radius of the Project, Ivaylovgrad is the main municipality, covering 851 km^2 and comprising 51 villages (Andrew, 2009). The nearest villages to the site of the proposed development are Rozino and Konnitsi 4 km north of Rozino towards Highway 89. There are several other villages within a 10 km radius of the proposed development, but these have no road connection with Rozino and the Project site and are physically well separated by the hilly topography of the region (Figure 41). Inhabitants of these villages are primarily involved in subsistence farming, particularly livestock and tobacco.as the sole cash crop. The other main land use is state controlled forestry. Industry is absent. There is no one single private sector employer within a 10 km radius of the site/exploration area.

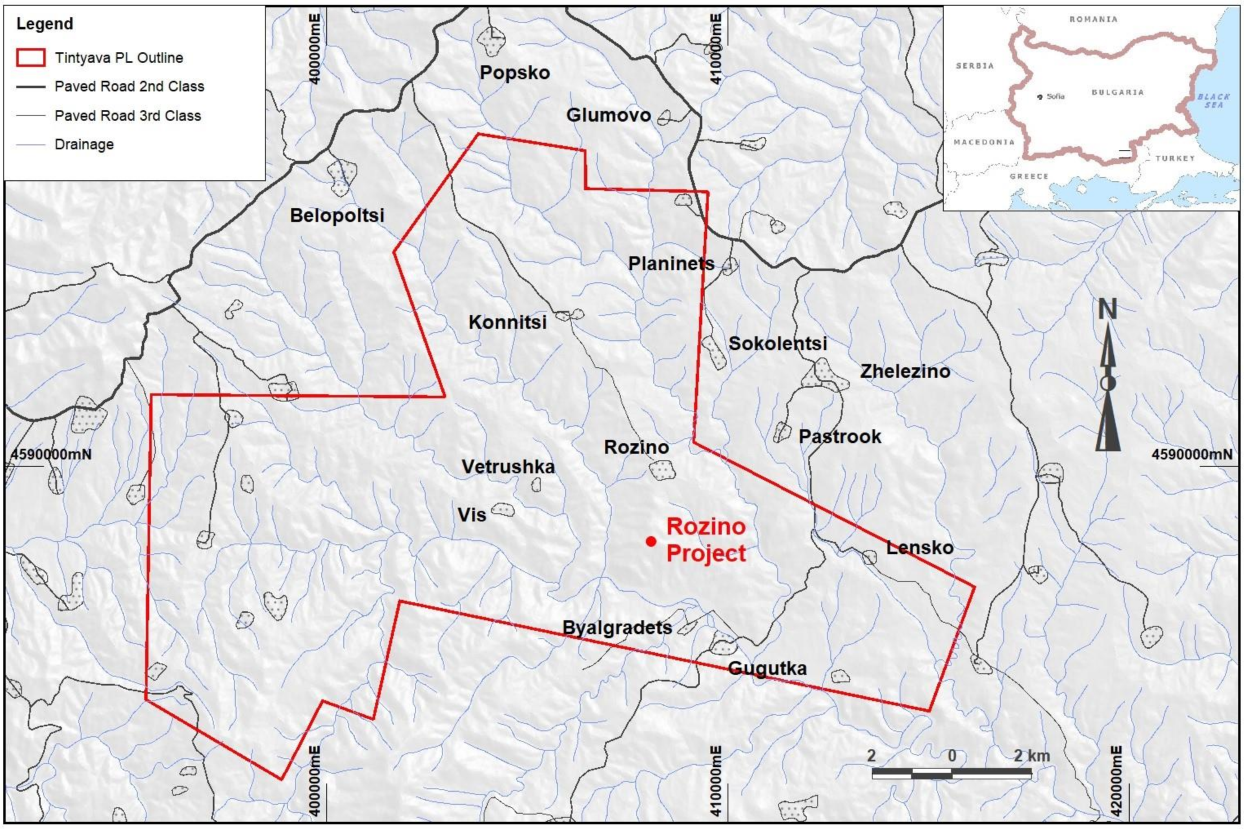


Figure 41: Villages in vicinity of Project

The Ministry of Regional Development and Public Works (2018) records the population of various villages, which have shown decreases in population compared to data collected in 2013 (Table 60). Continuing rural de-population could result in further decline in these numbers and the actual number of inhabitants may be less than in official records. For example, The Rozino village is currently deserted except for some Turkic ethnic Bulgarians who occupy several of the deserted houses. Additional observations will be required to verify actual population levels in the other villages, whether permanent or seasonal.

Table 60: Population numbers of villages in vicinity of Project

Village	Population as per permanent and current address*	Source dated 2013**
Rozino	41	62
Vetrushka	1	No info
Vis	6	4
Byalgradets	42	33
Gugutka	73	82
Lensko	13	18
Pastrook	21	16
Zhelezino	220	228
Konnitsi	79	96
Popsko	23	45
Glumovo	7	11
Belpolitsi	276	300
Pashkul	5	5
Sokolentsi	4	4
Planinets	49	51

** Source: Directorate General "Civil Registration and Administrative Services" to the Ministry of Regional Development and Public Works, dated 15.06.2018.*

*** Info source: http://www.guide-bulgaria.com/SC/haskovo/ivaylovgrad/rozino.*

20.7.1 Infrastructure

All villages have access to fresh water, through a network of reservoirs.

The ESIA will include an assessment of the existing and planned infrastructure and include benefits and impacts of any improvements.

20.7.2 Landscape and Visual

No established communities are present in the area that would be potential receptors for landscape and visual impacts. The terrain is generally hilly with dense vegetation cover in areas. As such, development of the Project is not anticipated to detract from the existing landscape, although the ESIA will include some landscape modelling in order to verify the extent of landscape changes.

20.7.3 Land Acquisition and Resettlement

Land ownership is currently being assessed, given the limited local population and economic drivers, resettlement of people is not currently considered to be required, although some land acquisition may be necessary. The vast majority of the land required for acquisition is government owned (98%) and there are few if any privately owned parcels of land. It may be necessary for some limited acquisition of privately held pastoral and or forestry land.

20.7.4 Archaeology and Cultural Heritage

An initial assessment of the archaeological interest of the area was conducted in August 2016 by examining the database Automatic Information System – Archaeological Card of Bulgaria ("AIS-ACB") and archives. To determine up-to-date results, additional studies are required, utilising specialists from National Archaeological Institute with Museum at the Bulgarian Academy of Sciences ("NAIM-BAS") and the Regional Historical Museums in Haskovo and Kardzhali.

There is one site of archaeological interest close to the Project, this is defined as a Turkish lookout tower, but lies outside of the proposed mine infrastructure footprint, and Velocity has committed to not disturb this site (Ref no. 1 590 350 on Figure 42). There are numerous other potential sites within the Tintyava Property, but none of these impact directly on planned works or future exploitation operations.

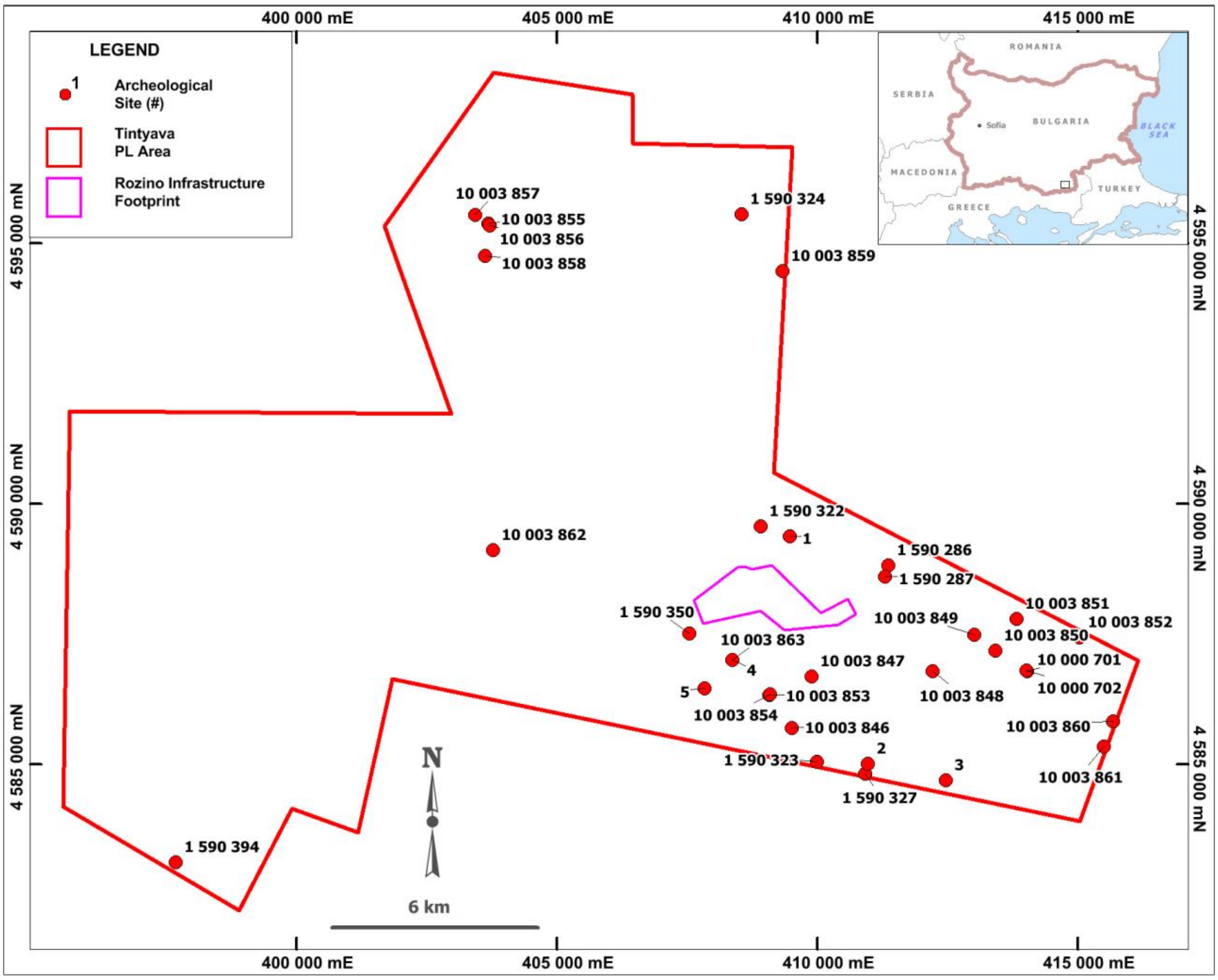


Figure 42: Tintyava Property with archaeological sites and resource extents

20.8 Potential Environmental Impacts

The ESIA and OVOS will include an assessment of the environmental and social impacts of the Project's planned development. Both national and international environmental consultants have undertaken visits to the Project and these are continuing as required with the objective of:

- An examination of existing baseline conditions
- Determining the scope of consultation with local and national stakeholders to identify impacts of concern

- An estimation of the nature and scale of impacts caused by the construction, operation and eventual closure of the Project
- An estimation of mitigation measures to be adopted to eliminate, avoid, reduce or compensate for adverse environmental impacts
- An evaluation of the residual impacts present after the mitigation measures have been implemented.

The Project is likely to give rise to a range of environmental and social impacts. However, assuming the implementation of the proposed mitigation measures, these impacts are considered manageable and controllable and therefore would enable effective environmental and social development, operation and closure of the Project.

20.9 Environmental Management Plan

Velocity is committed to managing the impacts of its operations, in conformance with recognised international best practice. An emergency response plan has been developed for the exploration phase. The plan includes measures to address accidents resulting from work, fires, power failures or flooding.

The purpose of the Environmental Management Plan ("EMP") is to ensure that appropriate control and monitoring measures are in place to deal with all significant impacts of the Project. The EMP has been designed so that it can be reviewed and updated on a systematic basis in line with company policies. It is also designed to be developed throughout the life of the Project. A basic EMP has been developed for exploration activities, which will be expanded to include Construction and subsequent Operational Phases of the Project.

The EMP includes details of the area of impact, objectives to reduce negative or enhance positive impacts, specific targets adopted to achieve those objectives, and definition of responsibilities for implementing the program. It is a live document that can be reviewed and updated on a systematic basis, in-line with the principles of continual improvement.

20.10 Health and Safety

The exploration works are being conducted in accordance to Bulgarian regulations for labour safety. All personnel are subject to medical screening and site-specific health and safety training prior to commencing work. Only suitably trained personnel are allowed to operate machinery.

Appropriate clothing is required to be worn, including personal protective equipment. Alcohol consumption is banned before and during working hours.

As a result, the health and safety culture is being developed during exploration, and this will be extended through construction and life of operation.

20.11 Monitoring

Velocity has commenced baseline monitoring for the Project. The objective of monitoring is to characterise environmental conditions, including groundwater, air quality (specifically airborne dust) and ecology, and will continue to observe any changes in the social environment of the Project area. This information is and will continue to be analysed to inform the environmental management of the Project and support the development of action levels and response plans for future monitoring of construction, operation and closure phase impacts.

Velocity has developed and implemented appropriate sampling procedures for water and dust sampling. Camera traps are planned to detect the presence and range of wildlife.

Groundwater levels are recorded on a monthly basis, and water quality samples are to be collected and sent for analysis on a six-monthly basis. Interactions with local communities are recorded in a daily diary, along with wildlife observations and any other items of environmental interest.

20.12 Public Consultation

As part of the environmental assessment, public consultation and disclosure is required. In order to ensure that the Project is developed and operated in an appropriate manner, Velocity will incorporate the concept that effective engagement with its stakeholders is an essential component of the assessment process and its ongoing "licence to operate". Velocity is therefore committed to a proactive program of communications with all relevant stakeholders.

The Project has few stakeholders due to the remoteness of the location. The closest people to the site are itinerant workers, with small-scale farmers present near Konnitsi. Public consultation is required under Bulgarian legislation. Formal meetings have not commenced as yet, and any informal meetings will be recorded. A log of any meetings will be kept, summarizing the numbers of people engaged with, their activities and any issues or concerns they may have with the Project.

21 Capital and Operating Costs

21.1 Capital Costs

Capital costs for mining have been calculated from international benchmarked contractor rates for mobilization of equipment and construction on a mine services area that includes heavy equipment workshops, store and administrative structures. Table 61 below summarizes the key mining capital requirements.

Table 61: Mining capital estimated costs

Mining capex	Unit	LOM total
Rozino		
Pre-strip	US$M	0.00
Equipment mobilization	US$M	0.65
Haul roads construction	US$M	2.60
Construction equipment mobilization	US$M	0.05
Workshop	US$M	0.15
Offices	US$M	0.15
Ablutions	US$M	0.06
Wash-down	US$M	0.06
Store	US$M	0.00
Lube storage facilities	US$M	0.23
Crib and safety training	US$M	0.26
Senior staff accommodation	US$M	0.37
Security	US$M	0.12
Construction equipment demobilization	US$M	0.05
Mine equipment	US$M	0.00
Earthworks	US$M	0.00
Total capex	**US$M**	**4.75**

The Flotation Plant capital cost estimate have been calculated from international benchmarked capital costs based on similar-sized flotation processing plant. A capital allowance has been calculated for the tailings management facility and water storage facilities at Rozino site based on international benchmarking capital rates in conjunction with estimated dam wall volumes.

Table 62: Flotation Plant estimated capital costs

Flotation plant capex	Unit	LOM total
Equipment	US$M	15.07
Installation labour	US$M	9.69
Concrete	US$M	1.25
Piping	US$M	3.97
Structural steel	US$M	1.38
Instrumentation	US$M	0.93
Insulation	US$M	0.46
Electrical	US$M	1.85
Coatings and sealants	US$M	0.16
Mill building	US$M	3.49
Total capital	**US$**	**38.27**

At the CIL Plant, a US$0.7 million capital expenditure provision for has been estimated for the construction of a truck off-load facility, concentrate storage, re-pulping facility, additional gold stripping vessel and electrowinning cell. The remaining equipment and facilities at the CIL Plant have been determined to be of adequate size and condition and will require no further capital expenditure.

The following capital ratios have been applied in the capital estimate:

- 1.5% capital allowance for Project Indirects
- 3.5% capital allowance for Owners Costs
- 12.5% capital fee for Engineering Procurement and Construction Management ("EPCM")
- 10% contingency for estimation inaccuracy and miscellaneous items.

Table 63 below summarizes the total project capital requirements.

Table 63: Summary of estimated capital costs

Capex	Unit	LOM total	2020	2021	2022	2023	2024	2025
Rozino								
Mining equipment	US$M	**0.0**						
Mine infrastructure	US$M	**4.8**	3.1	1.7				
Flotation plant on site	US$M	**41.4**	28.0	13.4				
TSF	US$M	**10.3**		6.0	2.1		2.1	
Water treatment plant	US$M	**0.0**		-				
Gorubso upgrades	US$M	**0.5**		0.5				
Study costs	US$M	**0.0**						
Owner's cost	US$M	**1.9**	1.1	0.8	0.1			
Indirects	US$M	**0.8**	0.5	0.3	0.0			
EPCM	US$M	**6.9**	3.9	2.7	0.3			
Closure (provisioned in opex)	US$M	**0.0**						
Subtotal	**US$M**	**66.5**	**36.5**	**25.4**	**2.5**	**-**	**2.1**	**-**
Contingency	US$M	**6.7**	3.7	2.5	0.3	-	0.2	-
TOTAL CAPEX	**US$M**	**73.2**	**40.2**	**27.9**	**2.8**	**-**	**2.4**	

21.2 Operating Costs

The mine operating costs were estimated from international benchmarked contractor mining rates and calculated per period based on the mine production schedule (Table 64).

Table 64: Summary of mine operating costs cash flow

	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
Mining costs	**US$M**	**99**	**0.0**	**0.0**	**16.9**	**19.5**	**19.3**	**17.7**	**16.7**	**9.0**	**0.0**
Drill and blast	**US$M**	**30.99**	**0.0**	**0.0**	**5.0**	**6.1**	**6.4**	**6.0**	**5.1**	**2.4**	**0.0**
Oxide – Waste	US$M	**2.26**	0.0	0.0	1.2	0.6	0.4	0.1	0.0	0.0	0.0
Trans – Waste	US$M	**4.51**	0.0	0.0	1.8	1.3	0.8	0.6	0.0	0.0	0.0
Fresh – Waste	US$M	**15.37**	0.0	0.0	0.9	2.6	3.6	3.6	3.4	1.3	0.0
Oxide – Ore	US$M	**0.93**	0.0	0.0	0.4	0.4	0.1	0.0	0.0	0.0	0.0
Trans – Ore	US$M	**1.98**	0.0	0.0	0.4	0.5	0.5	0.5	0.0	0.0	0.0
Fresh – Ore	US$M	**5.95**	**0.0**	**0.0**	**0.2**	**0.7**	**1.0**	**1.2**	**1.7**	**1.1**	**0.0**
Load and haul	**US$M**	**35.09**	**0.0**	**0.0**	**6.8**	**7.1**	**6.4**	**5.5**	**5.9**	**3.4**	**0.0**
Oxide – Waste	US$M	**4.27**	0.0	0.0	2.4	1.1	0.6	0.1	0.0	0.0	0.0
Trans – Waste	US$M	**4.18**	0.0	0.0	1.9	1.2	0.6	0.4	0.0	0.0	0.0
Fresh – Waste	US$M	**16.55**	0.0	0.0	1.0	2.9	3.5	3.4	3.9	1.8	0.0
Oxide – Ore	US$M	**1.69**	0.0	0.0	0.8	0.6	0.2	0.0	0.0	0.0	0.0
Trans – Ore	US$M	**1.69**	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0
Fresh – Ore	US$M	**6.71**	**0.0**	**0.0**	**0.2**	**0.8**	**1.0**	**1.1**	**2.0**	**1.6**	**0.0**
Other mining costs	**US$M**	**26.03**	**0.0**	**0.0**	**4.27**	**5.1**	**5.2**	**4.8**	**4.3**	**2.3**	**0.0**
Dewatering cost	US$M	**5.42**	0.0	0.0	0.95	1.1	1.1	1.0	0.9	0.4	0.0
Pre-split costs	US$M	**11.60**	0.0	0.0	2.0	2.3	2.4	2.2	1.8	0.9	0.0
Pit wall support	US$M	**0.00**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ancillary and support equipment	US$M	**2.32**	0.0	0.0	0.4	0.5	0.5	0.4	0.4	0.2	0.0
Grade control cost	US$M	**6.64**	0.0	0.0	0.9	1.2	1.2	1.2	1.2	0.8	0.0
Ore re-handle cost	US$M	**0.05**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rehabilitation costs	US$M	**0.00**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Monthly management fees	**US$M**	**7.08**	**0.0**	**0.0**	**0.9**	**1.3**	**1.3**	**1.3**	**1.3**	**0.9**	**0.0**
MINING COSTS UNIT COSTS	**US$/tonne**	**0.24**	**0.00**	**0.00**	**0.00**	**3.37**	**2.91**	**2.61**	**2.70**	**1.71**	**0.00**
	US$/Au oz	**272.0**	**0.0**	**0.0**	**366.0**	**320.1**	**333.4**	**278.9**	**212.6**	**156.9**	**0.0**

The processing costs for the Flotation Plant at Rozino were estimated from international benchmarked rates and calculated per period based on the process feed schedule (Table 65).

Table 65: Flotation Plant operational cost cash flow

	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
Flotation plant	**kt**	9,471	0	0	1,262	1,750	1,750	1,750	1,750	1,209	0
Flotation plant on site	**US$M**	**41.49**	**0.00**	**0.00**	**5.53**	**7.67**	**7.67**	**7.67**	**7.67**	**5.30**	**0.00**
Labour	US$M	**0.85**	-	-	0.11	0.16	0.16	0.16	0.16	0.11	-
Power	US$M	**10.06**	-	-	1.34	1.86	1.86	1.86	1.86	1.28	-
Maintenance	US$M	**10.59**	-	-	1.41	1.96	1.96	1.96	1.96	1.35	-
Spares	US$M	**9.38**	-	-	1.25	1.73	1.73	1.73	1.73	1.20	-
Reagents	US$M	**3.02**	-	-	0.40	0.56	0.56	0.56	0.56	0.39	-
Assaying	US$M	**0.95**	**0.00**	**0.00**	**0.13**	**0.18**	**0.18**	**0.18**	**0.18**	**0.12**	**0.00**
Fixed cost	**US$M**	**6.63**	**0.00**	**0.00**	**0.88**	**1.23**	**1.23**	**1.23**	**1.23**	**0.85**	**0.00**
FLOTATION PLANT UNIT COSTS	**US$/tonne**	**4.38**	**0.00**	**0.00**	**4.38**	**4.38**	**4.38**	**4.38**	**4.38**	**4.38**	**0.00**
	US$/Au oz	**113.8**	**0.0**	**0.0**	**119.4**	**125.6**	**132.4**	**120.7**	**97.7**	**92.3**	**0.0**

The processing costs for the CIL Plant were estimated from actual and budget estimates for the operating CIL Plant and adjusted for expected concentrate throughput concentrate production schedule (Table 66).

Table 66: CIL Plant operational cost cash flow

CIL plant	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
CIL plant	**kt con**	436	0	0	55	73	69	76	94	69	0
Flotation plant on site	**US$M**	**17.04**	**0.00**	**0.00**	**2.16**	**2.85**	**2.70**	**2.97**	**3.67**	**2.68**	**0.00**
Labour and associated costs	US$M	**1.01**	-	-	0.13	0.17	0.16	0.18	0.22	0.16	-
Administrative costs	US$M	**0.00**	-	-	-	-	-	-	-	-	-
External services	US$M	**0.03**	-	-	0.00	0.01	0.01	0.01	0.01	0.01	-
Reagents/Chemicals	US$M	**3.21**	-	-	0.41	0.54	0.51	0.56	0.69	0.51	-
Materials	US$M	**1.23**	-	-	0.16	0.21	0.20	0.21	0.26	0.19	-
Power	US$M	**1.86**	-	-	0.24	0.31	0.29	0.32	0.40	0.29	-
Maintenance	US$M	**0.03**	-	-	0.00	0.00	0.00	0.00	0.01	0.00	-
Fuels and oils	US$M	**1.89**	**0.00**	**0.00**	**0.24**	**0.32**	**0.30**	**0.33**	**0.41**	**0.30**	**0.00**
Fixed cost	**US$M**	**7.78**	**0.00**	**0.00**	**0.99**	**1.30**	**1.24**	**1.35**	**1.67**	**1.22**	**0.00**
CIL PLANT UNIT COSTS	**US$/tonne**	**1.80**	**0.00**	**0.00**	**1.71**	**1.63**	**1.55**	**1.70**	**2.10**	**2.22**	**0.00**
	US$/Au oz	**46.7**	**0.0**	**0.0**	**46.7**	**46.7**	**46.7**	**46.7**	**46.7**	**46.7**	**0.0**

The on-mine costs for the Rozino site were estimated from first principles based on local labour rates (derived from similar operations within the region) and includes provision for stores and equipment. (Table 67).

Table 67: On-mine operational cost cash flow

On-mine costs	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
On-mine costs	US$M	29	0	0	4	5	5	5	5	4	0
Administration	US$M	**9**	-	-	1.25	1.73	1.73	1.73	1.73	1.20	-
Production supervisory	US$M	**2**	-	-	0.21	0.28	0.28	0.28	0.28	0.20	-
Technical services	US$M	**6**	-	-	0.75	1.04	1.04	1.04	1.04	0.72	-
Human resources	US$M	**1**	-	-	0.19	0.26	0.26	0.26	0.26	0.18	-
Health and safety	US$M	**7**	-	-	0.98	1.35	1.35	1.35	1.35	0.94	-
Security	US$M	**4**	-	-	0.53	0.73	0.73	0.73	0.73	0.50	-
ON-MINE COSTS UNIT COSTS	**US$/tonne**	**3.09**	**0.00**	**0.00**	**3.09**	**3.09**	**3.09**	**3.09**	**3.09**	**3.09**	**0.00**
	US$/Au oz	**80.1**	**0.0**	**0.0**	**84.1**	**88.5**	**93.3**	**85.0**	**68.8**	**65.0**	**0.0**

A concentrate transport cost of US$0.14/tonne has been used to calculate the cost attributable to the transportation of the gold bearing concentrate. The concentrate is required to be trucked 85 km to the CIL Plant located in the city of Kardzhali, equating to an additional transport cost of US$11.9/tonne concentrate or US$0.6/tonne milled ore.

Additional operating costs of 4% for sustaining capital and US$0.75/tonne ore for the environmental provision was allowed in the operating cost estimate.

The tabulation below summarizes the operating costs used in the Base Case financial valuation.

Table 68: Summary of the Rozino operational cost cash flow

	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total opex costs	**US$M**	**198**	**0**	**0**	**30**	**38**	**37**	**36**	**36**	**22**	**0**
Mining	US$M	99	-	-	16.94	19.54	19.30	17.72	16.69	9.01	-
Flotation plant	US$M	41	-	-	5.53	7.67	7.67	7.67	7.67	5.30	-
CIL plant	US$M	17	-	-	2.16	2.85	2.70	2.97	3.67	2.68	-
On-mine	US$M	29	-	-	3.89	5.40	5.40	5.40	5.40	3.73	-
Environmental provision	US$M	7	-	-	0.95	1.31	1.31	1.31	1.31	0.91	-
Sustaining capex	US$M	4	-	-	0.54	0.74	0.74	0.75	0.77	0.54	-
TOTAL OPEX COSTS UNIT COSTS	**US$/tonne**	**20.92**	**0.00**	**0.00**	**23.78**	**21.43**	**21.21**	**20.46**	**20.29**	**18.33**	**0.00**
	US$/Au oz	**543.3**	**0.0**	**0.0**	**648.3**	**614.6**	**641.1**	**563.7**	**452.3**	**386.1**	**0.0**

22 Economic Analysis

22.1 Assumptions

A standard DCF method of financial valuation is used to value the Rozino Project. The DCF model is reported at 100% attributable equity. Key inputs to the financial valuation such as the ROM production profile, operating costs and capital costs have been described in detail in the preceding sections of this report.

The DCF model has utilised US$ as the base currency as majority of capital and operating cost estimates are based in US$. Where stated (specifically in the output and reporting numbers), a Rate of Exchange of C$0.75 to US$1.00 has been used for currency conversion.

Corporate tax rates in Bulgaria are 10% payable on positive cash flows from operations.

A five-year straight line depreciation method of redeeming capital expenditure has been used to amortise the capital cash flows.

Cash flows are discounted at 5% to obtain an NPV of the Project.

Key financial assumptions are presented in Table 69 to Table 71.

Table 69: Key Project overview and metrics

Project Overview	Units	
Mining		
Total ore production	kt	9,471
Total waste production	kt	23,679
Total mined	kt	33,150
Metal mined	koz	461
Mine life	years	6.1
Steady state ROM production	kt/a	1750
Year at steady state	years	4.0
Average production rate	kt/d	4.3
Average head grades		
Au	g/t	1.51
Ag	g/t	0.00
Processing		
Overall metallurgical recovery	%	79.2%
Payable Au	LOM koz	365
	average koz/year	60
Payable Ag	LOM koz	0
	average koz/year	0

Table 70: Summary of LOM operating costs

Operating costs	Unit	US$/tonne	C$/tonne
Mining	$/tonne	10.47	13.96
Flotation plant on site	$/tonne	4.38	5.84
Milling (CIL to doré)	$/tonne	1.80	2.40
On-mine	$/tonne	3.09	4.11
Off-mine	$/tonne	0.00	0.00
Environmental provision	$/tonne	0.75	1.00
Sustaining capital	$/tonne	0.43	0.57
All-in opex	$/tonne	20.92	27.89
All-in opex (AISC)	$/Au oz_{pay}	543.31	724.41

Table 71: Summary of initial capital costs

Capital costs	US$M	C$M
LOM capital	**73.2**	**97.6**
Mine infrastructure	4.8	6.3
Flotation plant on site	41.4	55.2
TSF	10.3	13.7
Water treatment plant	0.0	0.0
Gorubso upgrades	0.5	0.7
Study costs	0.0	0.0
Owner's cost	1.9	2.6
Indirects	0.8	1.1
EPCM	6.9	9.1
Contingency	6.7	8.9

22.2 Cash Flow Forecasts

The full DCF analysis is presented in Table 72 below.

Table 72: Full DCF analysis

	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
METAL PRICES AND F/X RATE											
Au	US$/oz	**1,250**	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250
Ag	US$/oz	**18.00**	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
F/X	US$:C$	**0.75**	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PRODUCTION SCHEDULE											
Rozino											
Ore mined	**kt**	**9,471**	**0**	**0**	**1,262**	**1,765**	**1,760**	**1,761**	**1,760**	**1,163**	**0**
Au grade	g/t	**1.51**	-	-	1.44	1.37	1.30	1.42	1.76	1.89	-
Ag grade	g/t	**0.00**									
Waste mined	kt	**23,679**	-	-	4,540	4,872	5,037	4,415	3,514	1,300	-
Total mined	**kt**	**33,150**	**-**	**-**	**5,802**	**6,637**	**6,797**	**6,176**	**5,274**	**2,463**	**-**
Strip ratio	w:o	**2.50**	-	-	3.60	2.76	2.86	2.51	2.00	1.12	-
Total											
Total ore mined	**kt**	**9,471**	-	-	1,261.91	1,765	1,760	1,761	1,760	1,163	-
Total waste mined	**kt**	**23,679**	-	-	4,540.11	4,872	5,037	4,415	3,514	1,300	-
Total mined	**kt**	**33,150**	-	**-**	**5,802**	**6,637**	**6,797**	**6,176**	**5,274**	**2,463**	**-**
Au grade	g/t	**1.51**	-	-	1.44	1.37	1.30	1.42	1.76	1.89	-
Ag grade	g/t	**0.00**	-	-	-	-	-	-	-	-	-
Mining rate	*kt/d*	***4.3***	-	-	*3.6*	*5.0*	*3.0*	*5.0*	*5.0*	*3.3*	-
Contained metal											
Au	koz	**460.563**	-	-	58	78	73	81	100	71	-
Ag	koz	**0**	-	-	-	-	-	-	-	-	-
MILL SCHEDULE											
Ore milled	**kt**	**9,471**	**-**	**-**	**1,262**	**1,750**	**1,750**	**1,750**	**1,750**	**1,209**	**-**
Au grade	g/t	**1.51**	-	-	1.44	1.37	1.30	1.43	1.76	1.87	-
Ag grade	g/t	**0.00**									
Contained metal											
Au	koz	**461**	-	-	58	77	73	80	99	73	-
Ag	koz	**0**	-	-	-	-	-	-	-	-	-

	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
NSR											
Flotation plant											
Recovery to concentrate	% Au	**91.4%**	0%	0.0%	91.4%	91.4%	91.4%	91.4%	91.4%	91.4%	0.0%
	% Ag	**0.0%**	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Metal in concentrate	Au koz	**421**	-	-	53	70	67	73	91	66	-
	Ag koz	**0**	-	-	-	-	-	-	-	-	-
Mass pull factor			-	-	4.39%	4%	4%	4%	5%	6%	0%
Concentrate grade	g/t Au	**30.0**	0	0	30	30	30	30	30	30	0
Concentrate produced	dmkt	**436**	-	-	55	73	69	76	94	69	-
	wmkt	**474**	-	-	60	79	75	83	102	75	-
Moisture content	%	**8%**	0%	0%	8%	8%	8%	8%	8%	8%	0%
Rozino plant											
Recovery to doré	% Au	**86.6%**	0%	0.0%	86.6%	86.6%	86.6%	86.6%	86.6%	86.6%	0.0%
	% Ag	**0.0%**	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minimum deduction Au	g/t Au	**0**	-	-	-	-	-	-	-	-	-
	%	**100.0%**	0%	0%	100%	100%	100%	100%	100%	100%	0%
Payable metal											
Payable Au	koz	**365**	-	-	46	61	58	64	78	57	-
	US$M	**455.8**	-	-	58	76	72	79	98	72	-
Payable Ag	%	**100.0%**	0%	0%	100%	100%	100%	100%	100%	100%	0%
	koz	**0**	-	-	-	-	-	-	-	-	-
	US$M	**0.0**	-	-	-	-	-	-	-	-	-
Au refining charge	US$/pay oz	**4.50**	-	-	4.50	4.50	4.50	4.50	4.50	4.50	-
	US$M	**1.6**	-	-	0.2	0.3	0.3	0.3	0	0	-
Ag refining charge	US$/pay oz	**0.50**	-	-	0.50	0.50	0.50	0.50	0.50	0.50	-
	US$M	**0.0**	-	-	-	-	-	-	-	-	-
Concentrate transportation cost	US$/wmt	**11.90**	-	-	11.90	11.90	11.90	11.90	11.90	11.90	-
	US$M	**5.6**	-	-	0.7	0.9	0.9	1.0	1.2	0.9	-
NSR (pre-royalty)	**US$M**	**448.5**	**-**	**-**	**56.9**	**75.1**	**71.2**	**78.1**	**96.6**	**70.6**	**-**
NSR royalty	US$M	**9.0**	-	-	1.1	1.5	1.4	1.6	1.9	1.4	-
Total NSR (post-royalty)	**US$M**	**439.6**	**-**	**-**	**55.8**	**73.6**	**69.8**	**76.6**	**94.6**	**69.2**	**-**
	US$/tonne	**281.19**	**-**	**-**	**44.22**	**42.04**	**39.88**	**43.75**	**54.07**	**57.23**	**-**

	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
OPEX											
Mining	US$M	**99.20**	-	-	16.94	19.54	19.30	17.72	16.69	9.01	-
	US$/tonne$_{mined}$	**2.99**	-	-	2.92	2.94	2.84	2.87	3.16	3.66	-
	US$/tonne$_{milled}$	**10.47**	-	-	13.43	11.16	11.03	10.12	9.54	7.45	-
Flotation plant on site	US$M	**41.49**	-	-	5.53	7.67	7.67	7.67	7.67	5.30	-
	US$/tonne$_{milled}$	**4.38**	-	-	4.38	4.38	4.38	4.38	4.38	4.38	-
CIL plant to doré	US$M	**17.04**	-	-	2.16	2.85	2.70	2.97	3.67	2.68	-
	US$/tonne$_{milled}$	**1.80**	-	-	1.71	1.63	1.55	1.70	2.10	2.22	-
On-mine costs	US$M	**29.22**	-	-	3.89	5.40	5.40	5.40	5.40	3.73	-
	US$/tonne$_{milled}$	**3.09**	-	-	3.09	3.09	3.09	3.09	3.09	3.09	-
Off-mine costs	US$M	**0.00**	-	-	-	-	-	-	-	-	-
	US$/tonne$_{milled}$	**0.00**	-	-	-	-	-	-	-	-	-
Environmental provision	US$M	**7.10**	-	-	0.95	1.31	1.31	1.31	1.31	0.91	-
	US$/tonne$_{milled}$	**0.75**	-	-	0.75	0.75	0.75	0.75	0.75	0.75	-
Sustaining capital	US$M	**4.08**	-	-	0.54	0.74	0.74	0.75	0.77	0.54	-
	US$/tonne$_{milled}$	**0.43**	-	-	0.43	0.42	0.42	0.43	0.44	0.45	-
Total opex	**US$M**	**198.1**	**-**	**-**	**30.0**	**37.5**	**37.1**	**35.8**	**35.5**	**22.2**	**-**
	US$/tonne$_{milled}$	**20.92**	**-**	**-**	**23.78**	**21.43**	**21.21**	**20.46**	**20.29**	**18.33**	**-**
Net operating income	**US$M**	**241.4**	**-**	**-**	**25.8**	**36.1**	**32.7**	**40.8**	**59.1**	**47.0**	**-**
	US$/tonne$_{milled}$	**25.49**	**-**	**-**	**20.44**	**20.61**	**18.67**	**23.29**	**33.78**	**38.90**	**-**
CAPEX											
Rozino											
Mining equipment	US$M	**0.0**	-	-	-	-	-	-	-	-	-
Mine infrastructure	US$M	**4.8**	3.1	1.7	-	-	-	-	-	-	-
Flotation plant on site	US$M	**41.4**	28.0	13.4	-	-	-	-	-	-	-
TSF	US$M	**10.3**	-	6.0	2.1	-	2.1	-	-	-	-
Water treatment plant	US$M	**0.0**	-	-	-	-	-	-	-	-	-
Gorubso upgrades	US$M	**0.5**	-	0.5	-	-	-	-	-	-	-
Study costs	US$M	**0.0**	-	-	-	-	-	-	-	-	-
Owner's cost	US$M	**1.9**	1.1	0.8	0.1	-	-	-	-	-	-
Indirects	US$M	**0.8**	0.5	0.3	0.0	-	-	-	-	-	-
EPCM	US$M	**6.9**	3.9	2.7	0.3	-	-	-	-	-	-

	Unit	LOM total	2020	2021	2022	2023	2024	2025	2026	2027	2028
Closure	US$M	**0.0**	-	-	-	-	-	-	-	-	-
Subtotal	**US$M**	**66.5**	**36.5**	**25.4**	**2.5**	**-**	**2.1**	**-**	**-**	**-**	**-**
Contingency	US$M	**6.7**	3.7	2.5	0.3	-	0.2	-	-	-	-
Total capex	**US$M**	**73.2**	**40.2**	**27.9**	**2.8**	**-**	**2.4**	**-**	**-**	**-**	**-**
Working capital	US$M	**0.0**									
ROCE		**3.3**									
Net pre-tax cash flow	**US$M**	**168.2**	**-40.2**	**-27.9**	**23.0**	**36.1**	**30.3**	**40.8**	**59.1**	**47.0**	**0.0**
Cumulative net pre-tax cash flow	**US$M**		**-40.2**	**-68.1**	**-45.1**	**-9.0**	**21.3**	**62.1**	**121.2**	**168.2**	**168.2**
Taxes	US$M	**16.9**	-	-	-	1.2	1.8	3.4	5.8	4.7	-
Net after-tax cash flow	**US$M**	**151.4**	**-40.2**	**-27.9**	**23.0**	**34.9**	**28.5**	**37.3**	**53.3**	**42.4**	**0.0**
Cumulative net after-tax cash flow	**US$M**		**-40.2**	**-68.1**	**-45.1**	**-10.2**	**18.3**	**55.7**	**109.0**	**151.4**	**151.4**
ECONOMIC INDICATORS											
Pre-tax results											
Pre-tax NPV (@ 5% discount)	US$M	108.6									
	C$M	144.8									
Pre-tax NPV (@0% discount)	US$M	168.2									
	C$M	224.3									
IRR	%	35.1%									
Payback from Project start	years	4.2	1.0	1.0	1.0	1.0	0.2	0.0	0.0	0.0	0.0
Payback from Production start	years	2.2	0.0	0.0	1.0	1.0	0.2	0.0	0.0	0.0	0.0
After-tax results											
After-tax NPV (@ 5% discount)	US$M	96.9									
	C$M	129.2									
After-tax NPV (@0% discount)	US$M	151.4									
	C$M	201.8									
IRR	%	33.1%									
Payback from Project start	years	4.3	1.0	1.0	1.0	1.0	0.3	0.0	0.0	0.0	0.0
Payback from Production start	years	2.3	0.0	0.0	1.0	1.0	0.3	0.0	0.0	0.0	0.0

22.3 NPV, IRR and Payback

Key financial outcomes are presented in Table 73.

Table 73: Summary of economic results

Summary of economic results	Units	
Pre-tax		
NPV @ 0%	US$M	168.2
	C$M	224.3
NPV @ 5%	US$M	108.6
	C$M	144.8
IRR	%	35.1%
Payback (Project Start)	years	4.2
Payback (Production Start)	years	2.2
Post-tax		
NPV @ 0%	US$M	151.4
	C$M	201.8
NPV @ 5%	US$M	96.9
	C$M	129.2
IRR	%	33.1%
Payback (Project Start)	years	4.3
Payback (Production Start)	years	2.3
ROCE	EBIT/CE	3.3

22.4 Taxes and Royalties

Corporate tax is at 10% based on positive EBITDA.

Royalties due are on a sliding scale based on profitability, and in the range 0.5% to 2.5%. For the purposes of inclusion in the financial model, a value of 2% has been adopted and is considered reasonable.

22.5 Sensitivity Analysis

A number of standard financial sensitivities are listed in Table 74 below.

Table 74: Key sensitivity analyses for the Rozino Project

	Sensitivities	After-tax IRR (%)	After-tax $NPV_{5\%}$ (C$M)
CAPEX	-25%	43.8%	$148.5
	Base Case	**33.1%**	**$129.2**
	+25%	25.7%	$110.3
OPEX	-25%	41.2%	$173.6
	Base Case	**33.1%**	**$129.2**
	+25%	24.2%	$84.5
Gold price	US$1,000	17.6%	51.3
	Base Case US$1,250	**33.1%**	**129.2**
	US$1,500	46.0%	207.0

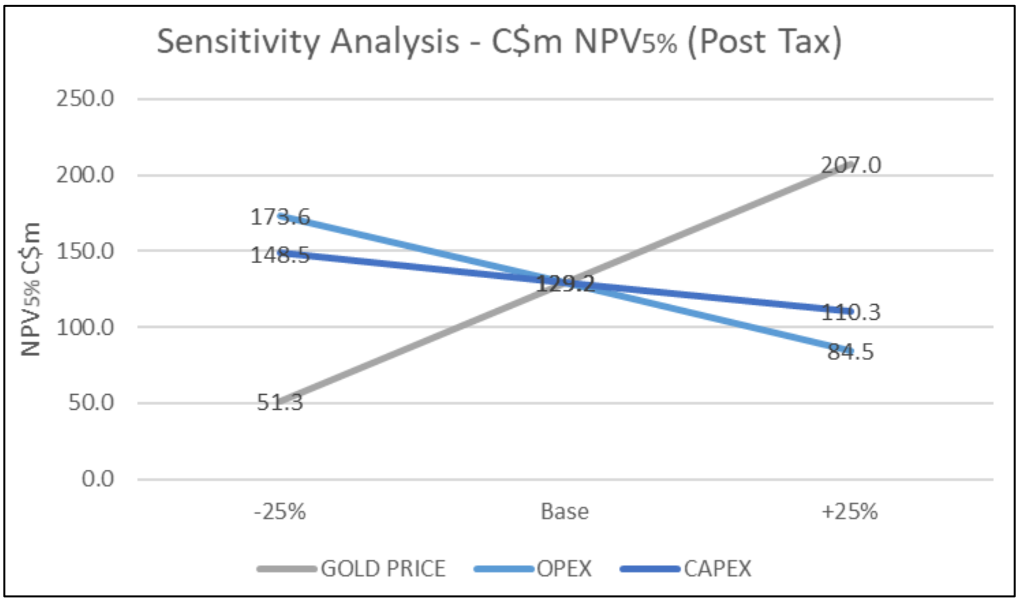


Figure 43: Standard financial sensitivity (NPV)

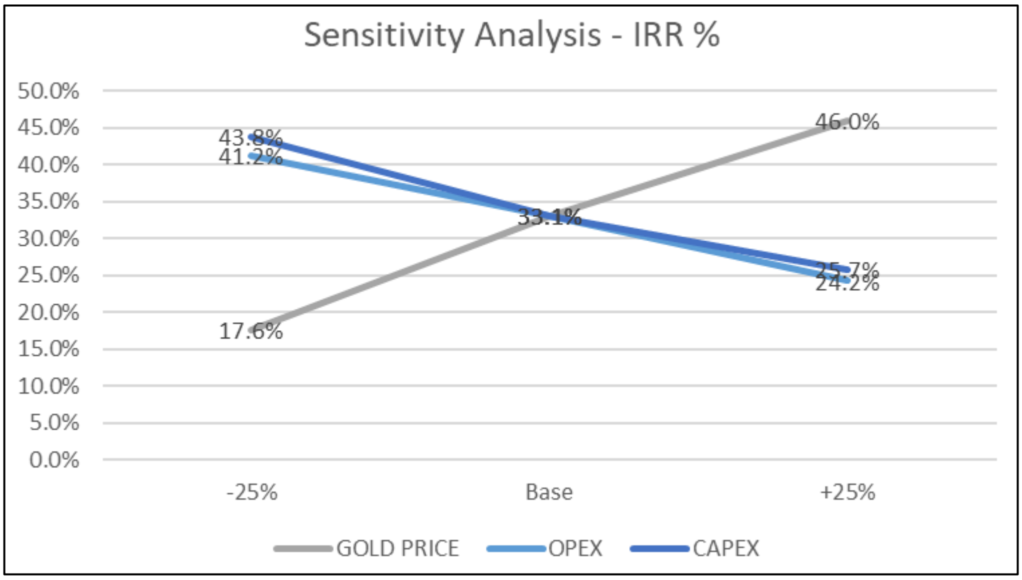


Figure 44: Standard financial sensitivity (IRR %)

23 Adjacent Properties

The Rozino deposit is situated within the Eastern Rhodopian "Ore Field" that was exploited during the communist era for lead and zinc. The gold potential of the region was recognised during the 1990s and most of the gold deposits were discovered during this period. Gorubso were the first company to develop a gold mine at Chala, but the base metal mines at Lozen, Madzharovo, Spahievo, Enyovche and Zvezdel are reported to have all contained appreciable amounts of gold (Figure 45). The deposits can be classified as Intermediate to LSE vein/replacement deposits and contact/distal skarn.

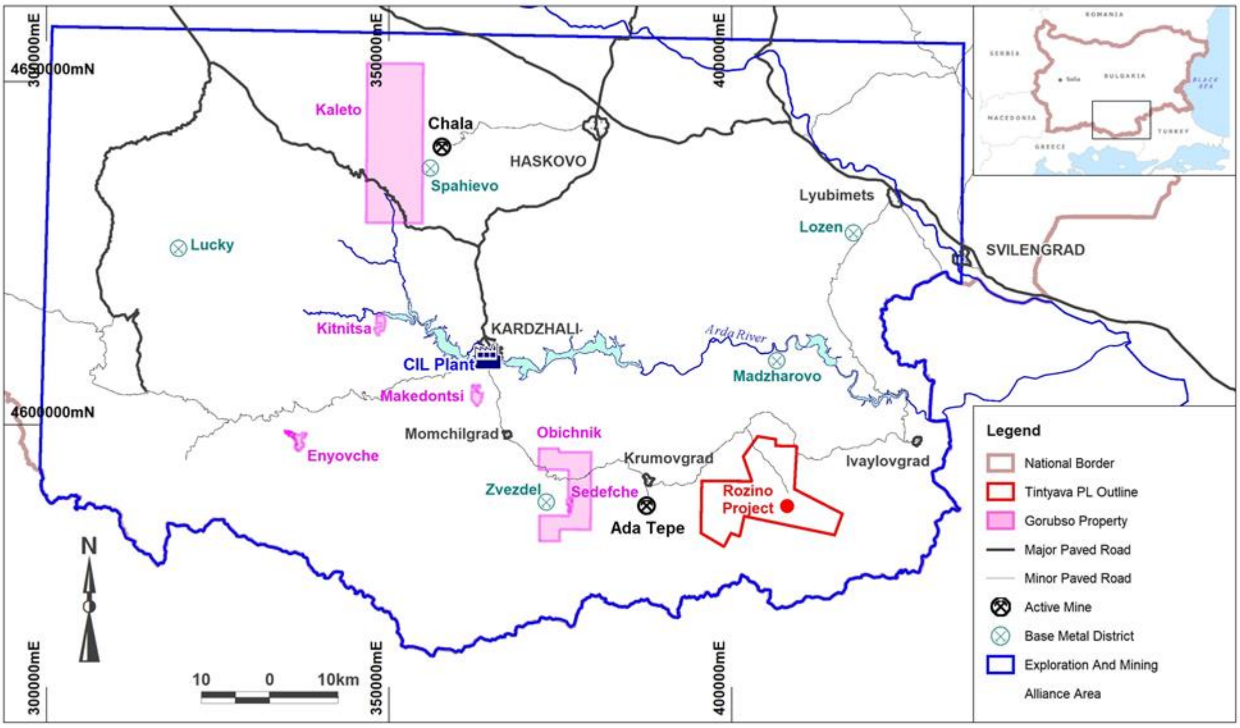


Figure 45: Velocity–Gorubso Exploration and Mining Alliance Area, showing base metal districts, existing Gorubso gold properties and locations of operating Chala gold mine, Ada Tepe gold mine and Rozino gold deposit

Velocity has entered into an Alliance covering all existing and future Gorubso and Velocity projects within an area of 10,400 km^2 covering the prospective Eastern Rhodope Gold Mining District in southeastern Bulgaria (Figure 45). The Alliance provides an exclusive right for Velocity to earn a 70% interest in any existing or future project, plus access for all projects to the CIL Plant. The existing Gorubso projects are summarized in Table 75.

Table 75: Summary of Gorubso properties, including the Chala mine

Project	Tenure	Distance to processing plant (km)	Historical gold Resources	Velocity Option deliverable for 70% interest
Chala	Operating Mine	42	Initial Government Resource of 1.5 Mt @ 9.83 g/t Au (Note 1)	C$1 million exploration expenditure
Sedefche	Mining Concession	40	101,000 oz Resource (Note 2)	Feasibility Study
Enyovche	Mining Concession	51	N/A	Resource estimate
Makedontsi	Prospecting Licence	6	290,000 oz Resource (Note 3)	PEA
Kitnitsa	Prospecting Licence	36	N/A	PEA
Obichnik	Prospecting Licence	32	N/A	Resource estimate
Kaleto	Prospecting Licence	45	N/A	Resource estimate

- *Note 1: Historical resources at Rozino are unconstrained Inverse Distance Squared resources published by Hereward Resources Ltd (Hereward Resources news release, 2005). Velocity has completed 7,000 m of diamond drilling (2017) and intends to complete an additional 5,000 m of drilling prior to producing a PEA (2018).*
- *Note 2: Historical resources at Sedefche were calculated by Gorubso using the Bulgarian classification scheme, based on manual polygonal methods of resource estimation. Resources were submitted to and accepted by the Bulgarian government, Dragiev, H, 2006, "Momchil Prospecting License, Report at the 'Zvezdel - Pcheloyad Ore Field', Geological Report with Resource and Reserve Recalculation of 'Au-Ag Ores' at the Sedefche Deposit".*

  In order to verify the potential existence of additional unmined mineralization at Sedefche, significant drilling will be required.
- *Note 3: Historical resources at Makedontsi were calculated by Gorubso using the Bulgarian classification scheme, based on manual polygonal methods of resource classification. Resources were submitted to and accepted by the Bulgarian government, Dragiev H, 2013 "Mlechino Prospecting License, Geological Report at the Nadezhda Prospect, with Resource and Reserve Recalculations of 'Au Ores' at the Makedontsi, Dangovo and Kalina deposits".*

  In order to verify the potential existence of additional unmined mineralization at Makedontsi, significant drilling will be required.

Velocity is not treating the historical resources referenced in Table 1, Note 1, Note 2, and Note 3 as current Mineral Resources or Mineral Reserves. Historical resources are not consistent with the standards of disclosure defined by NI 43-101 and may not necessarily be consistent with CIM best practice with respect to reporting Mineral Resources and Reserves. Historical resources are included because they are considered relevant by Velocity as they form additional support for the potential optioning of the Gorubso Properties by Velocity. At Rozino, resources were later completed by Maine Reserves Associates (USA) on behalf of Caracal. These resources are calculated assuming underground mining methods and are not considered relevant to Velocity's potentially surface mineable targets. Additional details on historical estimates at Rozino are detailed in "National Instrument 43-101 Technical report for the Rozino Project, Republic of Bulgaria" (2017). A Qualified Person has not done sufficient work to classify the historical estimate as current Mineral Resources or Mineral Reserves. The inclusion of historical resource estimations provides information as to the potential size and nature of the immediate exploration targets within the Gorubso Properties and the Alliance Area in general.

The Ada Tepe deposit is the most significant gold mineralization within the region. The property is owned by DPM who is currently commissioning the plant of its Krumovgrad Project to exploit the Ada Tepe and Surnak deposits (6.2 Mt @ 4.0 g/t Au for 807 koz Au). First gold production at the Krumovgrad Project is slated for Q4, 2018.

Ada Tepe is located on the periphery of the Momchilgrad volcanic depression and the deposit is described as a stratabound LSE vein and disseminated Au (Ag) deposit, adjacent to a detachment fault or linear stockworks in and around listric faults within Paleogene molasse sediments. At Surnak the Au (Ag) ore bodies are also hosted by Palaeogene breccias, sandstones and limestones.

The author has been unable to verify the above resource estimates and production data and as such for the purpose of this Technical Report these historical resources are not being treated as current resources and are not consistent with the standards of disclosure defined by NI 43-101 and may not necessarily be consistent with CIM best practice with respect to reporting Mineral Resources and Reserves. This information is not necessarily indicative of the mineralization on the property that is subject of the technical report.

24 Other Relevant Information

24.1 Water Management

RPS Aquaterra, hydrogeology and hydrogeological consultants were engaged by CSA Global to assist with the water management aspects of the Study to support the PEA and NI43-101 technical report document.

The findings of the desk-top water management study are presented below with respect to the following scope of work:

- Review of hydrogeological information
- High-level hydrogeological assessment based on information reviewed
- Advise on the scale of future site water management requirements
- Advise on future hydrogeological programs required.

24.1.1 Hydrogeology

Based on the geological information available for the Project and literature hydrogeological data, the rocks in the Rozino area are likely to have low permeability with enhanced permeability associated with geological structures and contact zones. Low permeability rocks would typically have permeabilities in the range 10^{-6} m/s to 10^{-8} m/s. Groundwater flow through the fresh rock will be primarily associated with geological fractures and fissures within the rock mass. The groundwater map for Bulgaria indicates that the Rozino Project area is located within minor aquifer (hydrogeological formation with low permeability and/or productivity) or non-aquifer units (hydrogeological formation with very low permeability and/or productivity).

Groundwater level data are available for eight bore-holes within the Rozino Project from 16 August 2018. The water levels in seven bore-holes range from approximately 20 m to 50 m below ground level with water levels generally in the range of 20–30 m below ground level. One bore-hole is recorded as being artesian (overflowing at surface) with water levels above ground surface.

Recharge to the groundwater will be by direct infiltration of rainfall and via rainfall runoff infiltration through the near-surface horizons vertically downwards to the fractured rock aquifers present. Groundwater discharge will be primarily to the surface water features, with this groundwater flow providing the base flow component of the rivers.

24.1.2 Pit Inflows

There will be two sources of water inflows to the proposed pits which will comprise:

- Groundwater inflows – once the pits extend below the local water table groundwater inflows will occur through the bulk rock-mass and any permeable structures intercepted by the pits.
- Surface water (rainfall runoff) inflows – incident rainfall which falls within the pit footprints themselves (and does not infiltrate into the ground) and any surrounding surface catchments which are not prevented from draining to the pits.

Both groundwater and surface water pit inflows are very much dependent on the dimensions of the pits.
Groundwater Pit Inflows

The permeability of the rocks in the Rozino Project is considered to be generally low and therefore pit inflows from the general rock mass are expected to be correspondingly low. However, fault and fracture zones which intersect the pit may have an elevated permeability and may act as preferential groundwater flow paths and result in localized zones of high groundwater inflows. The duration of enhanced inflows via any faults/fractures intercepted will be dependent on the hydraulic continuity of these zones and may also be seasonal with increased flows in the winter (wet season).

Based on the information available, we would expect average annual groundwater inflows into the main Rozino pit (once the pit progresses below the water table) to be in the order of 5–10 L/s; the second smaller pit may not progress a significant depth below the water table and thus the pit is likely to have groundwater inflows of less than 5 L/s but this will depend on the depth to groundwater at this location.

Surface Water Pit Inflows

Surface water inflow volumes for the main and small pit development have been estimated using a volumetric rainfall runoff coefficient of 0.9 applied to the total rainfall and pit development area. Surface water inflow volumes for various rainfall scenarios are presented in Table 76.

Table 76: Pit development surface water inflows

Rainfall event	Annual average (m^3)	1-in-100 24-hour (m^3)	1-in-100 72-hour (m^3)
Main pit	157,300	24,800	38,300
Small pit	17,100	2,700	4,200

Combined Pit Inflows

The total annual average pit inflow volume, for the two pits, is predicted to be in the order of 490,000 m^3, comprising annual average surface water inflows of approximately 175,000 m^3 and annual average groundwater inflows of approximately 315,000 m^3 (based on a total average inflow of 10 L/s).

24.1.3 Pit Dewatering and Depressurisation

Pit Dewatering System Design and Strategy

The pit dewatering systems will be driven by a combination of groundwater and surface water inflows and the design will need to consider both elements as groundwater inflows will continue even during extended dry periods and may be locally significant in areas of enhanced permeability.

Pit dewatering should principally be achieved utilising an in-pit sump dewatering system capturing all groundwater and surface water pit inflows. These inflows will gravity drain to an in-pit sump(s) at the base of the pit and will be subsequently pumped out of the pit to a sediment treatment system. Dewatering bore-holes are another possible pit dewatering option, targeting discrete zones of enhanced permeability, although at this stage there is insufficient data to confirm whether they would be a feasible option for the Rozino Project.

Important factors influencing the dewatering system design include the total head which would need to be overcome to pump water from the in-pit sump (at the base of the pit) to the pit crest and the length of water transmission pipeline which would be required.

The main pit has the largest water inflows, as would be expected, however these are not large in the context managing surface water inflows to a pit and the 24-hour 1-in-100 year return period event volume could be dewatered in approximately three days using industry standard dewatering pumps. For example, two Sykes HH130i pumps operating in tandem would be sufficient and would provide a dewatering rate in excess of 100 L/s at 100 m head, with the option to increase the pumping rate by varying the engine speed.

Pit Wall Depressurisation

Pit wall depressurisation requirements are generally determined based on geotechnical objectives to achieve target pore water pressures within the pit walls. Depressurisation requirements are generally informed based on output from groundwater models of geotechnically defined critical sections of the pit wall, often associated with identified geotechnical weaknesses.

Depressurisation (if required) would likely be achieved primarily by horizontal drain holes installed, as needed, along benches within the pit. Any depressurisation requirements are likely to concentrate on lithologies which have low permeability and are slow to drain (e.g. the highly weathered oxide layer) or geotechnically critical areas where elevated pore water pressure may increase the risk of failure.

24.1.4 Surface Water Management

Surface Water Management – Site Infrastructure

Majority of the Project infrastructure is proposed to be located within a single catchment, as shown below in the following order from left to right:

- Pit boundaries
- WRD (pink)
- Process plant (brown)
- TSF (green)
- Raw water dam (blue).

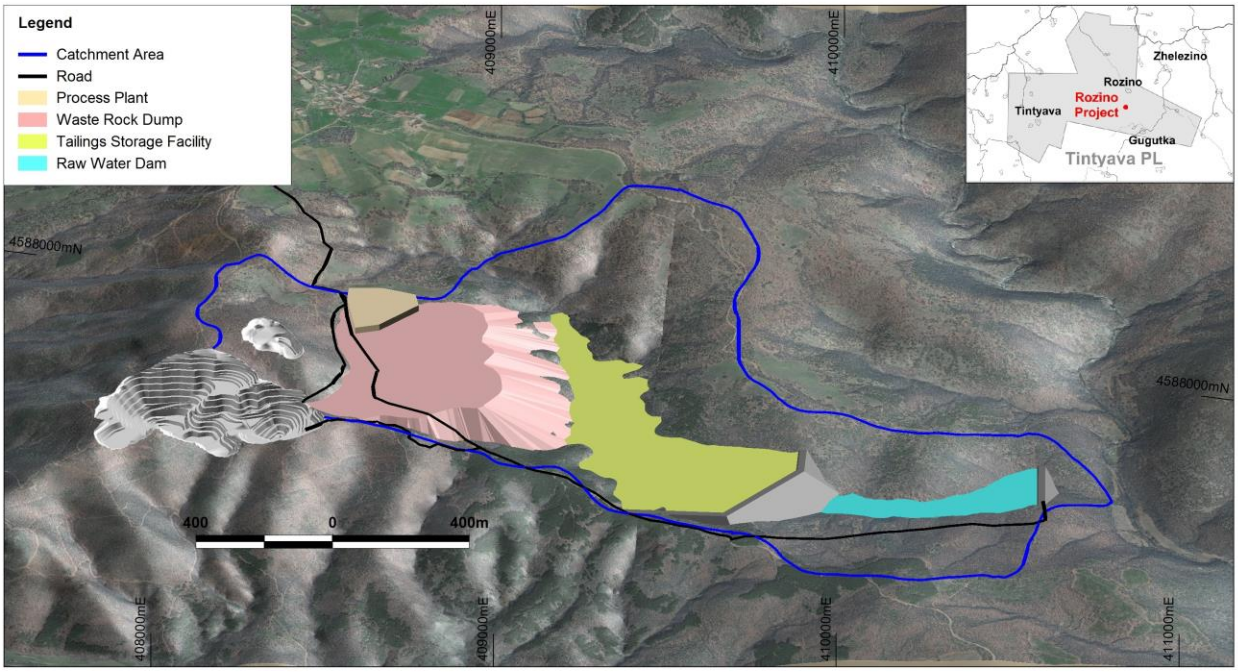


Figure 46: Catchment with Project infrastructure

The two pit developments are located on, or very near the catchment divide, and will have only minor surface water drainage and diversion requirements to mitigation rainfall runoff from external catchments draining into the pits. The location of the pit developments may also present the opportunity to gravity drain rainfall runoff along the upper benches within the pit, to discharge laterally outside the pit perimeter which would result in reduced dewatering requirements within the pit development and associated capital and operating costs.

The Flotation Plant site is also located in the upper elevations of the catchment; however, its footprint overlaps with the footprint of the WRD. The Flotation Plant in isolation would only require relatively minor surface water management works to divert rainfall runoff from the small upstream catchment to downstream of the plant site.

The WRD preliminary design upper elevation boundary has a 500 m wide intersection with the upstream catchment. The intersected catchment is larger than those upstream of the pit developments and process plant and will require longer and larger drainage to divert rainfall runoff from the upstream catchment downstream of the WRD. Based on the preliminary design, it will not be possible to divert the entire upstream catchment area, and a portion will either be treated as part of the WRD catchment or allowed to pond, and subsequently pumped away.

The WRD will require its own internal drainage system, to collect rainfall runoff and underdrainage flow from the WRD and convey it to any downstream treatment. Where possible, a minimum of 200 m should be allowed between the downstream end of the WRD and the nearest existing stream or river, to allow for the implementation of sedimentation basins and other mitigation measures to improve the water quality of rainfall runoff from the WRD prior to discharge to the environment.

The TSF is located downstream of the WRD. It has a larger upstream catchment area, and depending on water supply operation, some of the catchment area may be diverted downstream to the raw water storage dam. The proportion of water supply required from the TSF and the raw water storage dam may dictate the surface water management logic in the vicinity of the two dams.

24.1.5 Water Supply

A water storage dam is proposed to be constructed in the catchment adjacent to the pit and is proposed to have a design capacity of 880,000 m^3. There is no catchment descriptor data provided; however, assuming an upstream catchment 0.8 km^2 and a volumetric rainfall runoff coefficient of 0.3 the average annual rainfall runoff captured by the dam would be estimated to be approximately 180,000 m^3.

If pit dewatering was also pumped to the water storage dam, then this could provide an average annual additional approximately 175,000 m^3 from rainfall runoff pit inflows and an average annual additional 315,000 m^3 from groundwater pit inflows (once the pits extend below the water table), thus up a maximum average annual additional of approximately 490,000 m^3.

It should be noted that significant groundwater inflows are unlikely to be available in the early stage of mine development and the rainfall runoff/surface water pit inflows and catchment runoff are rainfall dependent.

25 Interpretations and Conclusions

25.1 Summary

CSA Global concludes that the Mineral Resource estimate prepared for the Rozino Project has prospects of eventual economic extraction, classified in the Inferred category and thus suitable for inclusion in a PEA study. The PEA set out in this technical report concludes that, at the current level of study, it is possible to mine the deposit via conventional open pit mining with a 1.51g/t gold LOM grade (at a 0.6g/t gold cut-off grade) and 2.5:1 average strip ratio. Processing by standard flotation suggests it is possible to achieve a gold concentrate grade of 30g/t gold and via transport of concentrate to an existing CIL plant, production of gold doré as a saleable product. Specific conclusions are set out in the sub-sections below.

25.2 Mineral Resources

- Rozino is an LSE gold deposit hosted within Palaeogene sediments as disseminations, replacement and vein mineralization. The dominant mineralization trend is northwest parallel to the regional extensional fault regime, with local mineralization development controlled by the intersection of steep structures sub-parallel to the bounding extensional faults and gently dipping bedding.
- The estimates described in this report are based on drilling information available on 30 May 2018. The sampling database includes 197 diamond holes completed by Velocity, Hereward, Asia Gold and Geoengineering.
- Few details of sampling and assaying are available for the Geoengineering drilling. Although data from these holes were used to aid mineralized domain interpretation, they were excluded from the Estimation Dataset.
- The Estimation Dataset includes diamond holes drilled by Hereward, Asia Gold and Velocity and comprises 90 holes for 13,588 m. Relative to the dataset available for the March 2018 estimates, the current sampling database contains assay results for an additional 12 holes for 1,580 m of drilling. Samples from Velocity's diamond drilling provide 67% of the Estimation Dataset, with Hereward and Asia Gold drilling contributing 28% and 5%, respectively.
- Drilling has intersected mineralization over an area around 1,000 m by 800 m to a vertical depth of around 190 m. The mineralization is interpreted to be completely oxidized to average depth of around 7 m, with fresh rock occurring at an average depth of around 18 m.
- Hereward and Asia Gold holes are generally aligned sub-parallel with mineralization trends and define mineralized zones less robustly than Velocity's drilling which intersects mineralization trends at a greater angle providing a more reliable basis for resource estimation.
- The author considers that quality control measures adopted for Velocity's Rozino diamond drilling have established that the sampling and assaying is representative and free of any biases or other factors that may materially impact the reliability of this data. Reliability of Hereward and Asia Gold data has not been established with the same degree of rigour. This does not significantly affect confidence in the current Inferred Resource estimate. However, the reliability of the Hereward and Asia Gold data warrants further investigation as assessment of the Project continues.
- The author considers that the sample preparation, security and analytical procedures adopted for the Rozino drilling provide an adequate basis for the current Mineral Resource estimates.
- Mineral Resources were estimated by Multiple Kriging of 2 m down-hole composited gold grades from diamond drilling by Hereward, Asia Gold and Velocity. Estimated resources include a variance adjustment to give estimates of recoverable resources above gold cut-off grades for SMU dimensions of 4 m east by 6 m north by 2.5 m in elevation.

- Estimated resources are constrained within a mineralized envelope interpreted from composited gold grades and geological logging from diamond drilling and surface trenches. The envelope captures intervals of greater than 0.1 g/t, with the lower boundary reflecting the contact between variably mineralized sedimentary rocks and un-mineralized basement. Estimated resources extend to the base of mineralized drilling at around 190 m depth, with around 90% of estimates from depths of less than 105 m and less than 1% from below 140 m.
- The Mineral Resource estimates have been classified and reported in accordance with NI 43-101 and the classifications adopted by CIM Council in May 2014 (CIM, 2014) The estimates are classified as Inferred reflecting the drill-hole spacing and uncertainty over the reliability of sampling data from pre-Velocity drilling.
- Table 77 presents Mineral Resources estimated for Rozino for selected cut off grades. The figures in this table are rounded to reflect the precision of the estimates and include rounding errors.

Table 77: Rozino Inferred Mineral Resource estimates at selected cut-offs

Effective date of estimates: 10 September 2018			
Cut-off (Au g/t)	**Tonnes (Mt)**	**Grade (Au g/t)**	**Metal (Au koz)**
0.2	50	0.59	948
0.3	31	0.80	797
0.4	22	0.98	693
0.5	17	1.17	639
0.6	13	1.37	573
0.7	9.7	1.57	490
0.8	7.8	1.78	446
0.9	6.4	1.98	407
1.0	5.4	2.18	378
1.2	4.0	2.56	329
1.5	2.8	3.07	276

25.3 Metallurgy and Processing

- Test-work shows that a gold bearing pyrite concentrate can be produced by standard flotation techniques, using conventional flotation reagents at a grind size of nominally 80% passing 75µm.
- The flotation concentrate can be treated in a conventional CIL circuit to extract the gold in the pyrite concentrate with subsequent smelting to produce doré. Leach residence time is expected to be between 36 hours and 48 hours.
- Predicted gold recovery to doré is 79.2%, based upon a flotation recovery of 91.4%, a leach recovery of 87.5%, and a 99% smelter recovery.
- Adequate test-work data is available on the process to provide operating parameters for flowsheet design and major equipment sizing within the contingency allowances normally associated with a PEA.
- The Base Case comminution circuit for the PEA is a three-stage crushing followed by a conventional ball mill. This comminution circuit minimises capital cost and also reduces the technical and operating risk associated with a SAG/Ball mill design which presently lacks SAG mill amenability test-work results.

25.4 Mining

- The PEA of the Rozino deposit appears to support an economically viable open pit mining operation for the mining and flotation processing of gold-bearing material at 4,000–5,000 t/d to produce a 25–30 g/t Au concentrate for transport to the Gorubso CIL processing facility located at Kardzhali.
- A selected 0.6 g/t Au cut-off yields approximately 9.5 Mt of gold-bearing material at 1.5 g/t Au average grade and strip ratio of approximately 2.5.
- The proposed open pit operation at Rozino is considered small and a mining rate of approximately 6 Mt/a will be required to sustain a 5,000 t/d plant feed requirement at an average strip ratio of 2.5. Mining equipment suitable for this sized operation will require 30–45-tonne articulated dump trucks and 90-tonne class excavators. Considering the size of the equipment proposed for the open pit mining operation, mobilization and demobilization of mining equipment should not present significant challenges for the transport of these mining machines.
- It is anticipated that open pit mining at Rozino should not present any specific challenges or difficulties as environmental conditions and site conditions are expected to be low to moderate difficulty in terms of climatic and topographical conditions.
- No infrastructure currently exists at the Rozino site; however, the site is accessible via an unsealed road (in reasonable repair) and a 20 kV energy distribution line is located some 2 km to the north in the Rozino village. Water requirements for processing and mining operations will require augmentation from a developed well-field as preliminary estimates show that the Project will be in negative balance.
- Siting of infrastructure has been limited to the eastern watershed area to ensure that minimal contamination of the environment occurs. A number of surface constraints exist at the site:
  - Potentially environmentally sensitive areas for flora and fauna
  - Private land ownership
  - Governmental/State owned primary industry (forestry).
- Placement of proposed infrastructure has considered these areas and has as far as possible located infrastructure either outside of these areas or has minimised the impact on these areas. Considering this, it is noted that placement of processing plant and mining infrastructure will require careful planning as the project progresses as areas for the placement of infrastructure are limited and the minimisation earthworks costs should be considered.
- Trucking of concentrate will require approximately 12 trucks per day to deliver gold bearing material to the CIL plant located at Kardzali (some 85 km by road). The required number of truck journeys is not considered to be a significant risk to public safety and other road users.
- As part of the PFS, all considerations should be given to mobile and modular type construction of all infrastructure due to the short-term nature of the extraction and the potential surrounding deposits that may be exploited following the depletion of the Rozino deposit.

25.5 Environmental

- There are few receptors in the area, with no human settlements in proximity. Velocity has commenced baseline studies for the ESIA and OVOS, and data collection continues with a view to developing a detailed database covering the Project area and potentially affected areas. The remoteness of the area and depopulation reduces the number of potentially affected people. The Project is located within a Natura 2000 designated area, and any projects within these areas require careful management and strict mitigation measures to minimise any adverse impacts. However, the Natura 2000 Habitat area covers much of southeastern Bulgaria, where many light and heavy industries operate, including large open pit mining operations. Climate data and weather data is being collected to compare to regional databases, to provide reliable data for the ESIA and design teams. Water data is also being collected, both from surface and groundwater sources.

- The exploration works are authorized through the approval of exploration permits and the compatibility assessment, which determined that exploration has a negligible impact on habitats and wildlife of the area. Additional biological surveys are continuing to verify the limited impact on sensitive habitats, and to determine potential for impact on protected birds, mammals and reptiles. Management measures have been recommended in the compatibility assessment and implemented by Velocity.
- The development of the Project is likely to give rise to a range of environmental and social impacts. However, assuming the implementation of mitigation measures proposed in the ESIA, these impacts are considered manageable and controllable. Therefore, the development, operation and closure of the Project could be undertaken in an effective environmental and social manner.

25.6 Water Management

- The Rozino Project area is located in south-eastern Bulgaria in a Continental-Mediterranean climate. The Project area has an annual average precipitation estimated to be approximately 770 mm, with the highest average monthly rainfall occurring in December (>100 mm) and the lowest in August (<25 mm).
- The Rozino deposit is hosted within Palaeogene breccia and conglomerate sedimentary rocks, which are likely to have low permeability with enhanced permeability associated with geological structures and contact zones. Groundwater flow through the fresh rock will be primarily associated with geological fractures and fissures within the rock mass. Groundwater levels in the Rozino Project area range from above ground level (artesian) to approximately 50 m below ground level.
- Pit inflows will be derived from both groundwater and surface water (rainfall runoff) sources. Groundwater inflows into the pits are likely to be low to moderate, with enhanced inflows associated with zones of higher permeability. Surface water (rainfall runoff) inflows will be highly influenced by the seasonal rainfall patterns. The total annual average pit inflow volume, for the two pits, is predicted to be up to 490,000 m^3, comprising annual average rainfall runoff/surface water inflows of approximately 175,000 m^3 and annual average groundwater inflows of approximately 315,000 m^3 (based on a total average inflow of 10 L/s).
- Pit inflows can be effectively managed by the commissioning of an appropriate pit dewatering systems. Based on the current pit designs and currently available data, an in-pit sump dewatering system capturing both groundwater and surface water inflows will be a feasible pit dewatering strategy. Inflows will gravity drain to an in-pit sump(s) at the base of the pit and will be subsequently pumped out of the pit to a sediment treatment system. Dewatering bores, targeting discrete zones of enhanced permeability, are another possible pit dewatering option; however, at this stage there is insufficient data to confirm whether they would be a feasible option.
- Depressurisation (if required) would likely be achieved primarily by horizontal drain holes installed, as needed, along benches within the pits.
- Standard surface water management principals should be adopted for the site. Based on the current pit designs, the two pit developments will have minor surface water drainage and diversion requirements to mitigation rainfall runoff from external catchments draining into the pits. There may also be the opportunity to gravity drain rainfall runoff along the upper benches within the pits, to discharge laterally outside the pit perimeter which would result in reduced dewatering requirements within the pit development and associated capital and operating costs.
- The process plant site would only require relatively minor surface water management works to divert rainfall runoff from the small upstream catchment to downstream of the plant site. The proportion of

water supply required from the TSF and the raw water storage dam may dictate the surface water management logic in the vicinity of the two dams.

- A water storage dam with a design capacity of approximately 1 Mm^3 is proposed to be constructed in the catchment adjacent to the pit. The average annual rainfall runoff captured by the dam may be in the order of approximately 180,000 m^3. This could potentially be supplemented by pumping pit dewatering to the dam (predicted to be up to an annual average of 490,000 m^3); however, significant groundwater inflows are unlikely to be available in the early stage of mine development and the rainfall runoff related pit inflows are rainfall dependent.

26 Recommendations

26.1 Summary

CSA Global believes that the results of the PEA suggest positive economics for the project, at this level of study. Progression to a Preliminary Feasibility Study is warranted based on the conclusions drawn from the PEA and therefore CSA Global recommends the Company progress to PFS, and the following specific recommendations are set out in the sub-sections below, to this end.

26.2 Mineral Resources and Exploration

- The author's recommendations for future exploration and resource definition programs reflect Velocity's work plan for 2018 and 2019, which targets expansion of the current Inferred Resource prior to infill drilling in to support the preparation of a PFS. The author concurs with the general approach of Velocity's proposed exploration and resource definition programs, and recommends the following work programs with estimated costs summarized in Table 78:
    - Phase One: Exploration adjacent to the current Mineral Resource area and regionally within the Palaeogene corridor of pull-apart sedimentary basins, the 'Ivaylovgrad Corridor'
    - Phase Two: Infill drilling aimed at upgrading portions of the current Inferred Mineral Resource estimates to the Indicated category, along with follow up exploration outside the current resource area. The exploration follow-up component of this Phase is contingent on results of Phase One.
- The planned exploration campaign will target areas adjacent to the Rozino deposit and regionally
- Near deposit exploration will prioritize higher grade near surface extensions to currently interpreted mineralization concentrating on existing untested soil anomalies. Velocity have begun infill soil sampling and trenching of these zones and results are pending. Drilling is anticipated to begin shortly with results anticipated before year end.
- Regional exploration is planned to focus on existing soil anomalies. Five priority targets have undergone field checks and outcropping mineralization and alteration has been rock chip sampled with results pending. Further soil sampling and trenching is planned to generate targets for drilling planned in 2019.
- Potential Indicated resources from Phase Two are planned to provide the basis for a Pre-Feasibility Study (PFS).
- The author's recommendations, in addition to infill drilling to aimed at increasing confidence in estimated Mineral Resource are outlined below. Costs for these activities are included in Table 78.
    - Inter-laboratory check assays of representative pulp samples from Velocity's 2017 and 2018 drilling programs
    - Undertake check sampling and analysis of selected representative samples of Hereward and Asia Gold drill core
    - Further DGPS topographic surveying of the deposit area and surrounding areas.

Description	Cost ('000 Canadian Dollars)		
	Phase 1	Phase 2	Total Cost
Capital	1	35	**36**
Personnel	57	377	**434**
Drilling	155	1,425	**1,580**
Geochemistry	52	104	**156**
Geophysics	0	60	**60**
Geology	17	63	**80**
PFS	13	599	**612**
Vehicles/generators	24	76	**100**
Field and office costs	3	436	**439**
Tenement costs	19	60	**79**
Contingency @ 10%	34	323	**358**
Total	**375**	**3,559**	**3,934**
Physicals			
Diamond Drilling	1,000 m	7,000 m	8,000 m
RC Drilling	0 m	5,750 m	5,750 m
Soil Samples	700	1,500	2,200
Trenching	600 m	600 m	1,200 m

Table 78: Proposed Exploration and resource infill program

26.3 Mining

- Considering the indicated economic potential of the base case at a 0.6 g/t gold cut-off and production throughput of 1.75 Mt/a ore treated, it is recommended the Project proceeds to the PFS.
- Considering the additional test-work required in light of a potential PFS, it is further recommended that careful planning of any additional resource definition drilling to upgrade the resource may provide cost savings if coupled with the requirements for geohydrology and geotechnical disciplines.
- CSA Global further recommends as part of a PFS that knowledge and understanding of the following is improved:
    - Ampacity of the Rozino 20 kV energy distribution lines
    - Bore-hole yield and recharge rates
    - Legislative requirements for fell and stack, clear and grub and topsoil stockpiling
    - Requirements for lining of tailings impoundments and waste rock storage facilities.
- CSA Global notes that the exploratory work required to increase the level of confidence of the Inferred Mineral Resource to a minimum required classification of Indicated is the critical path for the commencement of a PFS on the Rozino deposit.

26.4 Metallurgy and Processing

- Additional ore characterisation test-work is required to determine whether the Rozino sulphide mineralization is amenable to into SAG milling. Based on these results it is recommended to undertake an options study to determine the optimum comminution circuit.
- Further metallurgical testing may be required following infill resource definition drilling, to ensure representivity of average gold grade of the deposit.
- Further flotation test-work is recommended to optimize reagent additions.

- Bulk samples of the pyrite concentrate will be required to undertake further testing to determine the downstream equipment requirements for the ultimate concentrator design.

26.5 Environmental

- Develop a water quality monitoring network to understand surface water patterns of the area
- Monitor wildlife presence, particularly of species considered to be protected, in order to determine true numbers and habitat use of potentially impacted and sensitive species
- Conduct road condition assessment for haul routes
- Examine the potential for renewable power supplies
- Initiate and maintain positive dialogue with local communities and stakeholders.

26.6 Water Management

- Additional studies are recommended to improve the understanding of the hydrology and hydrogeology of the Project area and to improve confidence with regards to predictions on pit dewatering, depressurisation, surface water management and water supply options.
- Installation of an on-site rain gauge, ideally a tipping bucket rain gauge, in order to record site specific rainfall data relating to both individual storm events and daily totals.
- Monitoring of flows (and some limited water quality) associated with surface water features in the immediate Project area.
- A comprehensive hydrogeological field investigation program is required in order to obtain site specific hydrogeological data for the Rozino Project area, including the following:
  - Estimates of hydraulic parameters for the various lithologies, structures and contact zones across the project site
  - Hydraulic inter-connection between different lithological units and geological features
  - Groundwater levels, flow direction and quality and any seasonal variation
  - Mapping of local geological structures across the Project area.
- It is critical to note that all the predictions provided in this report are derived from very little site-specific data. Site-specific data for the Rozino Project area is required in order to confirm all the predictions presented in this report and to allow the level of certainty to increase commensurate with progression of this study to the next stage (PFS level).

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28 Abbreviations and Units of Measurement

%	percent
°	degrees
°C	degrees Celsius
3D	three-dimensional
a	annum
A242	Aerofloat 242
AIS-ACB	Automatic Information System – Archaeological Card of Bulgaria
AMSL	above mean sea level
Asia Gold	Asia Gold Corp
Au	gold
C$	Canadian dollars
Caracal	Cambridge Caracal Bulgaria EAD
CIL	carbon-in-leach
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
cm	centimetre(s)
CSA Global	CSA Global (UK) Ltd
DCF	discounted cash flow
DGPS	differential geographic positioning system
DPM	Dundee Precious Metals Inc.
Eco-stim	Eco-stim EOOD
EMP	environmental management plan
EPA	(Bulgarian) Environmental Protection Act
EPCM	engineering procurement and construction management
ESIA	Environmental and Social Impact Assessment
ESIA	environmental and social impact assessment
Eurotest	Eurotest Control EAD
g	gram(s)
g/t	grams per tonne
Geoengineering	Geoengineering EAD
Gorubso	Gorubso Kardzhali AD
GRG	gravity recoverable gold
H&H	Holland & Holland Consultants
h/a	hours per annum
ha	hectares
Hereward	Hereward Ventures Ltd

IBC	intermediate bulk container
IFC	International Finance Corporation
ISA	in-stream analysis
JV	joint venture
kg	kilogram(s)
km	kilometres
km^2	square kilometres
koz	thousands of ounces
kt	thousands of tonnes
kt/a	thousands of tonnes per year, kt/yr
LCT	locked cycle test
LG	Lerch-Grossman
LOM	life of mine
LSE	low sulphidation epithermal
m	metre(s)
m^2	square metre(s)
m^3	cubic metre(s)
MCAF	mining cost adjustment factor
MIBC	Methyl Isobutyl Carbinol
MIK	multiple indicator kriging
Mineesia	Mineesia Ltd
mm	millimetre(s)
Mm^3	million cubic metre(s)
MOE	Ministry of Energy
MOEW	Ministry of Environment and Waters
MPR	MPR Geological Consultants Pty Ltd
Mt	million tonnes
Mtpa	million tonnes per annum
NAIM-BAS	National Archaeological Institute with Museum at the Bulgarian Academy of Sciences
NI 43-101	National Instrument 43-101
NSR	net smelter return
OSA	overall slope angle
oz	ounce(s)
OVOS	Bulgarian Environmental Impact Assessment
PAX	Potassium Amyl Xanthate
PEA	preliminary economic assessment
PFS	pre-feasibility study
PL	Prospecting Licence

QAQC	quality assurance and quality control (for sampling and assaying)
RO	reverse osmosis
ROM	run of mine
SAG	semi-autogenous grinding
SMU	selective mining unit
t	tonne(s)
t/d	tonnes per day
Tintyava Exploration	Tintyava Exploration EAD
Tintyava Property	Tintyava Prospecting Licence Property
TMF	tailings management facility
TSF	tailings storage facility
US$	US dollars
Velocity	Velocity Minerals Limited
WAI	Wardell Armstrong International Ltd
WGS	World Geodetic System
WRD	waste rock dump
XRD	x-ray diffraction

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