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NI 43-101 TECHNICAL REPORT

Mineral Resource Estimate Update for the Timok Gold Project, Serbia

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Client Name	Dundee Precious Metals
Project Name/Job Code	DPMRES14
Contact Name	Ross Overall
Contact Title	Corporate Senior Resource Geologist
Office Address	Dundee Precious Metals 26 Bacho Kiro Street, 3rd Floor Sofia, 1000, Bulgaria

Report issued by

CSA Global Office	**CSA Global (UK) Ltd** (UK Office) First Floor, Suite 2 Springfield House, Springfield Road, Horsham, West Sussex RH12 2RG UNITED KINGDOM **T** +44 1403 255 969 **F** +44 1403 240 896 **E** csauk@csaglobal.com
Division	Resources

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Author and Reviewer Signatures

Qualified Person	Maria O'Connor B.Sc. (Hons), MAIG, MAusIMM	Signature:	"signed and sealed"
Qualified Person	Gary Patrick BSc, MAusIMM CP (Met)	Signature:	"signed and sealed"
Qualified Person	David Muir B.Sc. (Hons), MAIG	Signature:	"signed and sealed"
Peer Reviewer	Galen White MSc, B.Sc. (Hons), FAusIMM, FGS	Signature:	"signed and sealed"
CSA Global Authorisation	Galen White MSc, B.Sc. (Hons), FAusIMM, FGS	Signature:	"signed and sealed"

Certificate of Qualified Person – Maria O'Connor

As a Qualified Person of this Technical Report covering the Property named as Timok Gold Project of Dundee Precious Metals, Serbia, I, Maria O'Connor do hereby certify that:

1) I am a Principal Resource Geologist and Director of CSA Global (UK) Ltd, and carried out this assignment for CSA Global (UK) Ltd, Springfield House, Springfield Road, Horsham, West Sussex, RH12 2RG, UK Telephone +44 1403 255 969, e-mail: maria.oconnor@csaglobal.com.
2) The Technical Report to which this certificate applies is titled NI 43-101 Technical Report – Mineral Resource Estimate Update for the Timok Project, Serbia and is dated effective 15th May 2018.
3) I hold a BSc (Hons) degree in Environmental Geochemistry from University College Dublin, Ireland (2004) and am a registered Member in good standing of the AIG (MAIG Member Number 5931) and a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM Membership Number 307704). I am familiar with NI 43-101 and, by reason of education, experience in exploration, evaluation and mining of gold deposits, and professional registration; I fulfil the requirements of a Qualified Person as defined in NI 43-101. My experience includes 13 years in mineral exploration and resource evaluation.
4) I visited the Timok Gold Project from 28 February to 1 March 2017 for two days.
5) I am responsible for the following sections of this Technical Report; Section 1 to 10, 12.1.1, 12.1.4, 12.1.7, 12.2, 14, 15 to 28 and the associated text in the Summary, Conclusions and Recommendations and am responsible for their accuracy and validity.
6) I am independent of the issuer as described in Section 1.5 of NI 43-101.
7) I have had prior involvement with the property that is the subject of this Technical Report, having visited the project and updated the Mineral Resource in 2017.
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 7th day of November 2018.

"signed and sealed"

Maria O'Connor BSc (Hons)

Principal Resource Geologist

CSA Global UK Ltd

Certificate of Qualified Person – David Muir

As a Qualified Person of this Technical Report covering the Property named as Timok Gold Project of Dundee Precious Metals, Serbia, I, David Muir do hereby certify that:

1) I am a Principal Data Geologist at CSA Global (UK) Ltd, and carried out this assignment for CSA Global (UK) Ltd, Springfield House, Springfield Road, Horsham, West Sussex, RH12 2RG, UK Telephone +44 1403 255 969, e-mail: david.muir@csaglobal.com.
2) The Technical Report to which this certificate applies is titled NI 43-101 Technical Report – Mineral Resource Estimate Update for the Timok Project, Serbia and is dated effective 15th May 2018.
3) I hold a BSc (Hons) degree in Geology from the University of Natal, Durban, South Africa and am a registered Member in good standing of the Australian Institute of Geoscientists (Membership Number: 9102). I am familiar with NI 43-101 and, by reason of education, experience in exploration, evaluation and data management, and professional registration; I fulfil the requirements of a Qualified Person as defined in NI 43-101. My experience includes 10 continuous years in the exploration and mining industry.
4) I visited the Timok Gold Project from 28 February to 1 March 2017.
5) I am responsible for the following sections of this Technical Report; Section 11, 12.1.2, 12.1.3, 12.1.5, 12.1.6, 12.1.8 and the associated text in the Summary, Conclusions and Recommendations and am responsible for their accuracy and validity.
6) I am independent of the issuer as described in Section 1.5 of NI 43-101.
7) I have had prior involvement with the property that is the subject of this Technical Report, having visited the project and updated the Mineral Resource in 2017.
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 7th day of November 2018.

"signed and sealed"

David Muir

Principal Data Geologist

CSA Global (UK) Ltd

Certificate of Qualified Person – Gary Patrick

As a Qualified Person of this Technical Report covering the Property named as Timok Gold Project of Dundee Precious Metals, Serbia, I, Gary Patrick do hereby certify that:

1) I am a Senior Associate Metallurgist CSA Global (UK) Ltd, and carried out this assignment for CSA Global (UK) Ltd, First Floor, Suite 2, Springfield House, Springfield Road, Horsham, West Sussex, RH12 2RG, UK. Telephone +44 1403 255 969, gary.patrick@csaglobal.com
2) The Technical Report to which this certificate applies is titled NI 43-101 Technical Report – Mineral Resource Estimate Update for the Timok Project, Serbia and is dated effective 15th May 2018.
3) I hold a BSc. (Chemistry / Extractive Metallurgy) and am a registered Member of the AusIMM (CP, #108090). I am familiar with NI 43-101 and, by reason of education, experience in exploration, evaluation and mining of gold 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 have not visited the Timok Gold Project.
5) I am responsible for the following sections of this Technical Report; Section 13, 1.9, 1.15.2, 26.2 and am responsible for their accuracy and validity.
6) I am independent of the issuer as described in Section 1.5 of NI 43-101.
7) I have no 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 7th day of November 2018.

"signed and sealed"

Gary Patrick, BSc., MAusIMM, CP (Met)
Senior Associate Metallurgist
CSA Global (UK) Ltd

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1 Executive Summary

1.1 Introduction

In April 2016, Dundee Precious Metals Inc. (DPM) announced the acquisition of all the issued and outstanding common shares of Avala Resources Ltd. (Avala), thus taking ownership of, amongst others, the Timok Gold Project (Timok or "the Project") in Serbia. Reference to "Avala" in this Technical Report refers to work completed by the Serbian company, Avala Resources d.o.o., which is now a wholly-owned subsidiary of DPM.

During 2017, at the request of DPM, CSA Global (UK) Ltd (CSA Global) was requested to compile a Technical Report on the Timok Gold Project, located in the central-eastern region of the Republic of Serbia. This will be referenced throughout this report as the "2017 Report".

Since then, work has been undertaken on oxidation profiles, and metallurgical testwork has indicated more positive recoveries which has shifted focus to the oxide portion of the deposits, for which updates to the Mineral Resources are required, as well as an updated NI 43-101 Technical Report to be filed on SEDAR. This report is to comply with disclosure and reporting requirements set forth in National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101), Companion Policy 43-101CP, and Form 43-101F1.

This Technical Report discloses changes to some components of the Mineral Resource estimate (MRE) and is an update to the earlier Technical Report dated 20 June 2014, filed by Avala Resources Ltd., which summarised the Preliminary Economic Assessment (PEA) completed in June 2014. This will be referenced throughout this report as the "2014 Technical Report". Much of the 2014 Technical Report, with the exclusion of the Mineral Resources, remains current and has been reproduced where applicable. Any updates will be clearly referenced at the top of relevant sections in this technical report. The authors of this technical report do not disclaim any responsibility for the content contained herein.

This updated report pertains to updated parameters and assumptions used to create the pit shells used to constrain the Mineral Resources for three deposits that comprises the Timok Gold Project, namely the Bigar Hill, Korkan and Kraku Pester deposits. The updated Mineral Resource also includes a maiden MRE for the Korkan West Prospect of the Timok Project, discovered by DPM in 2017. These pit optimisation shells have been used to support "reasonable chances of eventual economic extraction" criteria under CIM guidelines when supporting the disclosure of Mineral Resources.

1.2 Project Description and Location

The Project is located in the central-eastern region of the Republic of Serbia, approximately 270 km southeast of the capital, Belgrade. It comprises four exploration licences (Potoj Čuka Tisnica, Lenovac, Umka and Bigar Istok licences) covering an aggregate area of 263.77 km^2. The northern boundary is positioned about 25 km southwest from the Danube River, and the Project area extends 70 km southwards to approximately 42 km south-southeast of Bor at its southern boundary. The Bigar Hill, Korkan, Korkan West and Kraku Pester deposits, which are the focus of this report, are located within the boundary of the Potoj Čuka Tisnica exploration licence.

The exploration licences for the Project are held by Avala Resources d.o.o., a Serbian registered company. Since 2016, Avala Resources d.o.o., has been a wholly owned subsidiary of DPM following the amalgamation of DPM and Avala Resources Ltd.

1.3 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Project is accessible by regional asphalt roads between Bor, Žagubica, Krepoljin, and Zlot, and well-developed unsealed forestry roads. The area is also linked via Bor to Zaječar and Paraćin and via Žagubica to Požarevac (and further to Belgrade). There is a railroad from Bor to Belgrade through Požarevac.

Terrain in the Timok area is hilly to mountainous, ranging from about 500 metres above sea level (masl) to 944 masl at Čoka Rakita, the highest peak in the area. Other high peaks are Čoka Berbješće (817 masl), Strez (731 masl), and Čoka-Unuk (741 masl). The most important drainage is the Jagnjilo River, which drains into the River Veliki Pek, and further on to the Danube, and incorporates the Bigar Hill and Korkan areas. The lower slopes and valleys are largely given over to seasonal farming, while forests dominate the higher slopes and peaks.

The Timok area is characterised by moderate continental climate, with some influence of high mountainous climate. Winters are long and cold, with abundant snow cover, and summers are usually hot. First seasonal frosts occur in October and the last frosts in April.

The Bigar Hill, Korkan and Korkan West, and Kraku Pester mineralised areas are located approximately 3 km, 4 km and 2 km respectively from the 110 kV Serbian national power grid, which extends from Bor to Petrovac and passes through the Project.

Located some 30 km west of Bigar Hill is an operating aggregate plant, which is in good condition and currently supplies customers with aggregate for concrete.

The town of Bor is connected by rail to Belgrade (via Požarevac); this same rail network is part of European Transportation Corridor 10, which extends southwards through Former Yugoslav Republic of Macedonia (FYRM) to Greece and the Mediterranean, and also eastwards through Bulgaria to ports on the Black Sea (and further to Turkey). Bor is accessible via the national highway grid (Paraćin turnpike), leading to sealed roads through Boljevac to Bor.

Infrastructure within the Project area is generally poorly-developed (excluding powerlines) and limited to networks of well-developed, unsealed forestry roads. Habitation within the Project area is sparse and generally restricted to summer-months seasonal occupancy.

1.4 History

The Timok region has a long history of exploration, dating back to Roman times. Geological mapping of the region was initiated in 1933 by the Serbian government, while regional geophysical surveys in the region were initially undertaken during the 1930s and then over various periods until 1985 by governmental geological and geophysical agencies. Geochemical surveys over the region were undertaken by Geozavod, Belgrade, and Geology Institute Bor. Small-scale adits were excavated in several localities prior to World War II.

1.5 Geological Setting

The regional and Project geology and mineralisation are summarised in the following subsections.

1.5.1 Regional Geology

The Project is located immediately to the west of the Timok Magmatic Complex (TMC) in eastern Serbia. This complex is part of the larger tectonic Alpine-Balkan-Carpathian-Dinaride metallogenic-geodynamic province (ABCD) that extends from Western Europe to South-East Asia and comprises the Tethyan orogenic system. The most economically significant segment comprises the Late Cretaceous subduction-related magmatic rocks and mineral deposits, referred to as the as the Apuseni–Banat–Timok–

Srednogorie Magmatic and Metallogenic Belt, which extends from Romania, through Serbia, and into Bulgaria. The easternmost magmatic complex in the Serbian part of the belt is the TMC.

The Project is located on the western margin of the TMC and is subdivided into a western sequence of Proterozoic metamorphic basement rocks, Late Jurassic and Early Cretaceous limestones and an eastern sequence of epiclastic and diorite intrusive rocks of Late Cretaceous age. In the Project area, the interface between these two sequences consists of six rock units: Jurassic to Cretaceous limestone rocks (JLS and KLS units) are unconformably overlain by calcareous clastic sedimentary rocks consisting of a basal sandstone (S1 unit) and an overlying red sandstone or conglomerate unit (S2 unit), a marl unit which overlies the clastic units which, in turn, is overlain by magamatic and derivative clastic rocks (andesite epiclastic unit).

The Jurassic and Cretaceous limestones are intensely karstified towards the upper unconformity.

1.5.2 Project Geology

Gold mineralisation at the Project is classified as relatively low-temperature auriferous deposits that share many characteristics with Carlin-type gold deposits. The interpretation of the sediment-hosted gold prospects within the Project area as Carlin-type is based upon the following criteria:

- The character of the sedimentary host
- The metal association of gold, arsenic, mercury, thallium, sulphur and antimony
- The fine-grained nature of the gold, high gold-to-silver ratio and alteration types, including argillisation, decarbonisation, and locally, addition of quartz.

Four important mineralised areas have been defined in the Potoj Čuka Tisnica exploration licence, comprising of the Bigar Hill deposit, the Korkan and Korkan West deposits and the Kraku Pester deposit. All four zones share a similarity of mineralisation style, which has been most clearly defined at the Bigar Hill deposit and are associated with a large hydrothermal system that has been identified within the Project.

Gold mineralisation at Bigar Hill is located principally along two stratigraphic horizons, with lesser amounts present along peripheral steeply dipping fracture zones within the clastic rocks and an andesite sill. A lower zone is localised along the unconformable and brecciated lower contact between the clastic S1 and isolated karst-infill zones above the KLS unit. The most continuous horizons lie at shallow stratigraphic levels along the contact between the S1 and S2 units, forming a middle zone. Above this zone, gold mineralisation occurs within the andesite intrusive unit.

Mineralisation at the Korkan deposit is generally southeast - northwest trending and shares similar characteristics with the Bigar Hill deposit. Unlike Bigar Hill, stratiform gold mineralisation at Korkan occurs primarily along the unconformable and breccia-like lower contact zone of the clastic S1 sequence against the underlying KLS limestone unit, and in karst-infill zones at the upper boundary of the KLS limestone unit.

The Korkan West deposit is the newest discovery within the Project. It lies between the Bigar Hill and Korkan deposits, along northwest trending structural corridor. The Korkan West deposit shares many characteristics with the Bigar Hill deposit, located approximately 1 km to the southeast, and the Korkan deposit located approximately 1 km to the northeast. Almost all mineralised intervals are manifested as oxide and transitional weathering states. Host rocks for gold mineralisation are: (1) oxidised fine to very coarse-grained (0.1 mm to 2 mm) sandstone belonging to the S1 or S2 units; (2) conglomerate layers containing quartzite clasts and/or not limestone clasts (S1 or S2 units). Mineralisation at S2/S1 contact can commonly be observed.

The Kraku Pester deposit is located in an embayment at the north-western tip of the Potoj Čuka monzonite, consisting of a thermal aureole across a variably disrupted stratigraphic sequence of metamorphosed shale, marls and limestone metamorphosed to calc-silicate phyllite and marble, and tuffaceous rocks. Unlike Bigar Hill, gold mineralisation at Kraku Pester is hosted in brittle fault rocks composed of pyritised fault breccia to cataclasite, with relatively higher gold concentrations being associated with finer-grained cataclasite. Gold deposition is interpreted as being relatively late in the geological-structural evolution, post-dating the emplacement of the monzonite.

1.6 Exploration and Drilling

Exploration of the Project has been carried out since 2007 by DPM and Avala teams. Extensive soil sampling and surface trenching was completed by DPM from 2007 to 2009. Only four diamond drill-holes were completed on the Project during this period. From 2010 onwards, Avala completed geological mapping, outcrop sampling, soil geochemistry surveys and trenching over a large part of the Project. Exploration completed on Avala licences produced 11,683 soil samples, 2,104 rock chip samples, and 35.5 km of trenching.

Drilling campaigns from 2010 to 2012 have been focused on the Potoj Čuka Tisnica licence to outline mineralisation across the Bigar Hill, Korkan, and Kraku Pester mineralised areas. Avala has completed 369 diamond drill-holes (100,936 m), 722 reverse circulation (RC) drill-holes (136,053 m) and 47 drill-holes (14,018 m) that comprised a RC pre-collar and diamond tail on the three deposits in this licence.

Avala's staff and drilling contractors follow comprehensive quality control and safety procedures for all diamond core and RC drilling programs. For example, drilling of each diamond core hole is always initiated using PQ-size core, and then reduced to HQ core, and all RC drilling is conducted under constant site supervision by an Avala project geologist. Diamond drilling core recovery and RC are excellent.

1.7 Sampling and Analysis

Sample preparation for all samples (soil, channel sample, RC and diamond core) is undertaken at SGS Bor (SGS) sample preparation facility in Bor. This facility is owned by Avala, but independently managed by SGS, such that the chain of custody is transferred from Avala to SGS at the laboratory door. The SGS facility is located adjacent to Avala's core shed facilities in Bor.

All submissions to the sample preparation facility are accompanied by sample submission forms with instructions for preparation methods, insertion-of-standards protocols, and analytical process codes. Once the samples are delivered to the SGS sample preparation facility, chain of custody records are maintained until reject sample pulps are returned to Avala's jurisdiction.

All samples submitted to the facility are initially dried at 105°C for a minimum of 12 hours. Core, trench and rock samples are then crushed to 4 mm, using jaw crushers. Core "field duplicates" are produced by splitting crushed samples on a 1-in-20 basis at the jaw crusher output stage. Each duplicate subsample is assigned its own identification number for the remainder of the assay procedure. All crushed sample material is then pulverised using LM5 pulverising mills (of which there is currently a bank of eight).

RC drilling samples are pulverised in their entirety using the LM5 pulverising mills. A standard part of the SGS laboratory operating procedures is for 1 in 10 pulps to be wet-sieved using a motorised sieve bank to confirm that 90% of the sample passes 75 µm. If a sample fails the test, the previous 10 samples are re-pulverised.

Pulverised material, from all types of sample, is split into 250 g and 600 g pulps, where the former is used for assay determination, and the latter is stored as part of the reference pulp library which is securely stored within the Avala sample office facility. An additional 250 g pulp duplicate was split from the pulverised material at a frequency of 1 in 13.

Routine analyses of all samples are currently performed at the SGS analytical laboratory in Bor, or previously at the SGS analytical laboratory in Chelopech, Bulgaria. All laboratory methods, procedures, and quality control/quality assurance (QAQC) protocols are consistent with standards adopted by SGS worldwide standards. Gold analysis methodology is conventional 50 g fire assay, with an atomic absorption finish. Silver and base metal analyses (copper, molybdenum, arsenic, bismuth, lead, antimony and zinc) are performed using a 0.3 g charge, aqua regia digestion, and atomic absorption analysis. Sulphur samples are analysed by combustion with an infrared finish.

The Bor and Chelopech laboratories are not ISO 9002 or ISO 17025 accredited for the above analytical procedures. However, the procedures routinely used at both the SGS laboratories include the following established and standard specifications at all their laboratories worldwide:

- Cross-referencing of sample identifiers
- Use of compressed air gun and vacuum gun, along with routine barren quartz “washes”, for cleaning of crushing and pulverising equipment
- Routine assaying of quartz washes
- Assaying of SGS-submitted certified standards at a rate of two per batch of 40 original samples
- A minimum of 10% of submitted samples are subject to repeat analysis
- Second splits generated by the SGS CCLAS system are produced at a rate of 1 in 13 and represent a second subsample taken from the LM5 pulverised pulp.

All soil samples are assayed by ALS Chemex in Perth and SGS Vancouver, using methods Au-TL43 (gold by aqua regia digestion with inductively coupled plasma and mass spectrometry (ICP-MS)), and ME-MS41 (combined ICP-MS and ICP-AES (atomic emission spectrometry) dependent on concentration). Elements assayed for are silver, aluminium, arsenic, boron, barium, beryllium, bismuth, calcium, cadmium, cerium, cobalt, chromium, caesium, copper, iron, gallium, germanium, hafnium, mercury, indium, potassium, lanthanum, lithium, magnesium, manganese, molybdenum, sodium, niobium, nickel, phosphorous, lead, rubidium, rhenium, sulphur, antimony, scandium, selenium, tin, strontium, tantalum, terbium, thorium, titanium, thallium, uranium, vanadium, tungsten, yttrium, zinc and zirconium. The ALS Chemex laboratory in Perth is certified to ISO 9002, but is not ISO 17025 accredited for this technique.

An ICP-MS machine has recently been installed and brought online at the SGS Bor laboratory.

Umpire pulp aliquots, sent to two external accredited laboratories, are assayed for gold by 50 g fire assay, with an atomic absorption finish. Silver is analysed using a 0.3 g charge, aqua regia digestion, and atomic absorption analysis. Sulphur is analysed by combustion furnace.

Pulp aliquots for dispatch to other laboratories (abroad) are packed in boxes which are plastic-wrapped or taped shut for transport in sealed containers. The sealed sample boxes, accompanied by chain-of-custody documents, are transported door-to-door by an international courier delivery company.

Reject pulps, returned to Avala, are stored in an enclosed “pulp library”, with access through secure key card only.

CSA Global did not have an opportunity to review any drilling or sampling as this had already been completed, but procedures were reviewed, and discussions held with DPM geologists and the SGS laboratory manager regarding past and current practices. CSA Global concludes that the sample preparation, security and analytical procedures are robust and industry best practice. The Avala QAQC procedures are comprehensive and should be suitable to monitor assay contamination, accuracy and precision.

1.8 Data Verification

CSA Global completed a site visit on 28 February and 1 March 2017. Qualified Persons, Maria O'Connor and David Muir, completed the following during the site visit:

- Discussions with Justin van der Toorn (Exploration Manager), Dragana Davidovic (Senior Geologist) and Mladen Zdravkovic (Regional Geologist) regarding procedures, geology, interpretation, exploration, tenure and assumptions made for the MRE
- Review of Exploration Method Policies, compiled in 2005, updated in 2010 and 2011 and used throughout Avala's drilling and exploration programs
- Field trip to drill sites at Bigar Hill. Six drill collars were located but due to snowy conditions, roads to most drill sites at Bigar Hill and all at Korkan and Kraku Pester were inaccessible
- Visual review of mineralised portions of three diamond drill-holes in the core shed
- Visits of the pulp library where returned sample pulps are securely kept
- Visit to, and audit of the sample preparation and analytical laboratory at SGS, Bor
- Spot checks of the database using hard copy data
- Spot checks of assay certificates against assays stored in the database
- Independent reporting and evaluation of QAQC
- Twinned drill-hole review.

At the time of the site visit, drilling and most exploration had ceased at the deposits that are the subject of this Technical Report – Bigar Hill, Korkan and Korkan West, and Kraku Pester – drilling and sampling procedures were not verified in action. However, discussions were held with the DPM geologists as well as the SGS laboratory manager regarding past and current practices and CSA Global is satisfied that Avala has conducted its exploration and drilling activities at a high standard, and data verification completed by CSA Global has indicated no issues. CSA Global therefore concludes that data derived from them can be reliably used in the MRE.

1.9 Mineral Processing and Metallurgical Testing

Several metallurgical testwork programs have been undertaken on samples selected from the Project deposits since 2011. Initial work investigated the potential for gold recovery from several processing options including cyanidation techniques. The results of these testwork programs have been described within the 2014 Technical Report and current information is summarised in this Technical Report.

Please note, the use of the word ''ore'' is used in this section summarising Mineral Processing and Metallurgical Testing and is only used to describe specific metallurgical terminology. Mineralised material has been used wherever possible. This is in no way intended to imply that a particular sample could be treated economically and does not represent economic viability.

During 2012 and 2013, the metallurgical testwork focus changed to the assessment of ultra-fine grinding (UFG) and flotation to produce a gold-rich sulphide concentrate for treatment by others. The results of these investigations are described within Section 13 of this report and summarised below.

Relevant metallurgical testwork programs undertaken to date include:

- Phase 1 program: This SGS (UK) 2012 program investigated flotation conditions including grind size, reagent types and other flotation parameters.
- Phase 2 program: An additional SGS (UK) program undertaken in 2013, aimed at further optimisation of UFG and flotation parameters developed during the Phase 1 testing. A wide range of operating characteristics were tested including laboratory flotation procedures, flotation froth removal rates

and final grind sizes. In addition, testwork was initiated to establish whether whole ore scrubbing could provide upgraded flotation feed and relatively barren tailings streams.

- SGS Lakefield tests: Samples were despatched to SGS Lakefield (Canada) for bench scale and Woodgrove Technologies Inc. (Woodgrove) "Mini Staged Flotation Reactor (SFR) pilot plant" flotation testwork during late 2013.
- Extra flotation testing: An additional flotation program developed to assess cleaning flotation performance and final concentrate analyses conducted during late 2013 by SGS (UK).

Similarly, additional high intensity scrubbing testwork was undertaken with some encouraging results.

Detailed metallurgical testwork during 2013 focused on the two largest deposits, Bigar Hill and Korkan, although some work was also completed on samples from the Kraku Pester deposit. All testing was undertaken on composite samples to minimise any sample variability whilst other testing parameters were under assessment. In 2016, a metallurgical sample from Bigar Hill was submitted to Dundee Sustainable Technologies (DST) for characterisation work. General sample descriptions are presented within Section 13.

1.9.1 Mineralogical Examination

Mineralogical characterisation studies were undertaken to investigate the deportment of gold within the tested samples and included x-ray fluorescence, QEMSEM and D-SIMS. The outcomes of those examinations are considered to largely explain the flotation performance observed for the various ore type samples during the combined flotation testing results, where it may be concluded that:

- Pyrite grain size is relatively fine and corresponding fine flotation feed size will be required for optimum sulphur recoveries
- Whilst gold is associated with pyrite, there is a significant proportion associated with the oxide components
- Gold grades varied within the three pyrite types and, as it can be expected that each pyrite type displays differing flotation rates, provided some insight into the flotation concentrate gold grade kinetic profile.

1.9.2 Comminution Characterisation Testwork

Comminution characterisation testwork was completed during the Phase 1 program and is summarised in Section 13 of this report. In general:

- Semi-autogenous grinding (SAG) milling amenability testing was limited to the SPI methodology but indicated a range of (but generally soft to moderate) milling characteristics
- Bond work index parameters have been predominantly determined by the SGS ModBond procedure and indicated soft to moderate hardness characteristics for most samples, although some hard samples were also tested
- UFG testwork was completed using a laboratory scale stirred mill where the target P80 product size of 20 µm was achieved (and surpassed) at moderate energy input levels for UFG feed sizes of 100 µm or less
- Discrepancies have been demonstrated between the particle size distribution (PSD) measurement methods used, i.e. laser-sizing (Malvern) versus cyclosizing for the very fine grind samples, presumably due to particle shape factors, and care is needed with the interpretation of UFG results.

1.9.3 Beneficiation by Size Testwork

Beneficiation by size (scrubbing) testwork (described in Section 13 of this report) has indicated promising ore characteristics which may allow for the upgrading of the flotation feed stream. It may be possible to produce a relatively low gold grade reject scrubbing oversize fraction with attendant benefits to the processing facility capital and operating costs. Following some preliminary low energy drum scrubbing testing, one of the samples was subjected to higher energy intensity attrition scrubbing where around 84% of the feed gold and 63% of the feed sulphur was recovered to a minus 75 µm scrubbed fraction of approximately 40% of the feed weight. As such, up to 60% of the whole ore (scrubbing feed) weight could be discarded with a loss of only 16% of the gold. It is likely that some of this lost gold may not have been recoverable under the UFG flotation scenario in any event. The scrubbing upgrade resulted in the pre-concentration of flotation feed gold grade to approximately 5.2 g/t from 2.5 g/t sample head grade.

Testwork was also conducted to investigate the potential gold and sulphur recoveries available from the scrubbed oversize fraction (+75 µm) via gravity techniques. In general, it was found the utilisation of gravity concentration on the scrubbing oversize fraction could reduce the gold losses, but also reduced the barren reject weight.

However, the preliminary low energy drum scrubbing testing indicated a relatively wide range of responses for the various tested samples and conditions. As such, this option has not been included into the processing plant preliminary design at this stage pending the successful completion of further variability style testwork and derivation of common design parameters suitable for all likely ore types.

1.9.4 Flotation Testwork

Section 13.13 describes the general features of the flotation testwork elements of four testwork programs completed to date, provides a summary of the reported results and outlines the metallurgical basis for the PEA flotation circuit design.

The Phase 1 testwork program (SGS UK, 2012) investigated various parameters to demonstrate the UFG/flotation concept including some optimisation of flotation feed grind size, reagent types and other flotation parameters. The results of the program have been previously reported and are not repeated in this report, but salient features included:

- Satisfactory gold recovery was obtained by flotation but usually corresponding to very high rougher concentrate weights (generally around 40% but up to 70%).
- Tested grind P80 size was mainly 37 µm (100% passing 53 µm) although some 53 µm and 25 µm tests were completed. Finer grinds demonstrated better recovery performance and a flotation feed P80 size of 20 µm was selected for subsequent programs.
- Flotation performed better than gravity concentration and further testing of the latter was abandoned.
- A series of flotation reagent suites were tested, and proprietary collectors selected for subsequent testing.

The Phase 2 testing program (SGS UK, 2013) included laboratory batch flotation testwork on “MET13” composite samples representing Bigar Hill (BH-01), Korkan (KO-01) and Kraku Pester (PE-01) ore types. Some relevant outcomes from that program included:

- Flash flotation testing produced very good sulphur recoveries (to 92%) but relatively poor gold recoveries (up to 68%) as gold containing oxide particles were not floated during the procedure due to the lack of flotation time at the finer final tested grind size. This approach was abandoned for the remainder of the program.
- Several physical rougher flotation test methods were investigated where various grind sizes, scrape rates, cell types and general rougher concentrate pulling procedures were adopted and where the results varied considerably.
- The results highlighted that employment of UFG to approximately 20 µm P80 with slower froth scraping rates resulted in much improved selectivity when compared to the Phase 1 program.

- Little further work has been subsequently conducted on Kraku Pester samples due to the difficult metallurgical characteristics and relatively small resource base.
- Cleaning tests were also completed on Bigar Hill and Korkan rougher concentrate samples although the preceding rougher floats exhibited relatively poor recovery as insufficient concentrate weight was collected.
- Bigar Hill was shown to be the best rougher flotation performer of the samples tested, followed by Korkan and then Kraku Pester. Results included:
  - Bigar Hill – Cumulative gold and sulphur recoveries of 86.8% and 96.9%, respectively to a concentrate weight of 24.5%
  - Korkan – Cumulative gold and sulphur recoveries of 71.8% and 80.2%, respectively to a concentrate weight of 17.9%
  - Kraku Pester – Cumulative gold and sulphur recoveries of 60.4% and 73.2%, respectively to a concentrate weight of 18.4%.

Flotation testwork was undertaken at SGS Lakefield in conjunction with Woodgrove to assess the application of the SFR flotation technology via an SFR mini-plant. The results of that work were considered unsatisfactory and are due to be repeated under modified conditions and with a larger test particle collection unit (PCU) vessel during 2014. However, parallel traditional batch laboratory rougher flotation testing was undertaken, and the results of that program are discussed further below.

An additional flotation testwork program was initiated in late 2013 to compare the performance of an alternative flotation reagent addition regime and confirm final concentrate analyses for marketing purposes. The results of that program are yet to be formally reported.

The relevant data available from the rougher-scavenger flotation testwork programs described above was collated and assessed and individual tests selected for further analysis. That assessment indicated the following rougher flotation performance for the PEA mineralised material types:

- Bigar Hill – Gold recovery range of between 77% and 87% with corresponding sulphur recoveries of over 93% for the selected tests
- Korkan – Gold recovery range of between 70% and 80% with corresponding sulphur recovery range of between 80% and 93%
- Kraku Pester – Gold recovery range of between 46% and 64% with corresponding sulphur recovery range of between 72% and 76%.

Several flotation parameters were demonstrated to significantly affect flotation performance of these samples:

- Flotation feed grind size – Relatively good correlations between gold recovery and grind P80 size were demonstrated where 20 µm was required to obtain satisfactory gold recoveries for most samples, although Kraku Pester was shown to respond to even finer flotation feed sizes
- Flotation time – All mineralised material types exhibit relatively slow flotation kinetics with respect to gold recovery, particularly Kraku Pester
- Rougher concentrate weight – Appears a very important parameter where values of 25% are required for the Bigar Hill and Kraku Pester mineralised material types and 20% for the Korkan samples, to obtain reasonable rougher recoveries.

Cleaning flotation tests were unsuccessful due to relatively poor rougher flotation test performances. However, the relative stage gold and sulphur recoveries for the Bigar Hill sample were 90% and 95%, respectively. These values can be expected to improve at the full scale due to limitations associated with the nature of the laboratory scale open-circuit batch flotation tests which do not capture valuable minerals in recycle streams. Final concentrate gold grades ranging between 20 g/t and 25 g/t were obtained for the relatively low head grade samples tested.

Assessment of the selected flotation testwork data has allowed for the determination of flotation area parameters for process plant preliminary design and the financial model. Key parameters include:

- Flotation feed P80 size of 20 µm
- No inclusion of flash flotation within the flowsheet
- Rougher-scavenger combined laboratory testing flotation time of 45 minutes, equivalent to approximately two hours at the full scale for conventional flotation cells
- Target cumulative rougher concentrate weights of 25% for the Bigar Hill and Kraku Pester mineralised material types and 20% for Korkan mineralised material types, respectively
- Target rougher-scavenger gold recoveries of 85%, 74% and 60% for Bigar Hill, Korkan and Kraku Pester mineralised material types, respectively
- Similarly, target rougher-scavenger sulphur recoveries of 94%, 88% and 73% Bigar Hill, Korkan and Kraku Pester mineralised material types, respectively
- No flotation concentrate regrind requirements for the PEA
- Cleaning circuit relative recoveries of 93% and 97% for gold and sulphur, respectively, for all mineralised material types
- Final concentrate gold recovery of 80%, 68% and 56% for Bigar Hill, Korkan and Kraku Pester mineralised material types, respectively
- Similarly, final concentrate sulphur recoveries of 90%, 85% and 71% for Bigar Hill, Korkan and Kraku Pester mineralised material types, respectively
- Average final concentrate weight of approximately 4% but a design allowance for 5.5% for higher sulphur grade feed ores expected during the development of the starter pits and for the Kraku Pester mineralised material types
- Target final concentrate sulphur grades of over 30%
- Target final concentrate gold grades of 30 g/t to 50 g/t, depending on feed gold and sulphur grades and the final concentrate weight corresponding to the metal recoveries described above.

The assumed Au recoveries for the current MRE are 85% for Bigar Hill and Korkan and 80% for Kraku Pester. Testwork conducted in 2016 (see Section 13), and as well as potential to optimise grinding and flotation parameters indicate that it is not unreasonable to assume slightly higher Au recoveries for the MRE compared to those for the PEA.

1.9.5 Coarse Ore Bottle Roll / Column Leach Tests (2017)

Metallurgical testing to support the development of the Timok Gold Project as a heap leach operation for processing weathered and transitional ore types from the various deposits was initiated in 2017. Testing to date has focused on gold recovery at coarse particle sizes. Metallurgical testing was initiated in 2017 using samples from existing exploration diamond drill holes.

Coarse sample bottle roll and column leach tests were conducted in 2018 at SGS Lakefield (SGS) on composite samples representing the oxide and transitional mineralisation types from the Korkan deposit, and oxide zones from Bigar Hill and Korkan West deposits. Results from coarse sample bottle roll and column leach tests were mainly used in deriving metallurgical recoveries for use in the updated Mineral Resource Estimate for the oxide and transitional ore zones.

Results of the coarse bottle roll leach tests indicated gold leach extractions ranging from 53% for the Korkan transitional ore to 94% for the Bigar Hill oxide ore, after 14 days of leaching, and at a crush size of

100% - 16mm. Leach curves indicated that gold leaching was still ongoing after 14 days of leaching when the tests were terminated.

Column leach tests carried out at the optimal crush size of 80% - 12.5mm exhibited fast leach kinetics except for the Korkan transitional ore, where leaching was still ongoing of 63 days when the tests were terminated. Lime consumption is moderate and cyanide consumption is low for all ore types.

Size by size analysis of the column leach test feed and tails samples shows gold evenly distributed among the size classes, roughly following the mass splits. Some of the metallurgical samples showed low gold recovery in the coarse size fractions (+19.0mm).

There was generally good correlation between gold extraction obtained from the coarse bottle roll leach and column leach tests apart from the Korkan transitional ore which was still leaching in both tests.

Results of the testing program indicate that oxide and transitional ore samples from the Timok Gold Project are amenable to heap leach processing. Leach rates are relatively fast with high gold recovery for the Korkan and Korkan West oxide ore, and moderate gold recovery for the Korkan transitional, and Korkan West oxide ore zones.

1.10 Mineral Resource Estimates

CSA Global completed Mineral Resource estimation for the Bigar Hill, Korkan and Korkan West, and Kraku Pester deposits in September 2018.

The MRE was based on interpretations using integrated geological and grade information recorded from RC and diamond core logging and assaying. DPM geologists conducted the geological interpretation and modelling work using the Leapfrog software package. CSA Global reviewed these models and found them suitable for use in the MRE. The estimation work was completed using the Datamine Studio and Isatis software packages by CSA Global. The date of receipt of final data for the Bigar Hill, Korkan and Korkan West, and Kraku Pester deposits was 15 May 2018.

Solid wireframes were created to represent the geological units at each of the four deposits, as follows:

- Bigar Hill:
    - Overburden, Andesite Sill, Marl, Conglomerates (S2), Sandstones and Conglomerates (S1), Basal Breccia, Jurassic Limestone and Metamorphic Phyllite.
- Korkan:
    - Overburden, Andesite Sill, Hornblende Diorite Porphyry, Marl, Conglomerates (S2), Sandstones and Conglomerates (S1), Basal Breccia, Lower Cretaceous Limestone and Metamorphic Phyllite.
- Korkan West:
    - Overburden, Marl, Conglomerates (S2), Sandstones and Conglomerates (S1), Lower Cretaceous Limestones, Jurassic Limestone and Metamorphic Phyllite.
- Kraku Pester:
    - Overburden, Andesite Sill, Hornblende Diorite Porphyry, Skarn, Marl, Monzonite, Jurassic Limestone and Metamorphic Phyllite.

Suites of interpreted fault structures at each deposit were defined as wireframe planes, and solid wireframes were created to represent fresh (no oxidation), partial oxidation and complete oxidation.

Within each of the deposits, main zones of concentrated gold mineralisation were identified and modelled as solid shapes, in the form of loose mineralised shells corresponding to a broad cut-off grade of 0.1 g/t gold. These zones totalled four at Bigar Hill, three at Korkan, two at Korkan West, and one at Kraku Pester.

The geometries of the mineralisation zones are generally aligned with local stratigraphic trends although, at Korkan in particular, there are indications of structural influences on the distribution of mineralisation.

The stratigraphic, structural and mineralisation surfaces and solids were used as constraints in the construction of a cell model, based on parent cell XYZ dimensions of 20 m x 20 m x 10 m. To better represent the geometries of the mineralisation, cells were permitted to reduce to 5 m, 5 m, and 5 m in the X, Y and Z dimensions respectively. Models were coded to reflect the stratigraphic units and individual mineralised zones, as well as to distinguish between weathered and unweathered material. Triangulated surfaces of topography were used to constrain the upper bounds of the models.

Drill-hole samples were coded by stratigraphic unit, mineralisation zone and weathering in a manner consistent with the cell model. The high coefficients of variation (COV) values within the individual mineralisation zones indicate highly-skewed distributions with large grade ranges, or more than one population within a mineralised shell. These distribution characteristics are consistent with expectations given the loosely-domained mineralised shells based on a notional 0.1 g/t gold cut-off.

At Bigar Hill, the mineralised global gold mean grade is relatively high (0.49 g/t) compared to Korkan (0.42 g/t) and Korkan West (0.35 g/t). The mean gold grade for the single identified zone at Kraku Pester is low (0.31 g/t), reflecting the high proportion of very low grades captured within the mineralised shell.

Within each deposit area, mineralisation data was grouped by geological unit. Following statistical and visual review of grade distribution and continuity, selected mineralised geological units were combined into estimation domains. Samples were composited to 1 m lengths within these domains, which is the most common sample interval length.

Higher grades in the various domains represent relatively small proportions of each complete domain grade distributions and tend to be spatially discontinuous on a local scale, within more continuous trends of elevated grades, at larger scales.

Log probability plots and the spatial distribution of higher grades for each estimation domain were examined for high-grade outlier values. Top-cutting was applied to various domains to reduce local high-grade bias due to very high-grade samples.

Statistical observations, along with visualisation of mineralisation characteristics, were used to guide the selection of grade estimation technique. Ordinary kriging (OK) was considered for the mineralised domains. However, within broad mineralisation zones (defined at approximately 0.1 g/t gold and within geological boundaries), the grade architecture at the Timok deposits is gradational rather than mosaic, i.e. there is a transition between high grades and low grades, rather than extremely sharp contacts, where Multiple Indicator Kriging (MIK) may be suitable. As such, estimation of recoverable resources based on a selective mining unit (SMU) of 5 m x 5 m x 5 m was completed using Uniform Conditioning (UC).

The UC estimate was further post-processed to produce single cell grades for each SMU, based on Localised Uniform Conditioning (LUC) where the grade tonnage of the panel gets reconstituted in SMU sized blocks resulting in a block model with single grades. The location of the high and low grades in each panel is an estimate based on the spatial distribution of high- and low-grade samples within the panel, but exact locations of the SMUs remain unknown.

Experimental variograms were generated and modelled based on 1 m gold composites within the defined estimation domains. Traditional semi-variograms were used as the spatial model for this study, with variography completed using Supervisor software.

The UC method required the estimation, by OK, of gold into 20 m x 20 m x 10 m panels, and gold into SMU-sized cells. Search ellipse orientations were consistent with local stratigraphic trends.

Post-processing of the panel estimates was applied to account for change of support, and the kriged SMU estimates were used to guide the distribution of panel estimates into an SMU-sized cell.

A review of the database of bulk density determinations showed that the variation in densities between lithological units and mineralised zones is low. In view of the large number of density values available, bulk density estimates were interpolated into the cell models by inverse distance squared weighting, subject to stratigraphic search constraints.

Procedures for classifying the reported "Mineral Resource", "Inferred Mineral Resource" and "Indicated Mineral Resource" were undertaken under the guidelines adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), as the CIM Definition Standards on Mineral Resources and Mineral Reserves.

Mineral Resources estimated have been classified with consideration of the following criteria:

- Quality and reliability of raw data (sampling, assaying, surveying)
- Confidence in the geological interpretation
- Number, spacing, and orientation of drill-hole intercepts through mineralised zones
- Knowledge of grade continuities gained from observations and geostatistical analyses
- The likelihood of material meeting economic mining constraints over a range of reasonable future scenarios, and expectations of relatively low selectivity of mining.

At each deposit, the level of confidence in the mineralisation varies between, and within, individual zones. The Bigar Hill, Korkan and Korkan West, and Kraku Pester deposits have each been classified as containing dominantly Indicated Mineral Resources with subsidiary Inferred Mineral Resources.

CSA Global completed the following validation checks on the MRE:

- Swath plots depicting model tonnes, input de-clustered composite gold grade, output block model gold grade and drill metres per slice for each domain of each deposit for the purposes of comparing input and output grades and trends
- On-screen visual comparisons of the block model grades (via LUC) for all domains
- Statistical comparison between the input composite grades and output model grades globally and for all domains.

Results of the validations of the MRE supports the use of the resource model to underpin mine planning work, once constrained by a pit using appropriate parameters.

The resources are constrained within pit shells based on the parameters presented in Table 1. Please note, the use of the word "ore" is used in Table 1 because it is terminology used in defining pit optimisation parameters. This is in no way intended to imply that any Mineral Resources have technical or economic feasibility. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Table 1: Parameters used in pit optimisations

Units				**Bigar Hill**	**Korkan**	**Korkan West**	**Kraku Pester**
Costs	Mining cost	Waste	$/t mined	2.39	2.58	2.39	2.45
		Ore (Oxide and Transitional)	$/t ore	2.39	2.58	2.39	2.45
		Ore (Sulphide)	$/t ore	3.09	3.28	3.09	3.15
		Incremental cost per 10 m bench	$/t mined	0.045 from 530 RL	0.045 from 560 RL	0.045 from 560 RL	0.045 from 480 RL
		Rehabilitation	$/t mined	0.09	0.09	0.09	0.09
		Ore haulage from Kraku Pester	$/t ore	-	-	-	3.5

Units				Bigar Hill	Korkan	Korkan West	Kraku Pester
	Processing and administration	Ore (Oxide and Transitional)	$/t ore	6.22			
		Ore (Sulphide)	$/t ore	12.81			
	Off-site costs	Ore (Oxide and Transitional)	$/tr oz	5			
		Total concentrate and smelter cost (Sulphide)	$/tr oz	200			
		Royalty	%	5			
Parameters	Mining parameters	Mining recovery	%	95.00			
		Dilution	%	0.00			
	Au processing recovery	Ore (Oxide)	%	91.3	91.5	72.8	72.8
		Ore (Transitional)	%	69.3	69.3	69.3	69.3
		Ore (Sulphide)	%	70	65	65	50
	Overall slope angle	Oxide Zone	°	45			
		Transitional and Sulphide	°	52.5			
Revenue		Price of gold	$/oz t	1,250 (RF=1). Pit shell at 1,400			
		Payable for Oxide and Transitional	%	99			
		Payable for Sulphide	%	100.00			
Analysis		Discount rate	%	7.50			
		Grams in a troy ounce	g/oz t	31.1035			
		Processing rate	Mt/a	2.0			

Oxide and transitional mineralised material from the Timok Gold Project will be treated using conventional heap leaching technology. Additionally, the sulphide mineralised material will be processed by flotation to produce a saleable gold-bearing concentrate.

A nominal production rate of 2 million tonnes per annum (Mt/a) has been assumed for treating all mineralised material types. The various mineralised material types (oxide/transitional/sulphide) are processed by different process technologies and metallurgical recoveries are dependent on the type of mineralisation. Only material classified as Indicated and Inferred Mineral Resources is considered to be processable. No Korkan East polymetallic mineralisation falls within the constraining conceptual pit shell.

The price adopted for this study is $1,250/oz of gold as a pit shell with revenue factor=1; however, the pit shell generated at $1,400/oz has been selected as a constraining shell for reporting Mineral Resources.

Pit optimisations run in Whittle software resulted in varying cut-off grades, dependent on oxidation state, per deposit.

Table 2: Mineral Resource reporting cut-off grades

Deposit	Cut-off grade (Au g/t)					
	Cut-off for oxide in Whittle	Cut-off for oxide rounded	Cut-off for transitional in Whittle	Cut-off for transitional rounded	Cut-off for fresh in Whittle	Cut-off for sulphide rounded
Bigar Hill	0.178	0.20	0.235	0.25	0.603	0.60
Korkan	0.178	0.20	0.235	0.25	0.65	0.65
Korkan West	0.223	0.20	0.235	0.25	0.65	0.65
Kraku Pester	0.351	0.35	0.369	0.40	1.065	1.05

The key changes between the previous MRE for the Bigar Hill, Korkan and Kraku Pester deposits (CSA Global, 2017) and this updated Mineral Resource is that it was informed by additional drilling since 2014, updated interpretations by DPM of the different weathering domains, which was not previously recognised, and has been reported at lower/various cut-offs to reflect oxide/transitional and fresh material and differing costs parameters used to define the constrained pit. The updated Mineral Resource also includes a maiden MRE for the Korkan West Prospect of the Timok Project, discovered by DPM in 2017.

Mineral Resources are reported constrained within conceptual pit optimisation shells for each deposit, for the purposes of demonstrating "reasonable chances of eventual economic extraction", required for Mineral Resource disclosure. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The open-pit shells have been determined via consideration of various cut-off grades for material types that were calculated based upon, among other things, the material type, haulage distance and recoveries derived from metallurgical testwork. The Mineral Resource statement for each deposit, and the cut-off grades for each material type, reported using these various cut-off grades, is presented in Table 3.

Table 3: MRE for Timok Gold Project as at 15 May 2018

Mineral Resource estimates: Timok Gold Project, Serbia, as at 15 May 2018							
Deposit		**Indicated Mineral Resource**			**Inferred Mineral Resource**		
		Tonnage (Mt)	**Au**		**Tonnage (Mt)**	**Au**	
			(g/t)	**koz**		**(g/t)**	**koz**
Bigar Hill	Oxide	12.4	1.14	455	0.7	0.7	16
	Transitional	5.9	1.21	229	0.4	1.0	12
	Sulphide	11.1	1.72	615	0.1	1.6	7
	Total	**29.4**	**1.38**	**1,299**	**1.2**	**0.9**	**34**
Korkan	Oxide	5.8	0.90	166	0.2	0.5	4
	Transitional	2.8	1.06	97	0.1	0.7	3
	Sulphide	3.3	1.91	205	0.0	1.1	0
	Total	**11.9**	**1.22**	**468**	**0.4**	**0.6**	**7**
Korkan West	Oxide	2.9	1.03	98	1.0	0.8	24
	Transitional	0.3	0.85	8	0.2	0.8	6
	Sulphide	0.0	1.33	1	0.0	0.9	0
	Total	**3.2**	**1.02**	**106**	**1.2**	**0.8**	**31**
Kraku Pester	Oxide	0.7	0.95	22	0.1	1.3	5
	Transitional	0.1	0.95	4	0.0	1.2	0
	Sulphide	1.5	2.01	95	0.0	1.8	0
	Total	**2.3**	**1.61**	**122**	**0.1**	**1.3**	**6**
Total – Oxide		**21.8**	**1.06**	**742**	**2.0**	**0.7**	**48**
Total – Transitional		**9.2**	**1.15**	**338**	**0.7**	**0.9**	**22**
Total – Sulphide		**15.9**	**1.79**	**916**	**0.2**	**1.5**	**8**
GRAND TOTAL		**46.9**	**1.32**	**1,996**	**2.9**	**0.8**	**78**

Notes:

1. *The effective date of the MREs is 15 May 2018.*
2. *Mineral Resources are reported in accordance with CIM guidelines.*
3. *A cut-off of 0.20 g/t Au for the Oxide material, 0.25 g/t Au for the Transitional material, and 0.60 g/t Au for the Sulphide material is applied at Bigar Hill.*
4. *A cut-off of 0.20 g/t Au for the Oxide material, 0.25 g/t Au for the Transitional material, and 0.65 g/t Au for the Sulphide material is applied at Korkan and Korkan West.*
5. *A cut-off of 0.35 g/t Au for the Oxide material, 0.40 g/t Au for the Transitional material, and 1.05 g/t Au for the Sulphide material is applied at Kraku Pester.*
6. *Figures have been rounded to the appropriate level of precision for the reporting of Mineral Resources.*
7. *Due to rounding, some columns or rows may not compute exactly as shown.*

8. *The Mineral Resources are stated as in situ dry tonnes. All figures are in metric tonnes.*
9. *The models are reported above surfaces based on conceptual US$1,400 gold price pit shells to support assumptions relating to reasonable prospects of eventual economic extraction*
10. *Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

1.11 Advanced Property Sections

There are no Mineral Reserves defined on the Property, and the potential economic viability of this Mineral Resource is not supported by a current preliminary economic assessment, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under these section headings.

1.12 Adjacent Properties

Whilst other companies are actively exploring in the area to develop potential projects, there are no adjacent properties that are considered material to the estimation of resources for the Project.

1.13 Other Relevant Data and Information

This Technical Report discloses an update to the MRE, as at 15 May 2018, from that disclosed in March 2017. The Technical Report filed on SEDAR in June 2014 by Avala contained summary information relating to a PEA completed at that time. CSA Global believes that the update to the economic parameters used in the generation of the pit used to constrain the Mineral Resource disclosed herein may result in a change to conclusions presented in the 2014 PEA, and therefore the 2014 PEA published by Avala should not be relied upon.

1.14 Interpretation and Conclusions

CSA Global presents the following conclusions that are relevant to this study:

- Avala Resources d.o.o., a wholly-owned subsidiary of DPM, has conducted exploration and drilling since 2006 at the Timok Gold Project, which now comprises four exploration licences in the region of Bor, Serbia.
- The Bigar Hill, Korkan and Korkan West, and Kraku Pester sediment-hosted gold deposits have been defined as a result of a systematic sequence of exploration activities from soil sampling, trenching, and mapping, through geophysical evaluation and structural and stratigraphic interpretation, reverse circulation and diamond core drilling, metallurgical testwork and, finally, estimation of resources.
- This Technical Report documents the update to the 2017 MRE, based on additional drilling and updated (current) economic assumptions used as the basis for the pit optimisation that is the basis for the pit used to constrain the resource, and to evaluate reasonable prospects for economic extraction.
- CSA Global has reviewed procedures, visited site, viewed core, verified the locations of several drill-holes, conducted spot checks between hard copy data and digital data and reviewed QAQC results and had extensive discussions with site personnel as part of data verification work. CSA Global has found the site to be extremely well run, with excellent procedures, a good understanding of the deposit geology and an emphasis on data quality that has contributed to a high degree of confidence in the data used in the MRE.
- Drilling at Bigar Hill and Korkan have served to confirm the structural setting, the stratigraphy, and the geometric, spatial and lithological relationships of the gold mineralisation. The controls on the mineralisation at a local (sample interval) level remain less well understood, and this translates into uncertainties regarding the estimates of gold at the mining scale. This local uncertainty is unlikely to

be material under an open pit mining scenario, with a relatively low level of mining selectivity. CSA Global cautions that the level of uncertainty will increase under circumstances where cut-off grades are raised and where more selective mining regimes are applied.

- CSA Global consider the estimation methodology (UC, with a localisation post-processing step) to be suitable and provide a reliable estimation of mineable tonnes and grades. UC is well suited to the grade architecture seen at Timok, where grades and boundaries are gradational rather than sharply defined.
- Most of the resources defined at the Timok Gold Project are Indicated Mineral Resources supported by good geological knowledge, drill coverage, robust standard operating procedures and data quality, and have been classified under the guidelines of the CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council, and procedures for classifying the reported Mineral Resources were undertaken within the context of the Canadian Securities Administrators NI 43-101.
- Mineral Resources are reported constrained within conceptual pit optimisation shells for each deposit, for the purposes of demonstrating "reasonable chances of eventual economic extraction", required for Mineral Resource disclosure. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The open-pit shells have been determined via consideration of various cut-off grades for material types that were calculated based upon, among other things, the material type, haulage distance and recoveries derived from metallurgical testwork.

1.15 Recommendations

1.15.1 Geology and Resources

CSA Global recommends a Preliminary Economic Assessment be completed to reflect the changes in the updated MRE.

CSA Global agrees with the recommendation previously set out in the 2014 Technical Report that several high priority exploration targets that lie within 5 km of the proposed plant site be followed-up exploration (e.g. the Au-Ag porphyry-style mineralisation at Coka Rakita, sediment-hosted gold mineralisation at Bigar East and the Korkan East-style mineralisation at Valja Saka).

Relating to QAQC procedures, CSA Global recommends ongoing vigilance to ensure that standards and blanks are correctly identified and labelled.

When drilling is taking place, it is recommended that a site visit be arranged to inspect drilling and sampling practices as they are occurring. On any future site visit, the drill sites at Korkan, Korkan West and Kraku Pester be inspected.

It is recommended that sampling of core continue in 1 m increments but should break to honour geological boundaries to enable enhanced analysis and effective modelling of the contact, if sharp.

Higher gold recoveries during the cyanide-gold leach bottle roll tests are mostly controlled by the oxidation degree of the arsenic and gold-rich pyrite. The usefulness of these data is limited by the fact that the composites are at 5 m intervals, which is in contrary to the logging data which is at 1m intervals. Spatially, data is irregular and is not always available in the areas of interest. Future bottle roll testwork should be undertaken on shorter intervals (1m or 2m) with the selection of the intervals prioritised in mineralised areas.

1.15.2 Mineral Processing and Metallurgical Testing

Please note the use of the word "ore" is used in this section summarising Mineral Processing and Metallurgical Testing recommendations and is only used to describe specific metallurgical terminology.

Mineralised material has been used wherever possible. This is in no way intended to imply that a particular sample could be treated economically and does not represent economic viability.

Oxide/Transitional Ore

All the metallurgical testwork carried out for the oxide/transitional ore zones was undertaken on composite samples from Bigar Hill oxide (MET18-BH-01), Korkan oxide (MET18-KO-01), Korkan West oxide (MET18-KW-01), and Korkan transitional (Met18-KO-02).

Further testing should include:

- Additional coarse bottle roll and column leach tests on transitional ore samples from Bigar Hill, Korkan, Korkan West and Kraku Pester deposits
- Size-by-size analyses on column head and tails samples
- Additional variability column leach tests on samples from Bigar Hill oxide
- Detoxification tests on tailings from Bigar Hill column leach tests.

Sulphide Ore

All the metallurgical testwork carried out for the sulphide ore zone was undertaken on composite samples from Bigar Hill (MET-BH-01), Korkan (MET-KO-01) and Kraku Pester (MET-PE-01) with the exception of some comminution characterisation and beneficiation by size testing.

This was due to the fundamentally investigative nature of this testwork, but further development of the Project will require testing of a variety of ore types from within the respective pit envelopes.

Further testing should include:

- Additional evaluation of high intensity attrition scrubbing
- Flotation optimisation testwork; including locked cycle tests
- Downstream testing including settling and filtration on for the flotation concentrate and tailings slurries
- Final thickened tailings consolidation, geotechnical and geochemical properties.

2 Introduction

2.1 Terms of Reference

CSA Global was engaged by DPM to update the MRE for the Timok Gold Project in Serbia.

This Technical Report considers the updated MRE and an update to the pit shell used to constrain the MRE, based on updated input parameters (current gold price, costs etc) to ensure that the Mineral Resource has reasonable prospects for eventual economic extraction at current prices and market conditions.

The Project is located in the eastern part of the Republic of Serbia, approximately 270 km southeast of the capital, Belgrade. It comprises four exploration licences (Potoj Čuka Tisnica, Lenovac, Umka and Bigar Istok licences) covering an aggregate area of 263.77 km^2. The northern boundary is positioned about 25 km southwest from the Danube River, and the Project area extends 70 km southwards to approximately 42 km south-southeast of Bor at its southern boundary. The Bigar Hill, Korkan and Korkan West, and Kraku Pester deposits, are located within the boundary of the Potoj Čuka Tisnica exploration licence and are the subject of this Technical Report.

The exploration licences for the Project are held by Avala Resources d.o.o. (Avala), a Serbian registered, wholly-owned subsidiary of DPM, following the amalgamation of a wholly-owned subsidiary of DPM with Avala Resources Ltd. in April 2016. The vast majority of the exploration and drilling completed on the Project was completed by Avala between 2010 and 2014. All drilling and exploration have been conducted by Avala and reference is made to Avala throughout this Technical Report.

The Timok region has a long history of exploration, dating back to Roman times. Geological mapping of the region was initiated in 1933 by the Serbian government, while regional geophysical surveys in the region were initially undertaken during the 1930s and then over various periods until 1985 by governmental geological and geophysical agencies. Geochemical surveys over the region were undertaken by Geozavod, Belgrade, and Geology Institute Bor. Small-scale adits were excavated in several localities prior to World War II.

The report has been prepared in accordance with the guidelines of NI 43-101. Principal sources of information are:

- AMEC (2014), Preliminary Economic Assessment and Updated Mineral Resource, May 1, 2014, filename: Technical_Report_Timok_PEA_SEDAR_20140715
- CSA Global (2017), CSA Avala Timok Summary Diary Notes - Site Visit - March2017
- CSA Global (2017), NI 43-101 Technical Report. Timok Gold Project, Serbia – 31 March 2017
- DST (2016), Results of Laboratory Tests on Avala Ore

2.1.1 Independence

Neither CSA Global, nor the authors of this report, have any material present or contingent interest in the outcome of this report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence in the preparation of this report. The report has been prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report. No member or employee of CSA Global is, or is intended to be, a director, officer or other direct employee of DPM. No member or employee of CSA Global has, or has had, any shareholding in DPM. There is no formal agreement between CSA Global and DMP as to CSA Global providing further work for DPM.

2.1.2 Notice to Third Parties

CSA Global has prepared this report having regard to the particular needs and interests of DPM, and in accordance with their instructions and in compliance with NI 43-101 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 DPM's needs and interests, and the report may not be sufficient, fit or appropriate for the third party, other than its prescription in relating to NI 43-101.

2.1.3 Results are Estimates and Subject to Change

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 capitalise 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.

2.1.4 Element of Risk

The interpretations and conclusions reached in this report are based on current geological theory 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. Any economic decisions which might be taken based on interpretations or conclusions contained in this report will therefore carry an element of risk.

2.2 Site Visits

CSA Global completed a site visit from 28 February to 1 March 2017. Qualified Persons, Maria O'Connor and David Muir, completed the following during the site visit:

- Discussions with Justin van der Toorn (Exploration Manager), Dragana Davidovic (Senior Geologist) and Mladen Zdravkovic (Regional Geologist) regarding procedures, geology, interpretation, exploration, tenure and assumptions made for the MRE.
- Review of Exploration Method Policies compiled in 2005 and used throughout Avala's drilling and exploration programs.
- Field trip to drill sites at Bigar Hill. Seven drill collars were located but due to snowy conditions, roads to most drill sites at Bigar Hill and all at Korkan and Kraku Pester were inaccessible.
- Visual review of mineralised portions of three diamond drill-holes in the core shed.
- Visits of the pulp library where returned sample pulps are securely kept.
- Visits and audits of the sample preparation and analytical laboratories at SGS, Bor.
- Spot checks of the database using hard copy data.
- Spot checks of assay certificates against assays stored in the database.
- Independent reporting and evaluation of QAQC.

At the time of the site visit, drilling and most exploration had ceased at the deposits that are the subject of this Technical Report (Bigar Hill, Korkan and Kraku Pester), drilling and sampling procedures were not verified in action. However, CSA Global is satisfied that through a review of procedures, discussions with site personnel and spot checks of data, that Avala has conducted their exploration and drilling activities to a high standard, and data verification completed by CSA Global has indicated no issues. CSA Global therefore concludes that data derived from Avala can be reliably used in the MRE.

2.3 Units and Datum

All units in this report use the International System of Units (SI), i.e. are metric unless stated otherwise.

All surveying on the Project area has been undertaken using the Universal Transverse Mercator (UTM) coordinate system, specifically Zone 34 North in WGS 84 datum, on the EGM96 Geoid model. A primary survey control network was implemented using AUSPOS, an online global positioning system (GPS) processing service provided by Geoscience, Australia. A secondary control network was observed from the primary control network to locate control around the actual prospect areas using static surveys.

2.4 Forward Looking Statements

This Technical Report contains “forward-looking information” or "forward-looking statements" that involve a number of risks and uncertainties. Forward-looking information and forward-looking statements include, but are not limited to, statements with respect to the future prices of gold and other metals, the estimation of Mineral Resources, the realisation of mineral estimates, anticipated exploration activities, permitting time lines, currency fluctuations, government regulation of mining operations, mining and operating parameters.

Often, but not always, forward-looking statements can be identified by the use of words such as “plans”, “expects”, or “does not expect”, “is expected”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates”, or “does not anticipate”, or “believes”, or variations of such words and phrases or state that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved.

Forward-looking statements are based on the opinions, estimates and assumptions of contributors to this report. Certain key assumptions are discussed in more detail. Forward Looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of DPM to be materially different from any other future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, among others: the actual results of current exploration activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of gold and other metals; possible variations in ore grade or recovery rates; failure of plant, equipment or processes to operate as anticipated; accidents, labour disputes and other risks of the mining industry; delays in obtaining governmental approvals or financing or in the completion of development or construction activities, fluctuations in metal prices, as well as those risk factors discussed or referred to in this report and in DPM’s latest annual information form under the heading "Risk Factors" and other documents filed from time to time with the securities regulatory authorities in all provinces and territories of Canada and available at www.sedar.com.

There may be other factors than those identified that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers are cautioned not to place undue reliance on forward looking statements.

3 Reliance on Other Experts

This Technical Report has been prepared by CSA Global for DPM, with guidance from DPM relating to corporate focus and technical studies in progress or planned which underpin a material change being reported.

The authors of this Technical Report have reviewed available company documentation relating to the project and other public and private information as listed in the “References” section at the end of this Report. In addition, this information has been supported by first-hand review and on-site observation and data collection conducted by the authors.

Neither CSA Global, nor the authors of this report, is qualified to provide extensive comment on any legal, political, environmental or tax matters associated with the Timok Gold Project included in Section 4 of this report. Assessment and reporting of these aspects relies on information provided by Avala and DPM and has not been independently verified by CSA Global.

CSA Global has not verified the status of Avala’s tenure or joint venture agreements pertaining to the Property beyond viewing the tenure agreement and has relied on information provided by Avala with regard to the legal title to the mineral concessions (Section 4.3). CSA Global discussed legal titles with Dragana Davidovic and Justin van der Toorn during a site visit in February to March 2017.

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 Timok Gold Project. 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 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

Where information in the 2014 Technical Report remains current, it has been reproduced below. Where updates are relevant, they have been included. The authors of this technical report do not disclaim any responsibility for the content contained herein.

4.1 Location

The Project is located in the eastern part of the Republic of Serbia, approximately 270 km southeast of its capital, Belgrade, as shown in Figure 1. Its northern boundary is positioned about 17 km south from the Danube River and the Project area extends 85 km southwards to approximately 40 km southeast and southwest of Bor at its southern boundary. The Project is located approximately 20 km west of the town of Bor, Serbia. Bor is a historical centre for copper mining and smelting in Serbia.

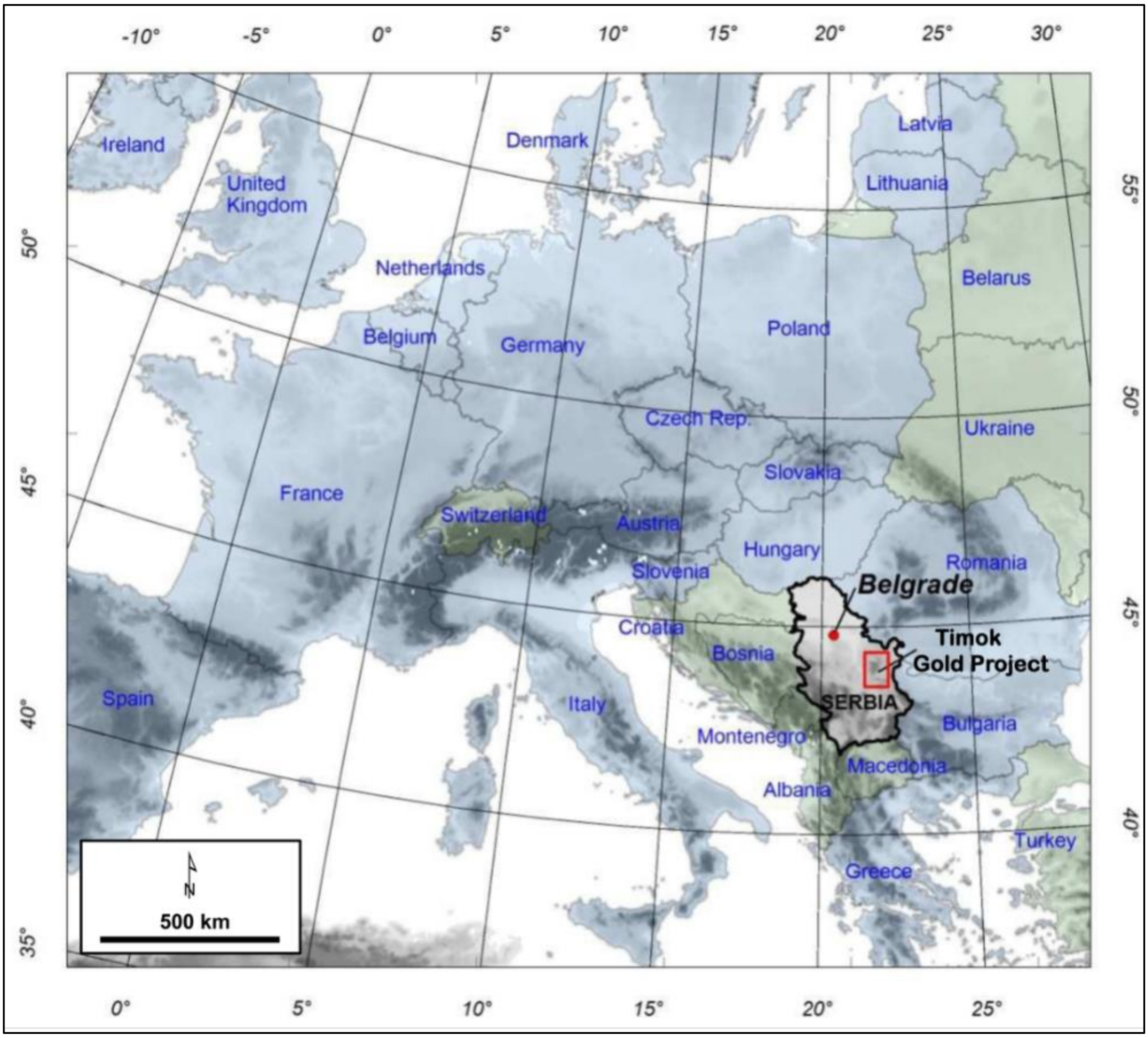


Figure 1: Location map – Timok Gold Project

Source: Avala, 2018

4.2 Property Description

It comprises four exploration licences (Potoj Čuka Tisnica, Lenovac, Umka and Bigar Istok licences) covering an aggregate area of 263.77 km^2. Locations of the exploration licences are shown in Figure 2. The Bigar Hill, Korkan, Korkan West, and Kraku Pester deposits, which are the subject of this Technical Report, are located within the boundary of the Potoj Čuka Tisnica exploration licence.

Exploration licences are currently granted by decisions of the Serbian Ministry of Mining and Energy (MoM&E), are generally issued on an initial three-year basis, and are twice-renewable for a further period of three years, followed by two years' duration. An integral part of the exploration licence application and renewal process is submission of a detailed exploration work program. Supporting documentation is also required from the Institute for the Preservation of Cultural Heritage and the Institute for Nature Conservation of Serbia, to the effect that the proposed exploration activity is in accordance with Republic of Serbia's environmental and cultural legislation. The obligations of the licence holder are to complete the submitted and approved work program, provide annual exploration activity reports to the Serbia MoM&E, and to advance the geological knowledge of the property.

Exploration licences can be renewed, if the exploration licence holder fulfils its obligations, including the completion of at least 75% of the planned work program. The legislation provides for a clear development process, from discovery through to mine development and operation.

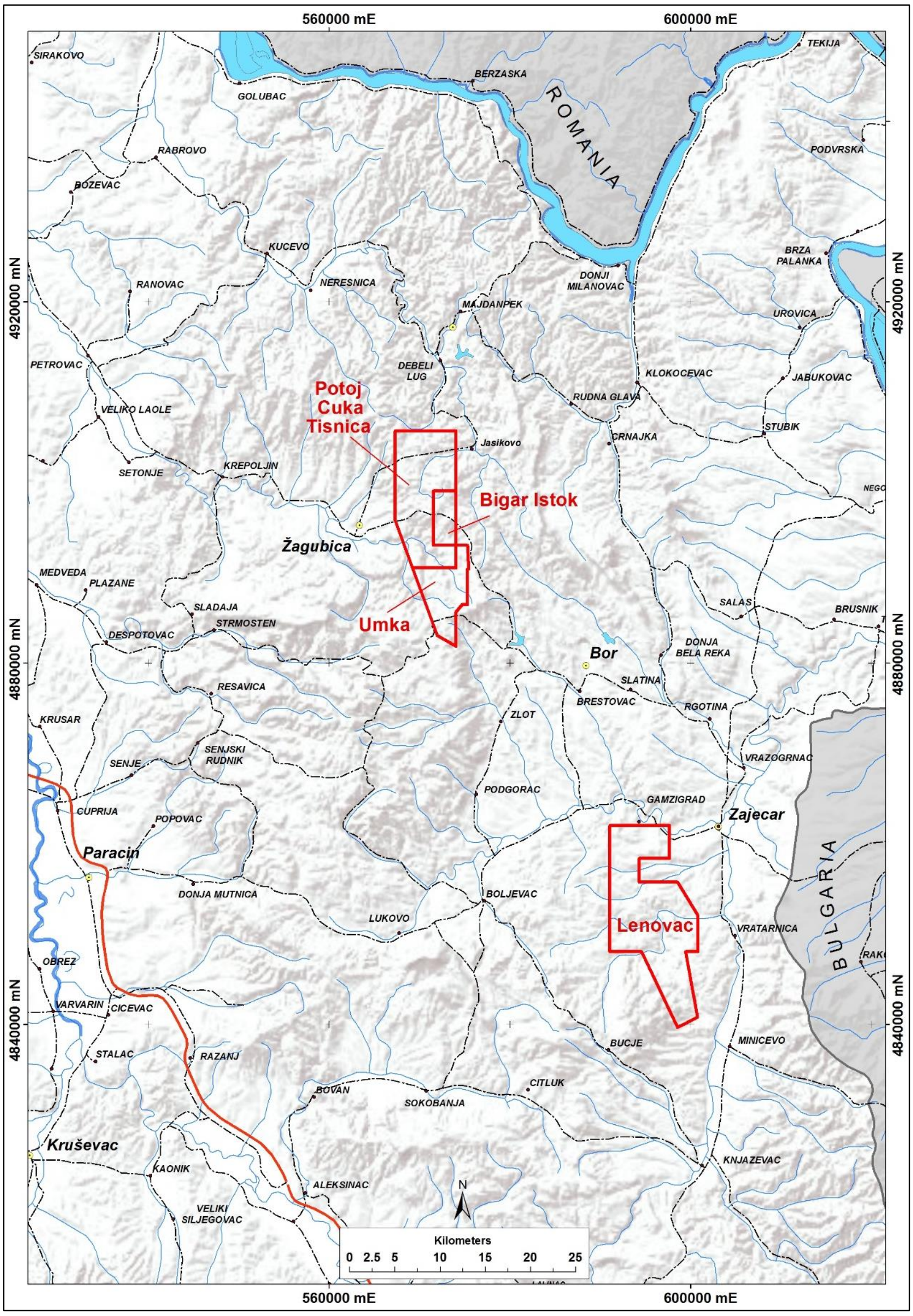


Figure 2: Timok Gold Project exploration licences

Source: Avala, 2017

4.3 Mineral Tenure

4.3.1 Ownership

The exploration licences for the Project are held by Avala Resources d.o.o. (Avala), a Serbian registered, wholly owned subsidiary of DPM, following the amalgamation of a wholly-owned subsidiary of DPM with Avala Resources Ltd. in April 2016.

The exploration licences for the Potoj Čuka Tisnica properties were renewed in March 2016 and are valid until 2019. Exploration licences for the Lenovac, Bigar Istok and Umka properties were granted during 2016. Details of each of the properties are outlined in Table 4. The expenditure commitments for keeping the exploration licences in good standing and eligible for renewal at the end of each respective licence period are summarised in Table 4. DPM fully expects to fulfil all obligated commitments in order to insure the extension of the Timok exploration licences. Applications will be submitted during H1 2019 to secure a two-year extension to the Potoj Čuka and Lenovac licences and three-year extension to the Bigar Istok and Umka licences.

Table 4: Tenement details for Timok Gold Project exploration licences

Licence	Licence number	Holder	Grant date	Expiry date	Area (km^2)	Expenditure commitment* (US$)
Potoj Čuka	310-02-837/2007-06	Avala Resources d.o.o.	20-Jun-06	17-Mar-19	80.38	718,898
Lenovac	310-02-0302/2013-03	Avala Resources d.o.o.	30-Nov-11	4-Jul-19	132.56	1,044,473
Bigar Istok	310-02-0262/2013-03	Avala Resources d.o.o.	5-Mar-14	21-Mar-19	15	1,019,481
Umka	310-02-01413/2015-02	Avala Resources d.o.o.	25-Mar-16	25-Mar-19	35.83	863,459

** Expenditure commitment relates to the full work program (covering the period from the grant date to the expiry date) as submitted to the Serbian Ministry. The company is required to meet 75% of this commitment for the licence to be eligible for renewal after the expiry date.*

Source: Avala, 2018

There are no other known agreements or encumbrances on the properties. DPM operates with the permission of the MoM&E, in conjunction with the Ministry of Environmental Protection, and the Ministry of Culture and the Media of the Republic of Serbia.

CSA Global knows of no other significant factors and risks that may affect access, title, or the right or ability to perform work on the property.

CSA Global knows of no environmental liabilities to which the property is subject. No additional permits are required if the work program associated with the licence application does not fall below or exceed the plan by 25%. An addendum is required to be filed detailing the work program if the 25% tolerance is exceeded.

The Lenovac license is currently subject to a joint venture agreement with Rio Tinto Mining and Exploration Limited. An agreement to extend the Stage 1 period of the Joint Venture to December 31, 2018 was signed in December 2017. The Lenovac license is situated within the Timok Magmatic Complex but does not appear to possess sedimentary hosted gold mineralisation, as identified within the remaining exploration licenses of the Timok Gold Project.

4.4 Royalties

The Serbia government levies a royalty of 5% Net Smelter Return ("NSR") for production of metallic raw materials.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Where information in the 2014 Technical Report remains current, it has been reproduced below. Where updates are relevant, they have been included. The authors of this technical report do not disclaim any responsibility for the content contained herein.

5.1 Accessibility

The Project is accessible by regional asphalt roads between Bor, Žagubica, Krepoljin, and Zlot, and well-developed unsealed forestry roads. The area is also linked via Bor to Zaječar and Paraćin and via Žagubica to Požarevac (and further to Belgrade). There is a railroad from Bor to Belgrade through Požarevac.

Avala operated its exploration programs on a year-round basis. Exploration activity during the winter period was generally limited to drilling operations (both diamond and RC), and, provided that adequate preparation works are completed in the fall, year-round access is possible. During the 2010/2011 and 2011/2012 winter periods, Avala was unable to access the Timok areas for a cumulative total of 10 to 15 days on an annual basis, due to extreme weather conditions (very low daily temperature maximums and/or high snowfall).

5.2 Physiography

Terrain in the Project area is hilly to mountainous, ranging from about 500 masl to 944 masl at Coka Rakita, the highest peak in the region. Other high peaks are Coka Berbjesce (817 masl), Strez (731 masl), and Coka-Unuk (741 masl). The most important drainage is the Jagnjilo River, which drains into the Veliki Pek, and further on to the Danube, and incorporates the Bigar Hill and Korkan areas. The lower slopes and valleys are largely given over to seasonal farming, while forests dominate the higher slopes and peaks. Figure 3 shows a view of the Project area from Korkan, looking southwards towards Bigar. Gently rolling hills with seasonal (summer) pastures, together with forested areas, are characteristic of the Project area. Typical physiographic landscapes and climate contrasts at the Project are shown in Figure 4.

Figure 3: Typical landscape of Timok Gold Project, looking south towards Bigar Hill deposit

Source: Avala, 2014

Figure 4: Typical physiographic landscape and climatic contrasts (summer, top versus winter, bottom) – Bigar Hill project entrance

Source: Avala, 2014

5.3 Climate

The Timok area is characterised by moderate continental climate, with some influence of high mountainous climate. Winters are long and cold, with abundant snow cover, and summers are usually hot. First seasonal frosts occur in October and the last frosts in April. Based on long-term observations from the Crni Vrh weather station, the coldest month is January, with an average temperature of -2.4°C, and the hottest month is July, with an average temperature of +19°C. The annual precipitation is in the range of 540 mm to 820 mm, according to governmental information.

5.4 Infrastructure

The Bigar Hill, Korkan and Korkan West, and Kraku Pester mineralised areas are located approximately 3 km, 4 km and 2 km respectively from the 110 kV Serbian national power grid, which extends from Bor to Petrovac and passes through the Project.

Located some 30 km west of Bigar Hill is an operating aggregate plant, which is in good condition and currently supplies customers with aggregate for concrete.

The town of Bor is connected by rail to Belgrade (via Požarevac); this same rail network is part of European Transportation Corridor 10, which extends southwards through Former Yugoslav Republic of Macedonia (FYRM) to Greece and the Mediterranean, and also eastwards through Bulgaria to ports on the Black Sea (and further to Turkey). Bor is accessible via the national highway grid (Paraćin turnpike), leading to sealed roads through Boljevac to Bor.

Infrastructure within the Project area is generally poorly-developed (excluding powerlines) and limited to networks of well-developed, unsealed forestry roads. Habitation within the Project area is sparse and generally restricted to summer-months seasonal occupancy.

Avala has an operational base in the town of Bor (population approximately 40,000). Bor is a historic mining centre within eastern Serbia, which has been in near-continuous operation since 1902. Currently, majority of the population is employed by the state-owned mining group, RTB Bor (and its subsidiaries), which operates the Veliki Krivelj and Cerovo open pit copper mines and the underground Borska-Jama copper-gold operation, together with the Bor smelter, all located proximal to the town. A large proportion of the population has experience in work activities associated with mining operations, and the local availability of technical staff for any future mining operations within the region should be considered high.

6 History

Where information in the 2014 Technical Report remains current, it has been reproduced below. Where updates are relevant, they have been included. The authors of this technical report do not disclaim any responsibility for the content contained herein.

6.1 Prior and Current Ownership

The exploration licences for the TGP are held by Avala Resources d.o.o., a Serbian registered wholly owned subsidiary of DPM. Avala Resources d.o.o. became a wholly owned subsidiary of DPM in April 2016, when a wholly-owned subsidiary of DPM amalgamated with Avala Resources Ltd.

In July 2010, Avala Resources Ltd. acquired Avala Resources d.o.o. (formerly named Dundee Plemeniti Metali d.o.o.) from DPM through a reverse takeover transaction, in which DPM retained a 51% share.

Prior to July 2010, DPM had been active in minerals exploration in Serbia since 2004 and had acquired several exploration licences and concessions directly from the Republic of Serbia.

6.2 Exploration History

The Timok region has a long history of exploration and mining, dating back to Roman times. Key periods include:

- Mining during Roman times, as demonstrated by the discovery of slag and mining tools
- Geological mapping commenced in 1933 by Geozavod, Belgrade, and Geology Institute Bor
- Geophysical exploration undertaken by French prospectors in the 1930s and during various periods until 1985 by the Institute for Geological and Geophysical Exploration, Belgrade
- Several geochemical surveys, commencing in 1958, undertaken by Geozavod, Belgrade, and Geology Institute Bor
- Small-scale adits developed prior to World War II
- Limited exploration, including drilling, which commenced post-World War II, by RTB Bor
- Pits and adits of unknown chronology are scattered through the eastern and southern portions of the exploration licences
- No production of any significance from the property has been undertaken.

Previous exploration at the Project, undertaken from 2007 to 2009, has been summarised by Coffey Mining (2010). DPM is not aware of any exploration for gold taking place within the project area prior to 2007.

Extensive soil sampling and surface trenching programs were carried out during the 2007–2009 period. Four (581.7 m) diamond core drill-holes and 152 trenches (28,014.6 m for 14,138 samples) were completed on the Project, though much of this was outside the four deposits that are the subject of this report (Bigar Hill, Korkan and Korkan West, and Kraku Pester).

Avala then focused exploration drilling campaigns from 2010 to 2013 on the Potoj Čuka Tisnica licence to outline mineralisation on the Bigar Hill, Korkan, Kraku Pester and Umka areas. The drilling that relates to Bigar Hill, Korkan and Kraku Pester is covered in more detail in Section 10. Along with drilling, from 2010 onwards, outcrop, soil and trench sampling were conducted.

After 2014 a number of exploration trenches, channels and drill-holes were completed on wide spaced grids on areas peripheral to the mineralised prospects. This led to the discovery of Korkan West deposit during winter 2016/2017.

7 Geological Setting and Mineralisation

Where information in the 2014 Technical Report remains current, it has been reproduced below. Where updates are relevant, they have been included. The authors of this technical report do not disclaim any responsibility for the content contained herein.

7.1 Regional Geology

The Project is located within the north-western part of the Timok Magmatic Complex (TMC) in eastern Serbia. The TMC is part of the greater Alpine-Balkan-Carpathian-Dinaride metallogenic-geodynamic (ABCD) province (Figure 5), which, in turn, is part of the Tethyan (or Alpine-Himalayan) orogenic system that extends from Western Europe to South East Asia. The orogen resulted from the convergence and collision of the Indian, Arabian, and African plates with Eurasia, initially in the Cretaceous and continuing today. The complex arcuate geometry of the collision interface, and the presence of several micro-plates within the orogenic collage, resulted in a variety of collision products (Gallhofer et al., 2015). Some segments are characterised by extensive regional metamorphism, whereas others by calc-alkaline igneous activity. The structural complexity and present-day geometry of the region reflects large-scale oroclinal bending during post-collision tectonics throughout the Tertiary, including major transcurrent fault systems with overall dextral displacements exceeding 100 km (Knaak et al., 2016)..

Orogenic segmentation resulted in a discontinuous distribution of mineral deposits within the ABCD province and limited the lateral extents of the various metallogenic belts along the trace of the orogen. These Late Cretaceous to Miocene belts and adjacent segments host significant porphyry copper-gold deposits with related high sulphidation copper-gold mineralisation. The major deposits within these belts are Skouries, Chelopech, Bor, Veliki Krivelj, and Majdanpek, as well as many deposits in the Golden Quadrilateral of Romania.

Within the ABCD province, the most economically significant segment comprises the Upper Cretaceous subduction-related magmatic rocks and mineral deposits, referred as the Apuseni-Banat-Timok-Srednogorie Belt (ABTSB). This L-shaped belt extends from Romania, through Serbia, and into Bulgaria. Plate reconstructions show that the ABTSB originally had an E-W orientation in Late Cretaceous times (Gallhofer et al., 2015 and references therein). The structural complexity, the present-day L-shape geometry of the region and clockwise rotation (~30°) of the TMC segment reflects large-scale oroclinal bending during post-collision escape tectonics throughout the Tertiary, including major transcurrent fault systems with an overall dextral displacement in excess of 100 km and associated alternating transpressive and transtensional episodes. Intrusive and extrusive rocks of the ABTSB were emplaced during a 30 million year (Ma) period from ~90 Ma to 60 Ma and may have been associated with several different subduction zones of varying polarity (Gallhofer et al., 2015). The easternmost magmatic complex in Serbia, the TMC, bounds the Project area on the east.

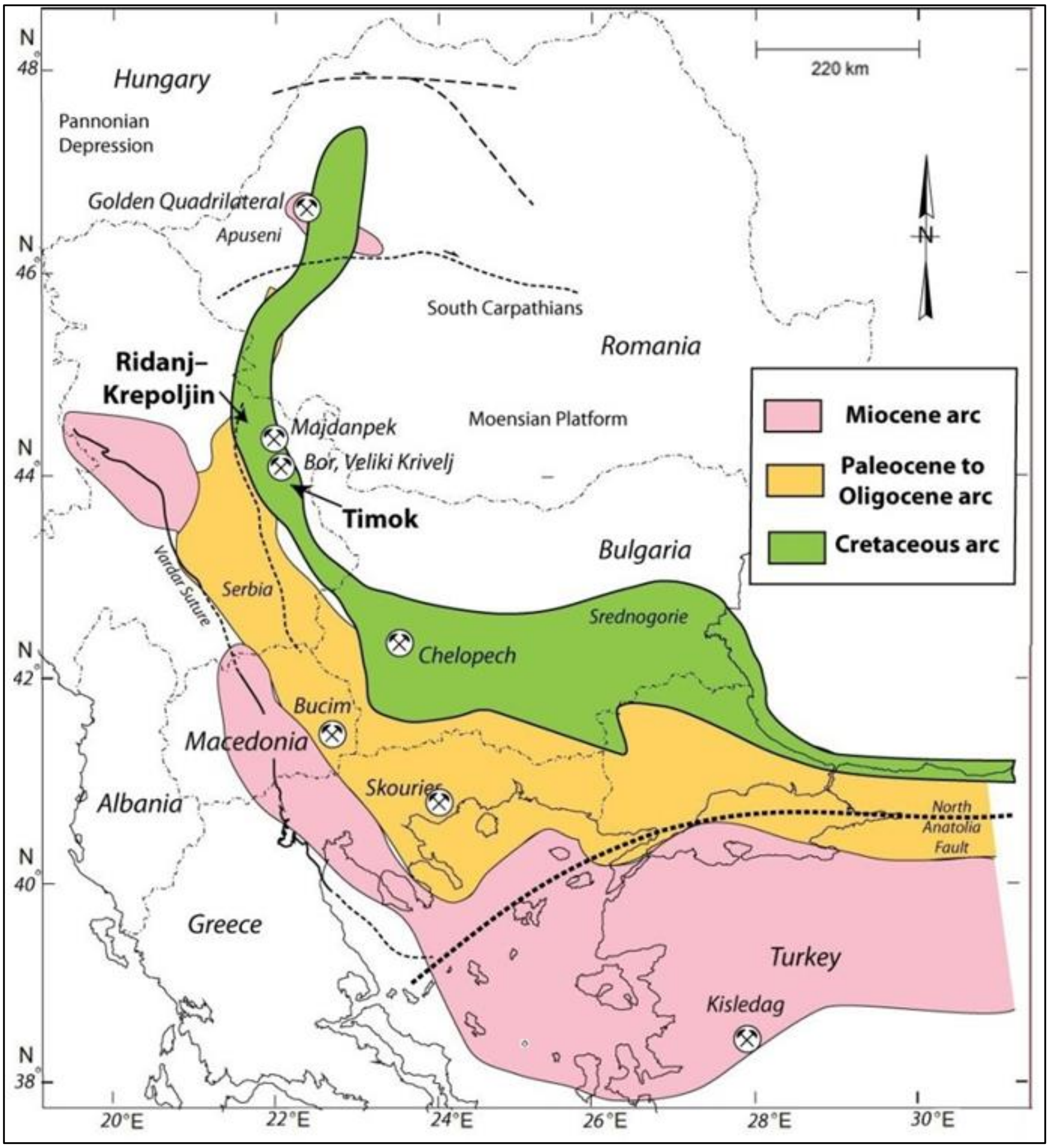


Figure 5: Tectonics and chronology of the ABCD province

Source: AMEC, 2014

7.2 Regional Structural Geology

Several fault populations of various inferred ages-of-formation have been identified in the TMC, characterised by relatively more intense development of strike length and density on the western margin of the TMC. All these fault populations are interpreted as products of Cenozoic (Alpine) transpression. From oldest to youngest, the populations constitute:

- Palaeozoic/Mesozoic faulting of metamorphic basement rocks. These faults were undoubtedly reactivated during syn-sedimentary TMC basin formation and subsequent emplacement of igneous intrusions.
- Early (?) Cretaceous, currently northwest-striking, dislocations that appear to have controlled basin opening. These structures are interpreted as major accommodation-structures during Eocene-Oligocene deformation.

- Late Cretaceous strike-extensive reverse faults, trending north-south to northeast-southwest. These faults were reactivated by Alpine transpression that resulted in accommodation of dextral strike-slip motion. A discontinuous easterly-dipping subpopulation of these faults is developed through the sediment-hosted gold prospects and is interpreted as having been a single structure prior to disruption by subsequent deformation. This feature is defined as a domain- bounding structure and is discussed below. Geology maps at 1:25 000 scale show north-trending, east-dipping reverse faults as part of a larger north-trending reverse fault system at the north-western margin of the TMC.
- Evidence for reverse movement is expressed as repetition/imbrication of stratigraphy and is also associated with local folding and variation in the dip of stratigraphic layering. Northeast-striking faults locally post-date sedimentary rock-hosted mineralisation, as evidenced by their intersection and offset of the margins of the Potoj Čuka monzonite, although the degree to which this can be attributed to fault reactivation is unknown.
- Eocene to Oligocene northwest-striking, strike-slip faults that hosted sinistral movement as a result of oroclinal bending. These structures constrain numerous regionally pervasive, short strike-length northeast-trending faults that are typically expressed as topographic lows.
- Late normal faults are responsible for the geometry of features such as the Miocene Žagubica Basin, which contains approximately 2,000 m of sedimentary infill. These structures extend eastward into Bigar Hill and offset the mineralised system. Similar faults are present at Korkan, but their trace is complicated due to the presence of numerous northwest-striking faults that are also post-mineral. Regionally-developed east-west striking faults of variable strike length are expressed as discrete brittle structures at all scales and crosscut all other structural features.

Despite the age relationships indicated above, the assignment of individual faults to populations of particular ages is difficult. Surface expressions of faults are uncommon, and crosscutting relationships are rarely conclusive. Furthermore, a diversity of fault orientations is present, due to different ages of faulting, shifting far-field stress geometries over time, reactivation of older faults, and the role of pre-existing architecture during the formation of each successive stage of faulting. A critical element in the identification of faults has been the resolution of a consistent stratigraphic framework — the components of which can be identified regionally.

7.3 Local Geology

In eastern Serbia, magmatic activity of the Late Cretaceous ABTSB is developed along two subparallel north-trending branches; the narrow Ridanj-Krepoljin Belt (RKB) to the west, and the wider TMC to the east. The latter branch contains the Bor and Cukaru Peki high-sulphidation type epithermal copper-gold deposits, and hosts major porphyry copper deposits (Majdanpek, Veliki Krivelj) and several Late Cretaceous epithermal occurrences (e.g. Lipa). The TMC is approximately 85 km long and extends from Majdanpek in the north to Bučje in the south. The disposition of the Project's exploration licences and the local geology is shown in Figure 6.

The Late Cretaceous TMC developed on a continental crust composed of different fault-bounded terranes composed of Proterozoic metamorphic to Lower Cretaceous rocks. The area is now incorporated in the Getic Nappe or the Kučaj Terrane, as part of the complex Carpathian-Balkan Terrane in eastern Serbia. Upper Jurassic and Lower Cretaceous shallow marine sedimentary rocks, dominated by homogeneous, massive to bedded limestone and marl, unconformably overlie a metamorphic basement. Carbonate sedimentation terminated in the Early Cretaceous due to the impact of the Austrian deformational phase, which caused weak deformation, uplift, erosion, and subsequent paleokarst formation.

Clastic sedimentation commenced with an Albian transgression, unconformably burying the partially eroded and faulted carbonate platform rocks. These calcareous clastic rocks mark the start of the evolution of the TMC, beginning with Austrian deformation and followed by deformation in the Late

Cretaceous (Albian). They outcrop along the eastern and western boundary of the TMC but rarely in the central part. Sedimentation continued through the Cenomanian, with an increasingly volcanic detrital component becoming important with decreasing age. During the Turonian, volcanism commenced, and progressed from east-to-west across the TMC. At this time, the TMC became a topographically positive volcanic area.

Contemporaneous sedimentation, magmatism, and hydrothermal activity were relatively continuous within the TMC throughout the entire Late Cretaceous, as illustrated in Figure 7. The sedimentation persisted from the Albian to the Maastrichtian. Late Cretaceous magmatic activity has been documented during a 10-millon-year period from ~89 Ma to 78 Ma and has been interpreted to generally progress from E to W, younging across strike towards the subduction zone. This process can be related to an arc under extension and gradual steepening and rollback of a northward sub-ducting lithosphere slab, derived from the Vardar ocean.

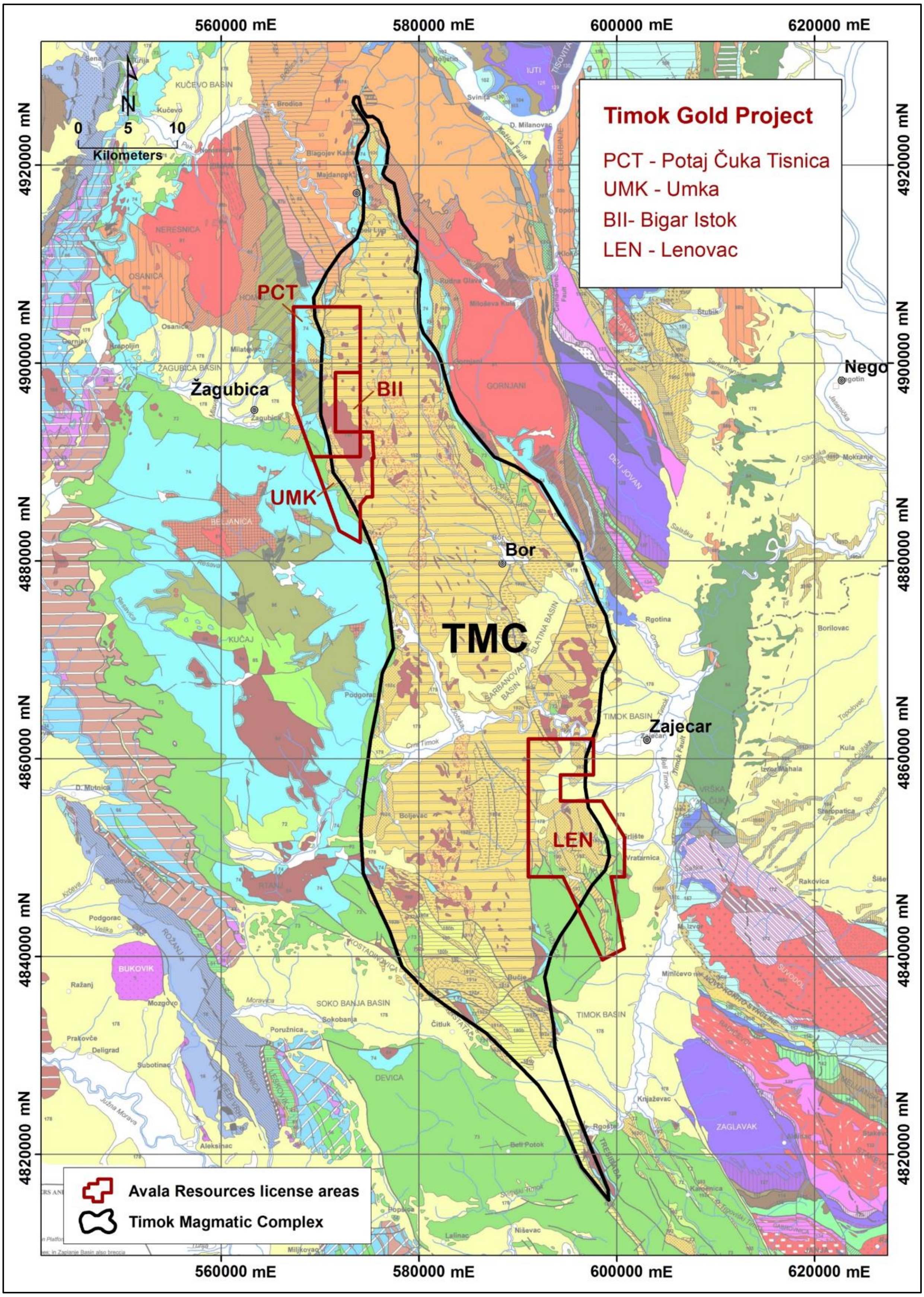


Figure 6: Exploration licences with the TMC

Source: Avala, 2018

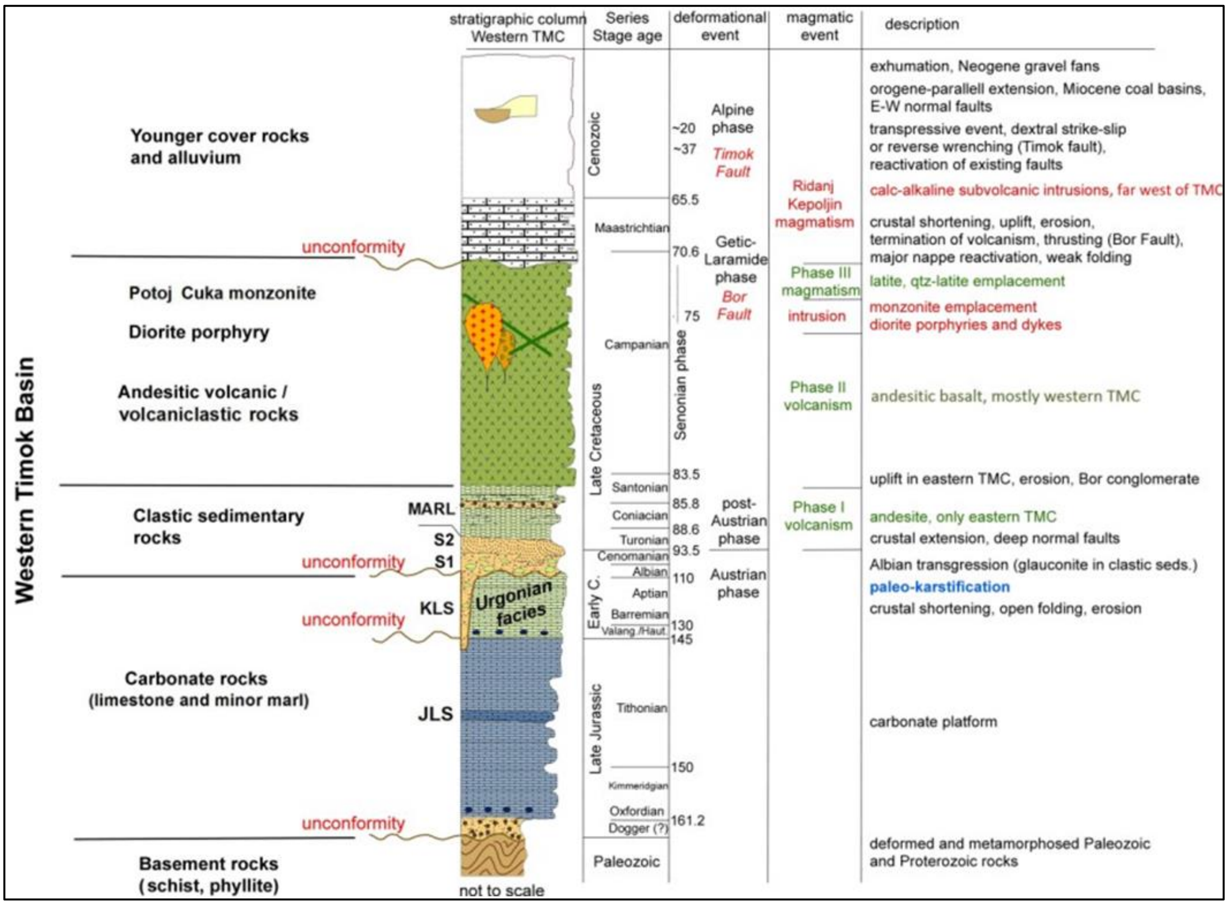


Figure 7: Schematic stratigraphy of the Western TMC

Source: AMEC, 2014

The TMC is dominated by alkaline to high-potassium calc-alkaline magmatic rocks, classically divided into three successive volcanic sequences (commonly referred to as V1 to V3 or Phase 1 to Phase 3) that are intercalated with Late Cretaceous volcaniclastic sedimentary rocks. Diorite dykes and sills are common, but locally difficult to distinguish from the volcanic supracrustal rocks. The first phase of volcanism commenced during the lower Turonian with mainly hornblende andesitic magmatic rocks in the easternmost (present coordinates) parts of the TMC. Cessation of volcanism in the early Campanian and uplift and erosion of the eastern part of the TMC were followed by local turbiditic deposition of the Bor pelites. Magmatism shifted westward into the central and western parts of the TMC during the Santonian. A second phase of magmatism is represented by two compositionally and geographically distinct assemblages:

- Pyroxene-bearing, subaqueous to subaerial andesitic rocks.
- A sequence of latites, trachytes and trachy-basalt dykes, restricted to the south-western part of the TMC. During Late Cretaceous (Campanian), diorite, quartz-diorite, and monzonite plutonic rocks were emplaced. Magmatism and sedimentation terminated in the upper Campanian and Maastrichtian. The coarse-grained Bor conglomerate records exhumation of the basement within the eastern TMC. Calcareous rocks were deposited in the central part of the TMC at this time. The Upper Cretaceous rocks of the TMC are overlain by Paleogene to Neogene sedimentary rocks and deposits of quaternary sediments.

The structural complexity and present-day asymmetric lozenge-shaped geometry of the TMC area resulted from oroclinal bending during post-collision tectonics throughout the Tertiary. This has led to tectonic modifications of lithological contacts, including those that represent syn-depositional features, beds, or faults. The extent of deformation is commonly difficult to assess due to variable responses of different rock types to the same deformation event. Much of the deformation has been absorbed by argillaceous horizons due to their ability to accommodate shearing and shortening, whereas sandstone beds have resisted much of the deformation. Similarly, competent massive limestone units forming the base of the sequence exhibit minor deformation and much of this is expressed as fracturing near the contact with the overlying clastic sedimentary rocks.

7.4 Project Stratigraphy

The Project area at the western margin of the TMC can be subdivided into two northerly-trending domains:

- Western Domain – dominated by Proterozoic metamorphic basement, Upper Jurassic and Lower Cretaceous limestones
- Eastern Domain – dominated by the Cretaceous volcanic, epiclastic rocks, and associated diorite intrusive rocks of the TMC, including the known porphyry copper-gold centres at Valja Strz and Dumitru Potok.

The boundary between the two domains is dominated by calcareous clastic sedimentary rocks, including sandstone, conglomerate, and marl, and is partly defined by a domain-bounding structure. The four identified sediment-hosted gold zones within the Potoj Čuka Tisnica license are Bigar Hill, Korkan, Korkan West and Kraku Pester. These prospects are hosted by calcareous clastic sedimentary rocks that outcrop within the boundary zone between the two domains.

The overall east-west cross-sectional geometry of the TMC is that of a complexly faulted synclinorium. The stratigraphy generally dips moderately to the east at approximately 20° to 30°, along the western margin of the TMC. This general tilting of stratigraphy at the western margin indicates that the oldest rocks outcrop in the west, and that farther east the stratigraphy becomes younger, with stratigraphically higher units dominating the outcrops. Mapping by Avala, building upon public domain geologic maps and knowledge, has defined litho-stratigraphic interpretive units which are recognised as being important to the Project and are outlined below. In Figure 7, these units are summarised in a stratigraphic column and correlated with geological time series, deformation, and magmatic events.

7.4.1 Palaeozoic and Proterozoic Basement

Within the Potaj Čuka Tisnica licence, the oldest outcropping rocks are Palaeozoic phyllites, a meta-sedimentary sequence composed of sandstone, shale, and conglomerate protolith, and a variety of heterogeneous Proterozoic greenschist-facies schistose quartzo-feldspathic schists and gneisses. These units, which have not been further differentiated, commonly outcrop in the cores of anticlines, but have also been encountered in the bottom of some exploration drill-holes within the Project area.

7.4.2 Carbonate Sequence, JLS and KLS

Two units constitute the Upper Jurassic (JLS) and Lower Cretaceous (KLS) carbonate rocks within the project area. The older Jurassic age unit is characterised by massive limestone, most which is dominated by bedded and massive bioclastic and micritic, white, light-grey, and light brownish reef limestone of Tithonian age. The lower parts are commonly composed of micritic limestone with concretional chert nodules, and the contact with the underlying basement is commonly faulted. Unconformably overlying the Jurassic limestone is Upper Cretaceous dark grey limestone with black concretional chert nodules, deposited during the Valanginian-Hauterivian (Vasic, 2012). Most the Lower Cretaceous rocks are well-bedded bioclastic, nodular, and stromatolitic, and locally sandy limestones deposited during the Barremian and Aptian; these are referred to as the Urgonian limestone.

The limestone units are karstified, with the massive Jurassic limestone being more susceptible to karstification than the well-bedded Urgonian limestone. Some paleokarst formed prior to deposition of the younger and unconformably overlying clastic sedimentary rocks. A typical assemblage of the units is shown in Figure 8. These karst areas are partly filled by syn-karst fine-grained sedimentary rocks, as well as along the upper contact with finely laminated upper Lower Cretaceous (Albian) calcareous clastic sedimentary rocks. Locally, paleokarst collapse breccia is developed, and the karstified zones are a host to gold. Recent karst is also evident.

Figure 8: Typical contact between Upper Jurassic (T) and Lower Cretaceous (V) Limestones with black chert nodules

Source: AMC, 2014

7.4.3 Calcareous Clastic Sedimentary Rocks, S1 and S2

Three distinct units of calcareous clastic rocks unconformably overlie the carbonate sequence. Various carbonate units lie beneath the unconformity, indicating exhumation and accompanying faulting during the depositional hiatus in the Early Cretaceous. Formation of the unconformity reflects the effect of the Cretaceous Austrian orogenic event. The clastic units, stratigraphically from lowest-to-highest, include calcareous sandstone with lesser siltstone-dominated sequence, overlain by reddish and iron-rich sandstone containing abundant andesitic volcanic detritus, capped by thinly-bedded ferruginous marl. Total stratigraphic thickness of this sequence ranges from 365 m to 840 m:

- S1 unit is a basal clastic sequence that was deposited during the Albian to Cenomanian time (Vasic, 2012), and consists of well-bedded, coarse- and medium-grained calcareous, weakly glauconitic sandstones and conglomerates. Clasts are dominantly angular to sub-rounded limestone fragments sourced locally, but also include a variety of well-rounded metamorphic and igneous clasts from distal sources. Conspicuous rounded white quartz pebbles form a major detrital component. Intercalated with, and locally forming a significant thickness, are black, laminated, fine-grained clastic siltstone and sandstone. A chaotic breccia, termed the "basal breccia", is common along the basal unconformable contact. The breccia is composed dominantly of coarse blocks and smaller cobbles and pebbles of limestone in a black, commonly sulphide-rich, fine- to medium-grained calcareous sandy matrix. Locally, the basal breccia appears bedded. Similar angular clastic rock types are present within the underlying limestone sequence at various depths below, but close to, the uppermost limestone contact. These clastic rocks have very irregular thicknesses, are not laterally continuous, and are inferred to represent infill of karst features. The thickness of this S1 unit can vary from between 50 m and 250 m above the unconformity. A typical core specimen from the S1 unit is presented in Figure 9.

- S2 unit overlies the basal clastic sandstone (S1) and is comprised of reddish, coarse- and medium-grained sandstones and conglomerates, tuffaceous clastic rocks, and air-fall tuff (S2) containing varying abundances of detrital magnetite, mafic silicate minerals, and common volcanic fragments. Pyrite, presumably diagenetic in origin, is also present. This clastic sequence, deposited at the western margin of the TMC during Cenomanian time, records the approach of the volcanic arc to the east. The thickness of the S2 sandstone unit is between 15 m and 90 m. A typical core specimen from the S2 sandstone and conglomerate is shown in Figure 10.
- The S1 and S2 units form the principal host to gold in the Bigar Hill, Korkan and Korkan West deposits.

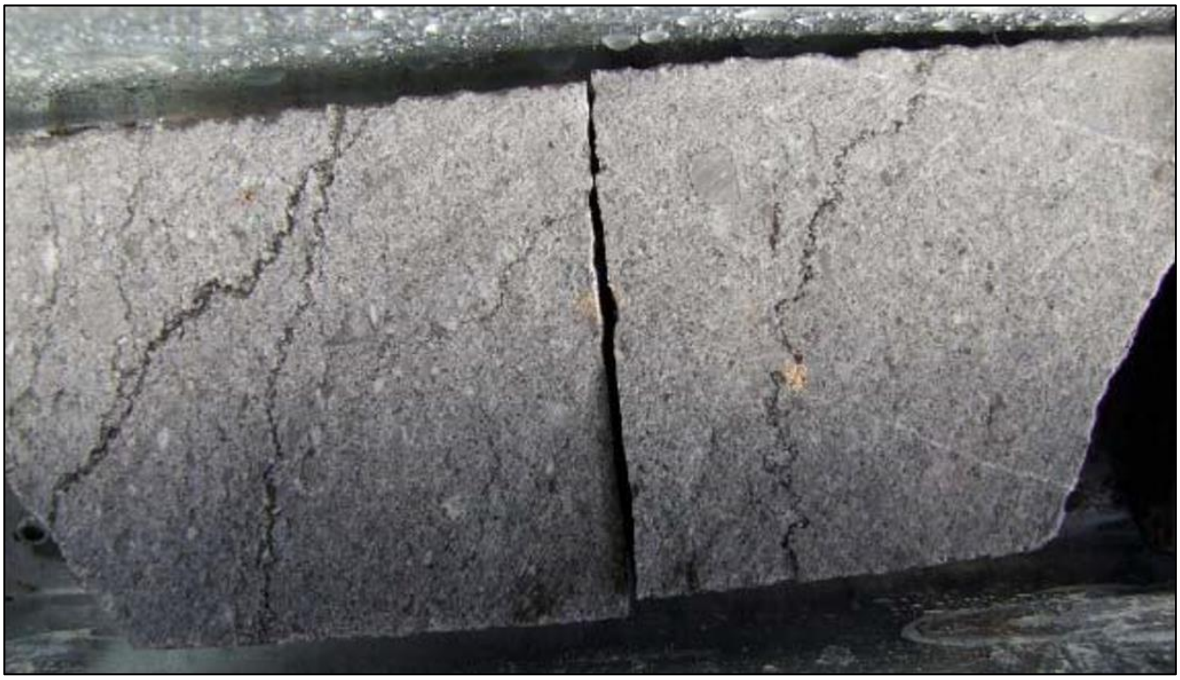


Figure 9: Typical S1 unit: Fine-grained calcirudite with stylolites

Source: AMC, 2014

Figure 10: Typical S2 unit: Conglomeratic sandstone with characteristic red fragmental clasts

Source: AMC, 2014

7.4.4 Marl

This unit, overlying the S2 and deposited during Santonian time, is a grey marlstone that is typically finely laminated. The marl unit is interbedded with locally present sandstone, andesite, and andesite volcaniclastic rocks (Vasic, 2012). These rocks, ranging in thickness from 50 m to 500 m, are rarely mineralised, and an example is shown in Figure 11. In the Bigar Hill deposit area, pyroxene-hornblende diorite sills are emplaced into the marl.

Figure 11: Example of Marl Unit: Grey marlstone with deformed faminations, drill-hole BHDD044, 59.2 m

Source: AMC, 2014

7.4.5 Andesitic Epiclastics and Diorite Intrusions

This unit, of Late Cretaceous age and overlying clastic units S1, S2, and the Marl, is comprised of andesitic shallow intrusive and derivative epiclastic rocks. Rapid facies changes along strike characterize the sequence. The lower part of the epiclastic unit is characterized by polymictic basaltic andesite conglomerate and breccia, whereas the upper part is dominated by monomictic basaltic andesite breccia and conglomerate, which are interpreted being products of epiclastic debris flow deposits. A finer grained sedimentary rock unit, consisting of well-bedded tuff, marl, sandstone, and volcaniclastic breccia that locally forms a mappable but thin horizon between the debris flow deposits. The dioritic stocks, dikes, and sill-like intrusions are generally aligned along a north-westerly trend, which most likely represents a structural fabric in the subsurface that controlled their emplacement. An example of this unit is presented in Figure 12.

Figure 12: Example of andesite intrusive unit sill with phenocrysts of hornblende and plagioclase, drill-hole BHD010, 101 m

Source: AMC, 2014

7.4.6 Potoj Čuka Monzonite

This unit comprises coarse-grained equigranular monzonite with visible alkali feldspar phenocrysts, biotite, and minor magnetite and pyroxene. This monzonite is part of the Late Cretaceous Potoj Čuka pluton which, in the latest Cretaceous (79.8±0.6 Ma; uranium-lead on zircon), intrudes the clastic sedimentary units in the region. The Potoj Čuka pluton is located immediately east of the western margin of the TMC and is elongated in a north-westerly orientation.

7.5 Structural Geology

This subsection contains descriptions of the regional geological structure and tectonic-stratigraphic relationships of the region.

7.5.1 Structure

The formation of the basin which hosts the TMC is associated with the Alpine Orogeny, which occurred during oblique convergence of the Indian, Arabian, and African plates with Eurasia. Convergence began in the early Cretaceous resulting in an orogenic collage that is characterised by discrete segments that have undergone a distinct geologic evolution. Major phases of mountain building associated with the Alpine Orogeny were ongoing in the Late Cretaceous to Miocene.

The TMC is generally considered to represent a basin which has an overall disjointed, elongate lozenge shape, with apparent sinistral, northwest-striking dislocations. These dislocations appear to have controlled basin opening as well as modified the geometry of the TMC. The regional-scale northwest dislocations were second-order structures to an overall dextral, orogen-scale motion resulting from Eocene-Miocene oroclinal bending.

The interpreted overall east-west cross-sectional geometry of the TMC is that of a synclinorium. Tertiary Alpine deformation was accommodated by several suites of fault zones that are developed across the entire TMC. Regional cross-sections confirm that the bulk of Alpine deformation was concentrated on the TMC margins, whereas the central part of the magmatic complex was only affected by gentle folding and fault reactivation. Accommodation of deformation by ductile deformation is largely restricted to the eastern and western margins of the TMC and was long-lived, as indicated by open folds and rotation of bedding to sub-vertical dips. Marl units north of the Korkan prospect display vertical dips in road exposures. An east-west cross section of the basin displays strain accumulation toward the eastern and western TMC margins, with inferred synclines and anticlines separated by faults that have accommodated complex movement histories.

Post-mineral structures are interpreted as being active during Cenozoic transpressional deformation. These structures include pre-sedimentary rock-hosted gold-bearing structures that were reactivated in addition to newly-formed, post-mineral faults. Late orogen-parallel extension produced early Miocene normal faults that controlled the architecture of Miocene coal basins, such as the Žagubica Basin, and numerous regional east-west trending normal faults extending into the TMC. Examples of all these structures occur at Bigar Hill and Korkan, where northwest-trending strike-slip faults, reactivated north-south to north-northeast striking strike-slip faults, and east-west trending normal faults are developed.

7.5.2 Tectonic-Stratigraphic Relationships

The spatial relationships between mineralisation styles in the Timok region suggest that the region might be composed of successively westward-migrating metallogenic belts. The belts are temporally distinct events, lying from east-to-west, beginning with the Bor-Veliki Krivelj Belt, succeeded by younger Kuruga high-sulphidation belt, and the still younger Timok diorite porphyry belt. These younger porphyry copper-gold prospects, including the Valja Štrz, the Dumitru Potok, Crna Reka porphyry Cu-Au and Čoka Rakita porphyry Au prospects, are present in the eastern part of the Project area.

Evidence for sedimentary-hosted gold along the western boundary of the TMC extends over a strike length of more than 30 km and is up to 8 km wide. The mineralised belt was initially identified by soil geochemistry programs conducted by DPM. The geology, geochemistry, and available drill intersections of known prospects suggest a strong similarity to the sedimentary rock-hosted or Carlin-style deposits.

Most of Avala's exploration property is located on the margins of the TMC, namely the Potaj Čuka Tisnica, Bigar Istok and Umka licences (Figure 6) on the western margin, and the Lenovac licence on the eastern margin of the TMC. Upper Jurassic to Upper Cretaceous calcareous rocks, including limestone, marl, and calcareous clastic and volcaniclastic rocks, capped by TMC volcanic and derivative clastic rocks, underlie most of the licences. Several overprinting generations of fault systems disrupt the stratigraphy and caused structural complexity, including local reverse faulting and thrusting of stratigraphic units of the TMC area.

The sediment-hosted gold prospects: Bigar Hill, Korkan, Kraku Pester and Korkan West, are all part of the Potaj Čuka Tisnica licence and are located on north-south to north-northwest trending segments of the western margin of the TMC, centred around the Late Cretaceous Potaj Čuka monzonite batholith. Exploration within the other licences has been limited to soil geochemistry, trench sampling and scout diamond drilling.

7.6 Metamorphism

Thermally metamorphosed rocks are present in the contact aureole of the Late Cretaceous Potoj Čuka monzonitic pluton. Calc-silicate skarns are locally present. The most evident thermal effect is present at the Kraku Pester prospect and south of Bigar Hill. At Kraku Pester, the fine-grained clastic sequences adjacent to the pluton are converted to biotite-magnetite and calc-silicate hornfels, depending upon the protolith composition. South of Bigar Hill and the southern-bounding, post-mineral normal fault, the carbonate rocks are converted to marble near the monzonite, with distal bleaching of the normally grey limestone to white colours in outcrop.

7.7 Alteration

Except for the quartz-bearing zones in the andesite sill at Bigar Hill, no macroscopically visible silicate alteration minerals are evident. However, the fine grain size of the horizons, coupled with the common evidence for additional post-mineral brecciation precludes easy identification of silicate alteration minerals. Analysis of the geochemical characteristics of the mineralised horizons at Kraku Pester using 1 m drill-hole data suggests that clay minerals, presumably combinations of kaolinite, illite, and probably smectitic clays, from part of the hydrothermal alteration associated with pyrite deposition. Elevated gold is also associated with rocks containing sufficient iron, thus suggesting that the depositional mechanism for gold was likely the sulphidation of iron present in the rocks. The recognition of auriferous concentrations in karst infill sedimentary rocks is consistent with this interpretation as iron is a common residual element during carbonate dissolution. Decarbonization of diagenetic and detrital carbonate is associated with gold zones.

7.8 Mineralisation

Four important mineralised zones have been identified within the Potoj Čuka Tisnica exploration licence. These areas comprise the Bigar Hill deposit, the Korkan deposit, the Korkan West deposit and the Kraku Pester deposit, and are summarised in Figure 13. All four zones share a similarity with the style of mineralisation defined at the Bigar Hill deposit and are associated with a large hydrothermal system that has been identified within the Project.

7.8.1 Bigar Hill Deposit

The Bigar Hill deposit is the most advanced exploration target within the Project. The deposit comprises Bigar Hill and the adjacent Bigar Au-polymetallic replacement showing (immediately south and east from Bigar Hill) and is located immediately north and outside of the thermal aureole of the Potoj Čuka monzonite. Rock types beneath Bigar Hill comprise of Proterozoic metamorphic basement, Late Jurassic and Early Cretaceous limestone, which are unconformably overlain by a Late Cretaceous clastic sequence (S1, S2 and marl), capped by Late Cretaceous andesitic volcanic and derivative epiclastic rocks. Diorite porphyry has also intruded the stratigraphic package. Bigar Hill is bounded to the north and south by east-west-striking faults that have brought the Late Cretaceous clastic units in tectonic contact with Late Jurassic limestone.

Gold mineralisation at Bigar Hill is located principally along two stratigraphic horizons, with lesser amounts present along peripheral steeply dipping fractures zones within the clastic rocks and andesite sill. A lower zone is localised along the unconformable and brecciated lower contact of S1 and isolated karst-infill zones at the upper boundary of the KLS unit. The most continuous horizons lie at shallow stratigraphic levels along the contact between the S1 and S2 units forming a middle zone. Above this zone, gold mineralisation occurs within the andesite intrusive unit forming a sill where gold is associated with narrow zones of quartz infill. At the Bigar Hill deposit, the highest concentrations of mineralisation are along each of the KLS/S1 and S1/S2 contacts as illustrated in Figure 14. Metal distribution and thickness variations of the host-rocks suggest the presence of WNW and NE-striking sub-vertical feeder structures.

Mineralisation is continuous and follows the dips of the stratigraphy. It has a north-south extent of approximately 900 m and an east-west extent of approximately 900 m. Mineralisation is largely from surface, and in the south its depth extent is greatest (approximately 500 m). Depth extent reduces to 200–300 m below surface moving further north. There is a small zone in the centre, where mineralisation starts from approximately 80 m vertical depth from surface.

Within the basement of the Bigar Hill area (also known as the Rapture Fault zone), located south of Bigar Hill, is a Palaeozoic phyllite comprising a meta-sedimentary sequence composed of sandstone, shale, and conglomerate protolith. Jurassic and Cretaceous limestone are juxtaposed against the phyllite along steeply dipping, normal separation faults; on a regional basis, these rocks unconformably overlie the phyllite unit. Brecciated horizons at Bigar Hill contain clasts of intense calcite network veining, clasts of ferroan carbonate, and local veins with base metal sulphides. A northwest-southeast trending portion of the contact zone discontinuity has localised emplacement of a dioritic porphyry intrusion. Smaller dioritic intrusions define northwest-southeast trends in the phyllite and both northwest-southeast and north-south trends in the overlying sequence.

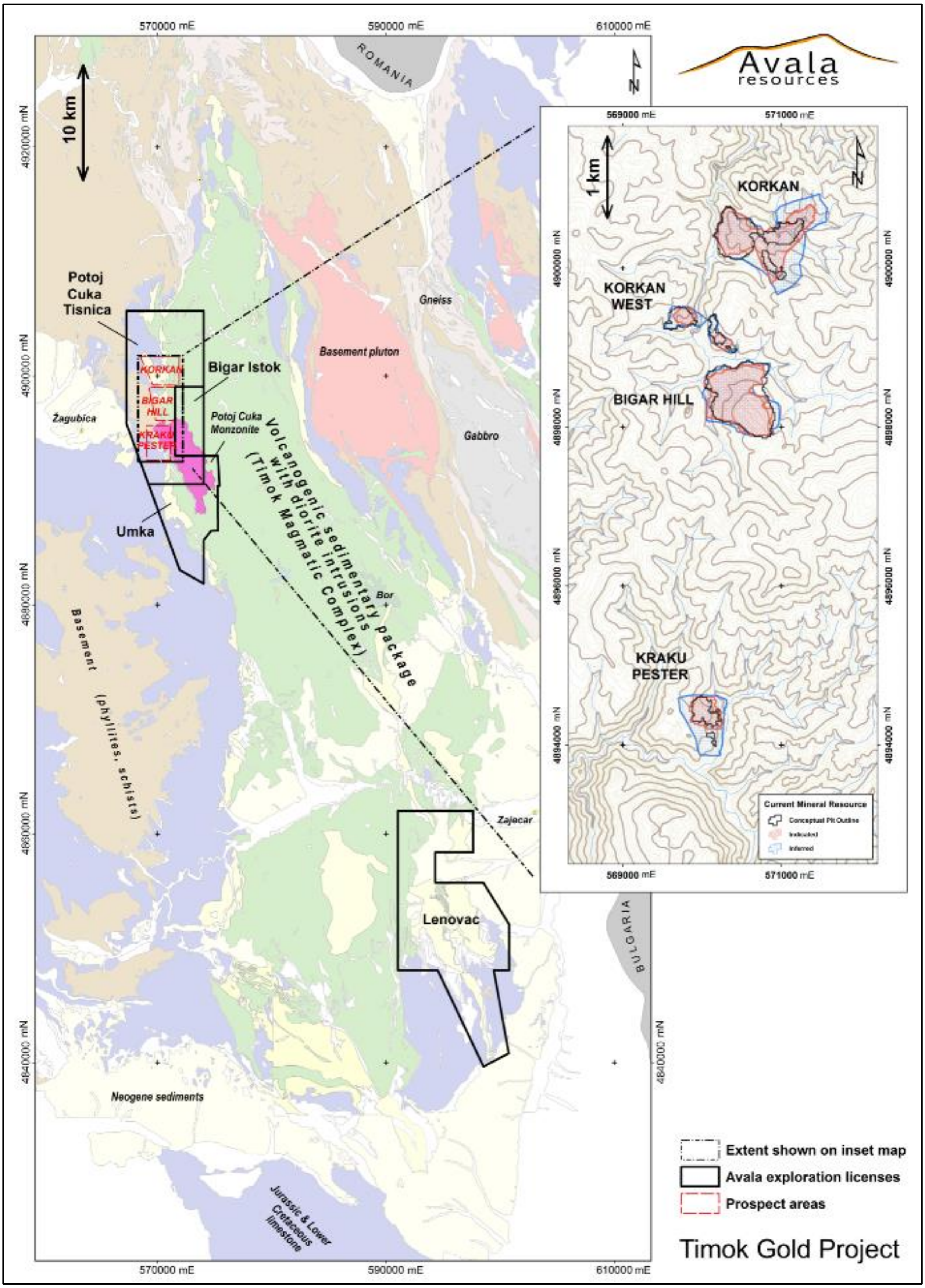
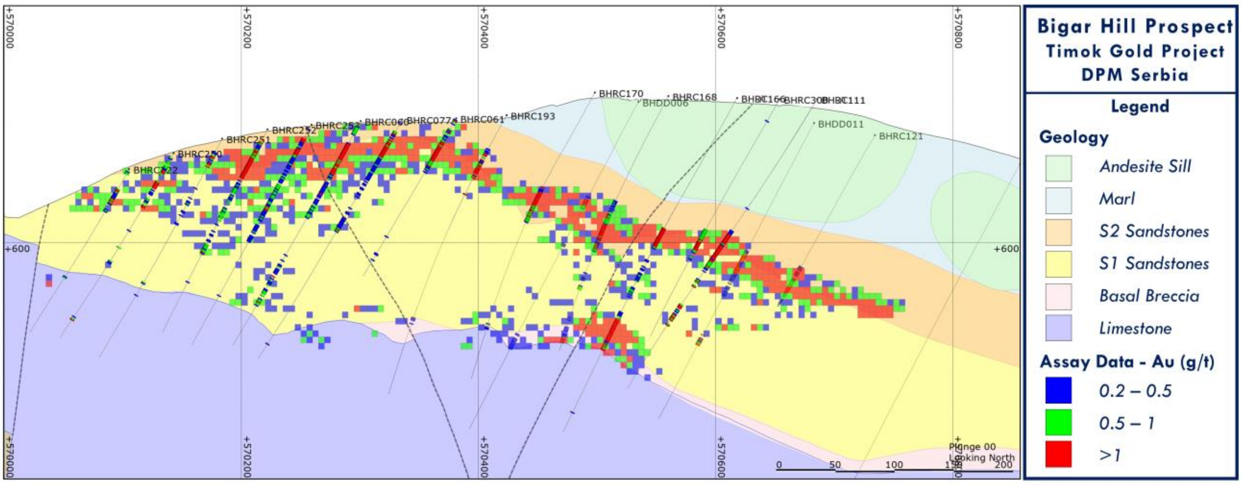


Figure 13: Exploration areas and geology of TMC (inset: Mineral Resource plots of the deposits)

Source: Avala, 2018



Cross Section 4898940N - Looking North

Figure 14: Cross section of Bigar Hill deposit

Source: Avala, 2018

7.8.2 Korkan Deposit

The Korkan deposit is the second most advanced exploration target within the Project, after the Bigar Hill deposit. The deposit constitutes a generally easterly-trending zone of mineralised rocks and incorporates both the Korkan and adjacent Korkan East zones. Korkan East is located to the east of Korkan, across a braided post-mineralisation, strike-slip fault zone. The Korkan deposit shares similar characteristics with the Bigar Hill deposit, located 2 km to the south. Rock types in the Korkan deposit comprise Late Jurassic and Early Cretaceous limestones, which are unconformably overlain by a Late Cretaceous lower clastic sequence (S1 and lower parts of S2) and farther east also by a Late Cretaceous upper clastic sequence (upper parts of S2 and marl), capped by Late Cretaceous andesitic volcanic and derivative clastic rock.

Unlike Bigar Hill, stratiform gold mineralisation at Korkan occurs primarily along the unconformable and breccia-like lower contact zone of the clastic S1 sequence, against the underlying KLS limestone unit, and in karst-infill zones at the upper boundary of the KLS limestone unit. It is presumed that erosion has removed some mineralisation related to the S1/S2 contact that would have sat higher in the stratigraphic sequence. Korkan mineralisation along each of the KLS/S1 and S1/S2 contacts is illustrated in Figure 15.

Mineralisation is less continuous at Korkan compared to Bigar Hill, due to higher structural complexity. As at Bigar Hill, it tends to follow the dips of the stratigraphy. The mineralised footprint has a northeast-southwest extent of approximately 1,100 m and a northwest-southeast extent of approximately 1,100 m. Mineralisation commences from surface and can be traced to a maximum depth of 400 m below surface.

Structurally, Korkan is dominated by northwest-striking faults which, though apparently associated with mineralisation, have also dismembered mineralisation and earlier structures during late reactivation. Late east-striking faults such as those found at Bigar Hill have been recorded at Korkan but are less important in forming boundaries to the deposit and in juxtaposing stratigraphy.

Unlike at Korkan proper, significant base metal sulphide minerals accompany gold mineralisation at Korkan East. Overall, the mineralised zones in this environment have the appearance of carbonate replacement deposits. Local repetition or imbrication of stratigraphy and mineralisation are related to north-northeast striking faults.

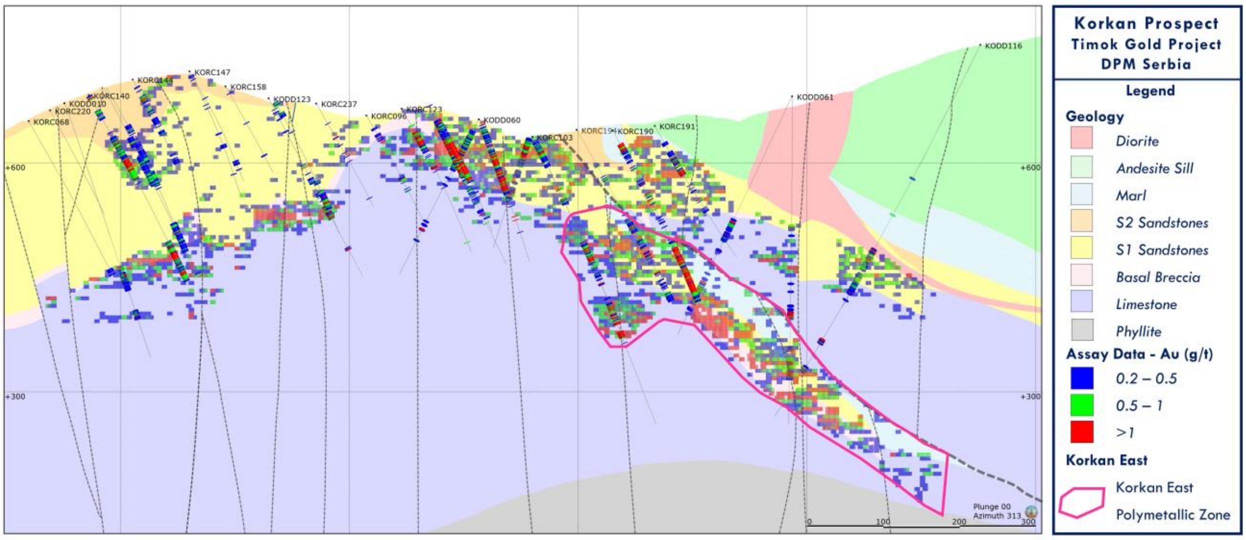


Figure 15: Mineralisation cross-sections of Korkan deposit (the Korkan East extension is shown in the cross-hatched area on the lower cross section)

Source: Avala, 2018

7.8.3 Korkan West Deposit

The Korkan West deposit is the newest discovery within the Project. It lies between the Bigar Hill and Korkan deposits, along a northwest trending structural corridor. The Korkan West deposit shares many characteristics with the Bigar Hill deposit, located approximately 1 km to the southeast, and the Korkan deposit located approximately 1 km to the northeast. Almost all mineralised intervals are manifested as oxide and transitional weathering states.

Host rocks for gold mineralisation are: (1) oxidised fine to very coarse-grained (0.1 mm to 2 mm) sandstone belonging to the S1 or S2 units; (2) conglomerate layers containing quartzite clasts and/or limestone clasts (S1 or S2 units). Mineralisation at the S2/S1 contact can commonly be observed.

The presence of several oxidised, discontinuous intervals occurring throughout this S1 or S2 units, and associated higher individual gold assays, suggests gold mineralization may also locally be associated with structurally controlled zones.

Non-oxidised, interbedded medium to dark grey coloured calcareous mudstone and fine-grained sandstone beds, known as the IB unit (Interbedded unit), underlies the S1 unit. This unit typically does not host gold mineralisation.

A thin sequence of conglomerate and breccia, with angular clasts of limestone within a clay matrix, occurs at the boundary sandstone-limestone and is known as BBX (Basal breccia unit). This unit usually carries no gold mineralisation, which is contrary to the BBX at Bigar Hill and Korkan. Limestone hosted gold mineralisation can be observed in fractured zones proximal to feeder structures, as well as at the Cretaceous-Jurassic limestone contact, in Jurassic limestone and karstified zones.

The orientation of structures in the Korkan West area are currently interpreted to be striking predominantly along a west-northwest to east-southeast orientation. These structures are located within a 300 m wide and 600 m long corridor and were most likely the feeder zones for hydrothermal fluids.

Structural modelling has demonstrated the presence of additional fault sets striking either northeast-southwest or east-west. It is assumed that in fault intersection zones, particularly in areas where west-northwest trending deep-seated structures intersect northeast-southwest trending structures, stratabound mineralisation in the S1/S2 units can be observed. East-west trending structures are interpreted as the youngest and are not mineralised. Post-mineralisation faulting can locally displace mineralisation by up to 10 m in places.

Figure 16 is an example showing the distribution of Korkan West mineralisation relative to the main lithological units.

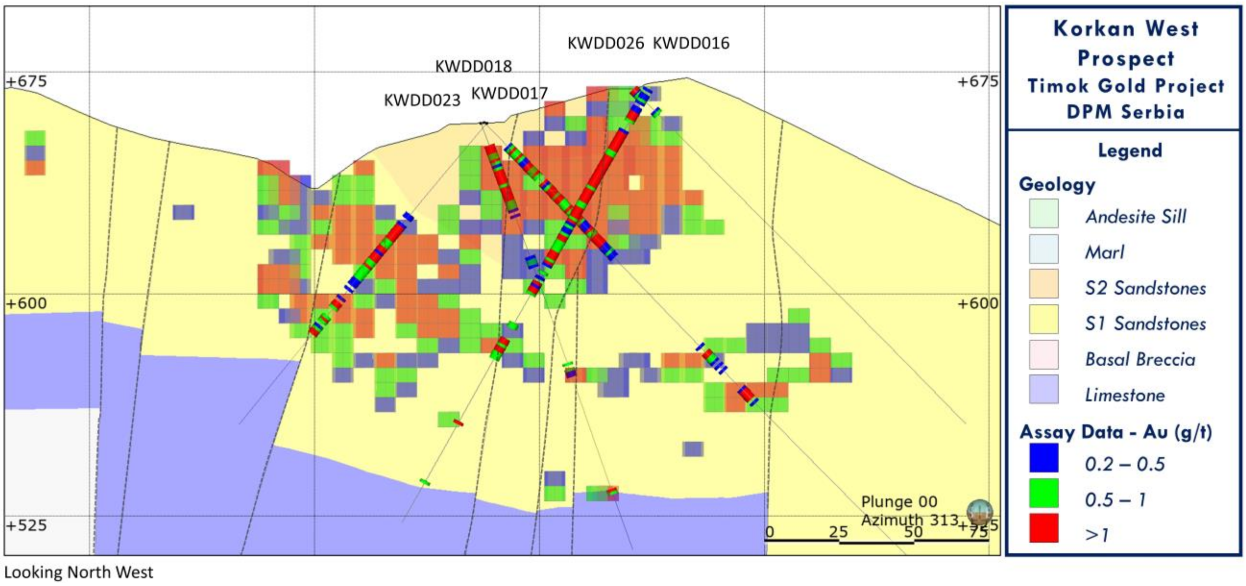


Figure 16: Cross-section of the Korkan West deposit

Source: Avala, 2018

7.8.4 Kraku Pester

The Kraku Pester deposit is the third most advanced exploration target within the Project after the Bigar Hill and the Korkan deposits. Kraku Pester shares similar characteristics with the Bigar Hill deposit, 3.7 km to the north, and is located in an embayment at the north-western tip of the Potoj Čuka monzonite.

Gold at Kraku Pester is hosted in a variably disrupted stratigraphic sequence comprising, from base to top, shale metamorphosed to biotite ± magnetite phyllite, calcareous rocks; including marl and limestone metamorphosed to calc-silicate hornfels and marble, and tuffaceous rocks that locally may be calcite-rich and interbedded with coherent hornblende andesite. Metamorphism is due to emplacement of the Potoj Čuka monzonite unit that produced a thermal aureole up to 800 m in width. Direct correlation of the stratigraphic sequence at Kraku Pester with those recognised regionally at Bigar Hill and Korkan is uncertain.

Mineralisation is less continuous at Korkan compared to Bigar Hill, due to higher structural complexity. As at Bigar Hill, it tends to follow the dips of the stratigraphy. It has a northeast-southwest extent of approximately 700 m and a north-south extent of approximately 600 m. Mineralisation can generally be traced from approximately 30 m below surface, and has a depth extent of 300 m.

Disruption of stratigraphic continuity at Kraku Pester indicates structural complication of the host sequence. Low-dipping structures of appreciable thickness are exposed, and fabric asymmetries associated with these faults indicate accommodation of down-dip extension. The presence of massive Jurassic limestone structurally above the heterogeneous Cretaceous sedimentary sequence suggests that the moderately-dipping structures originated as reverse faults that were reactivated. Steeply dipping fault damage zones have also been recognised, and cataclastic zones noted in the monzonite are locally host to auriferous pyrite.

Gold deposition is interpreted as being relatively late in the geological-structural evolution of Kraku Pester, post-dating the emplacement of the monzonite.

Unlike Bigar Hill, gold mineralisation at Kraku Pester is hosted in brittle fault rocks composed of pyritised fault breccia to cataclasite, with relatively higher gold concentrations being associated with finer-grained cataclasite. Fluid flow associated with gold mineralisation was controlled by a permeability fabric produced by brittle reactivation of a complicated geometric architecture in a north-westerly trending cross fault and the footwall intrusive contact with the monzonite.

Figure 17 is an example showing the distribution of Kraku Pester mineralisation relative to the main lithological units.

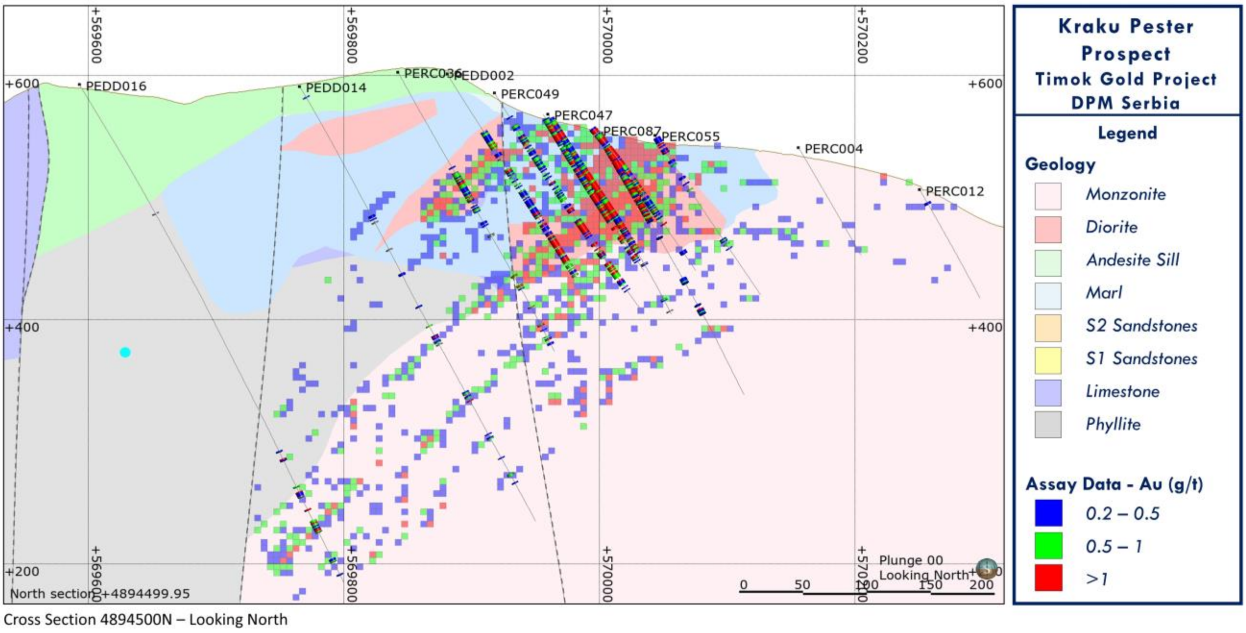


Figure 17: Cross-section of the Kraku Pester deposit

Source: Avala, 2018

7.9 Metallogeny and Paragenesis

Except for Korkan East and Bigar prospects, there is a common character to the sedimentary rock-hosted horizons, regardless of the prospect. The quantity of fine-grained pyrite increases from the margins toward the central and higher gold-content zone in all mineralised horizons. With the exception of the quartz-bearing zones in the andesite sill at Bigar Hill, no macroscopically visible silicate alteration minerals are evident. However, the fine-grained mineralisation, coupled with the common evidence of additional post-mineral brecciation, precludes easy identification of silicate alteration minerals. Analysis of the geochemical characteristics of the mineralised horizons at Kraku Pester, using 1 m composites, suggests that clay minerals, presumably combinations of kaolinite, illite, and probably smectitic clays, form part of the hydrothermal alteration associated with pyrite deposition. Elevated gold is also associated with relatively iron-rich rocks, thus suggesting that the depositional mechanism was likely the sulphidation of iron present in the host. The recognition of auriferous concentrations in karst-infill sedimentary rocks is consistent with this interpretation, as iron is a common residual element during carbonate dissolution. Decarbonisation of diagenetic and detrital carbonate is associated with gold zones.

Previous petrographic studies and metallurgical test work on the Bigar Hill, Korkan and Kraku Pester sedimentary rock-hosted gold deposits suggest that gold is present in sulphide ores as 0.5-40 µm grain size native gold, electrum or telluride crystals intergrowths with pyrite and other sulphides/sulfosalts, or as solid solution or submicroscopic scaled colloidal gold locked within As-rich pyrite bands (SGS, 2012a , 2012b , 2013 ; Pacevski 2012a , 2012b , 2013 ; Magyar, 2018). Most recently Magyar (2018) showed on SEM images and EMPA maps the arsenic-rich pyrites (potentially associated to Au-mineralization) have complex growth-zoning in various pathfinder elements, thus indicating several hydrothermal and supergene Au-mineralization stages and implying variable Au-liberation metallurgical properties.

Two textural types characterise the gold-bearing horizons; breccia, and replacement. The breccia-type consists of the basal breccia and karst horizons localised principally along the lower contact between the subjacent carbonate rocks and the overlying calcareous clastic rocks. Many of the breccia horizons are also the locus for post-mineral faulting, thus complicating the interpretation of the original mineralised rock texture. The sedimentary rock-hosted deposit at Bigar Hill and Korkan are characterised by both textural types. The upper horizon along S1/S2 contact is a mixture of stratabound replacement type textures, and brecciated horizons that may, or may not, have formed post-mineralisation. Brecciated mineralised rocks are concentrated along the lower contact of the clastic rocks with the underlying carbonate.

7.10 Weathering Profiles

All four of the prospects at the Timok Gold Project show extensive weathering and oxidation of iron bearing minerals. Weathering characteristics vary within each of the stratigraphic settings. A petrographic study by Magyar (2018) into the variability of weathering at the Timok Gold Project is summarised below.

Within higher stratigraphic elevations, late Cretaceous marls, andesites and magmatic derived clastics typically exhibit a shallow weathering profile, detectable up to 15 m below surface, which can be extended further downward when in proximity to faulting. These levels within the Timok Gold Project generally contain limited oxide and transitional mineralisation.

The S1 and S2 sandstones and conglomerates show pervasive weathering that can extend hundreds of metres below surface. Structural corridors, such as faults and lithologic contacts, allowed meteoric water to permeate downward. When these waters came into contact within mineralised zones, the oxidation of gold bearing sulphides such as pyrite resulted in the formation of secondary iron oxides such as goethite. Corollary to this decomposition of sulphides, nanoscale gold particles were either liberated and left in-situ or taken in solution and re-precipitated as native gold or electrum in geothites (Figure 18).

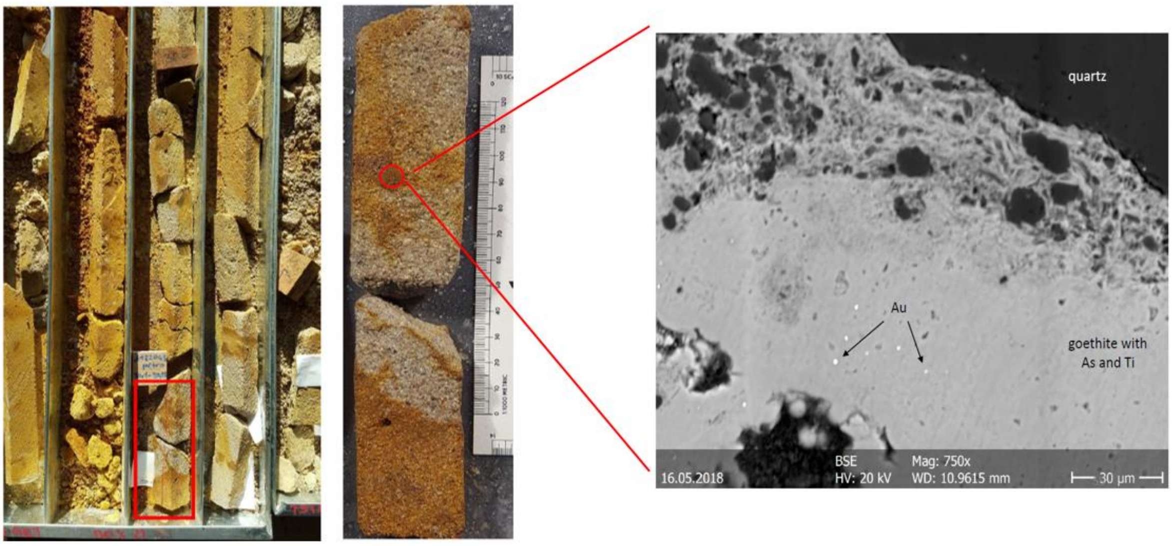


Figure 18: SEM imaging of mineralised goethite taken from S1 sandstones in Bigar Hill (sample taken at 30.2 m depth from drill-hole BHDDMET001)

Source: Magyar, 2018

In certain locations, the meteoric water has pooled beneath impermeable caps, permitting extensive oxidation to occur. This is most notable within the S1 and S2 horizons that are capped by the relatively impermeable Marls. In these locations tabular bodies of sulphide mineralisation can be underlain by zones of oxidation which can extend for many hundreds of metres down-dip.

Within the lower levels of the TGP stratigraphy, Early Cretaceous and Late Jurassic limestone may also display oxidation controlled along structural pathways. The breccia horizons that mark the unconformable contact between the S1 unit and Lower limestone are almost always denounced by a zone of oxidation.

The Limestones of the early Cretaceous are typically karstified beneath the unconformity. The sub-tropical climate of the Cretaceous era, coupled with tectonic uplift, resulted in the formation of Karstic Cavities. These cavities appear to have been infilled with the overlying S1/S2, which often results in the re-deposition of mineralised pyrite and/or secondary iron minerals such as goethite. Fluctuations in groundwater levels resulted in gold grains being remobilised to microfractures on the edges of weathered pyrite grains.

8 Deposit Types

The following is taken from the 2014 Technical Report and remains current. The authors of this technical report do not disclaim any responsibility for the content contained herein.

The dominant mineral prospects in the clastic sedimentary rocks along the western margin of the TMC are relatively low-temperature auriferous deposits that share many characteristics with Carlin-type gold deposits, as outlined by Cline *et al.* (2005). The interpretation of the sedimentary rock-hosted gold prospects within the project area as Carlin-type is based upon the following criteria (Knaak et al., 2016):

- Character of the sedimentary host
- The metal association (gold, arsenic, mercury, thallium, sulphur and antimony)
- The fine-grained nature of the gold, high gold-to-silver ratio and alteration types including argillisation, decarbonisation, and locally, addition of quartz.

Sulphidation reactions appear to have controlled gold deposition, although the potential influence of a simple redox boundary along stratigraphic horizons and a decrease of gold solubility of mineralizing fluids due to temperature decrease cannot be discounted.

The anomalous prospects associated to sedimentary rocks within the NW Timok area are Korkan East and Bigar, where significant gold is associated with carbonate replacement deposits composed of a variable assemblage of sphalerite – galena – arsenopyrite ± chalcopyrite concentrated along the brecciated contact between limestone and the overlying clastic sequence. Additionally, at NW Timok porphyry Cu-Au and Au-only deposits are associated with hornblende – biotite – plagioclase - phyric diorite porphyry intrusions emplaced into the andesitic volcanic and volcaniclastic rocks. The most significant and previously known deposits are the Valja Štrz and the Dumitru Potok porphyry Cu-Au deposits. Exploration since 2000 has the discovered the Kraku Ridji and Crna Reka porphyry Cu-Au and Čoka Rakita porphyry Au prospects largely as a result of soil and stream sediment geochemical survey by Dundee Precious Metals Ltd.

Although spatially related, the timing and genesis of the sedimentary rock-hosted Au systems is uncertain as these deposits are always separated from porphyry Au-Cu and polymetallic replacement deposits by faults. The current understanding is that the various Late Cretaceous Au mineralization types from NW Timok form a continuum and are part of larger magmatic-hydrothermal system(s) and represents various lithological traps (intrusive host, contacts, limestone replacement, clastic sediments replacement) or temperature segments (from porphyry toward epithermal) of the same system (Knaak et al., 2016)

The sediment-hosted gold belt lies west of a well-endowed metallogenic belt containing a range of magmatic-related deposits, including high sulphidation copper-gold and porphyry copper-gold. These deposits have formed the basis of significant mining activity at Bor for over 100 years. Exploration by Avala and DPM has defined the previously unrecognised sediment-hosted gold prospects along the western margin of the TMC.

9 Exploration

Where information in the 2014 Technical Report remains current, it has been reproduced below. Where updates are relevant, they have been included. The authors of this technical report do not disclaim any responsibility for the content contained herein.

9.1 Introduction

Intensive exploration at the Project commenced in July 2010 following the acquisition of the projects by Avala Resources Ltd. A systematic exploration approach has been undertaken with the assembly of the following data sets over the whole Project area: topography, geological mapping, rock chip sampling, and stream sediment geochemistry. Stream sediment sampling was previously completed over the entire Project area, at a nominal density of one sample per square kilometre. Anomalous areas were followed up by rock chip sampling, mapping, and soil sampling, on a first-pass 400 m x 50 m grid in some of the anomalous areas and, very locally, subsequently with 100 m x 50 m grid sampling.

Soil anomalies were usually succeeded by trenching and drilling over anomalous zones including the Bigar Hill, Korkan and Kraku Pester deposits, and the Umka, and Bigar exploration prospects.

During 2016, with the assistance of the MoM&E, a portion of the Potoj Čuka Tisnica licence was incorporated into a new licence called Umka. Alongside this, certain exploration licences have been relinquished since the last Technical Report (as described in Section 4.3). Thus, direct comparison of physical exploration numbers from previous reports (AMEC, 2014; Coffey Mining, 2010) will differ from those presented in Table 5. Soil and outcrop sampling have taken place across the whole licence up to present day, and does not relate specifically to the Bigar Hill, Korkan, Korkan West and Kraku Pester deposits, which are the subject of this Technical Report.

Table 5: Soil and outcrop sampling.

Exploration licences	Soil samples	Rock chips
Potoj Čuka Tisnica, Bigar Istok and Umka	6,159	1,117

9.2 Geological Mapping

Outcrop exposure over the exploration licences is generally poor. However, in areas with outcrop, ground geological mapping together with rock sampling was undertaken in the area over the exploration licences. All existing surface outcrops have been mapped, including those created by earthworks activities associated with drill pad construction and cuttings for access roads. Geological maps were created using available lithology, alteration and structure fact data, followed by interpretation. This has improved the definition of the geology in plan, with cross-checking during 3D modelling using drill results for the Bigar Hill, Korkan, Korkan West and Kraku Pester areas.

9.3 Outcrop Sampling

Rock chip sampling has been conducted by Avala across the project area. Rock samples, representing a wide range of rock types, were taken and analysed for gold by 50 g fire assay with atomic absorption finish. Pathfinder elements were analysed using multi-element inductively coupled plasma mass spectrometry analysis covering 53 elements. All sample locations were surveyed by handheld GPS. Data for each sample, including lithology, sample description, coordinates and assay results, are stored in an acQuire database. A total of 1,117 outcrop samples were collected by Avala over the Potoj Cuka Tisnica, Bigar Istok and Umka exploration licences.

9.4 Soil Geochemistry

Soil sampling has proven to be a very effective exploration method for localising potential sediment-hosted mineralisation. Gold, as well as low-temperature pathfinder elements such as arsenic, mercury, and thallium, have been found to be important elements in soil geochemistry surveys.

Avala collects soil samples from small pits, which are hand-dug by the sampling team. All samples are collected from the lower B-horizon. In the Potoj Čuka Tisnica licence area, this method usually translated to samples collected at depths of 0.5 m to 1 m. Sampling was conducted in a grid pattern, beginning with a grid line spacing of 400 m and sample collection at 50 m intervals along each line. Follow-up or detailed sample grids were configured at a line spacing of 100 m, with 50 m samples collected along each line. The sampling approach was based on orientation surveys completed by Avala in a similar environment from the Eastern Rhodope Mountains of Bulgaria.

Soil sampling programs were completed from July 2010 to 2018, building on previous soil sampling programs. Avala collected 6,159 soil samples over the Potoj Čuka Tisnica, Bigar Istok and Umka licences. Avala and Dundee soil sampling is shown in Figure 19. Details are tabulated in Table 5.

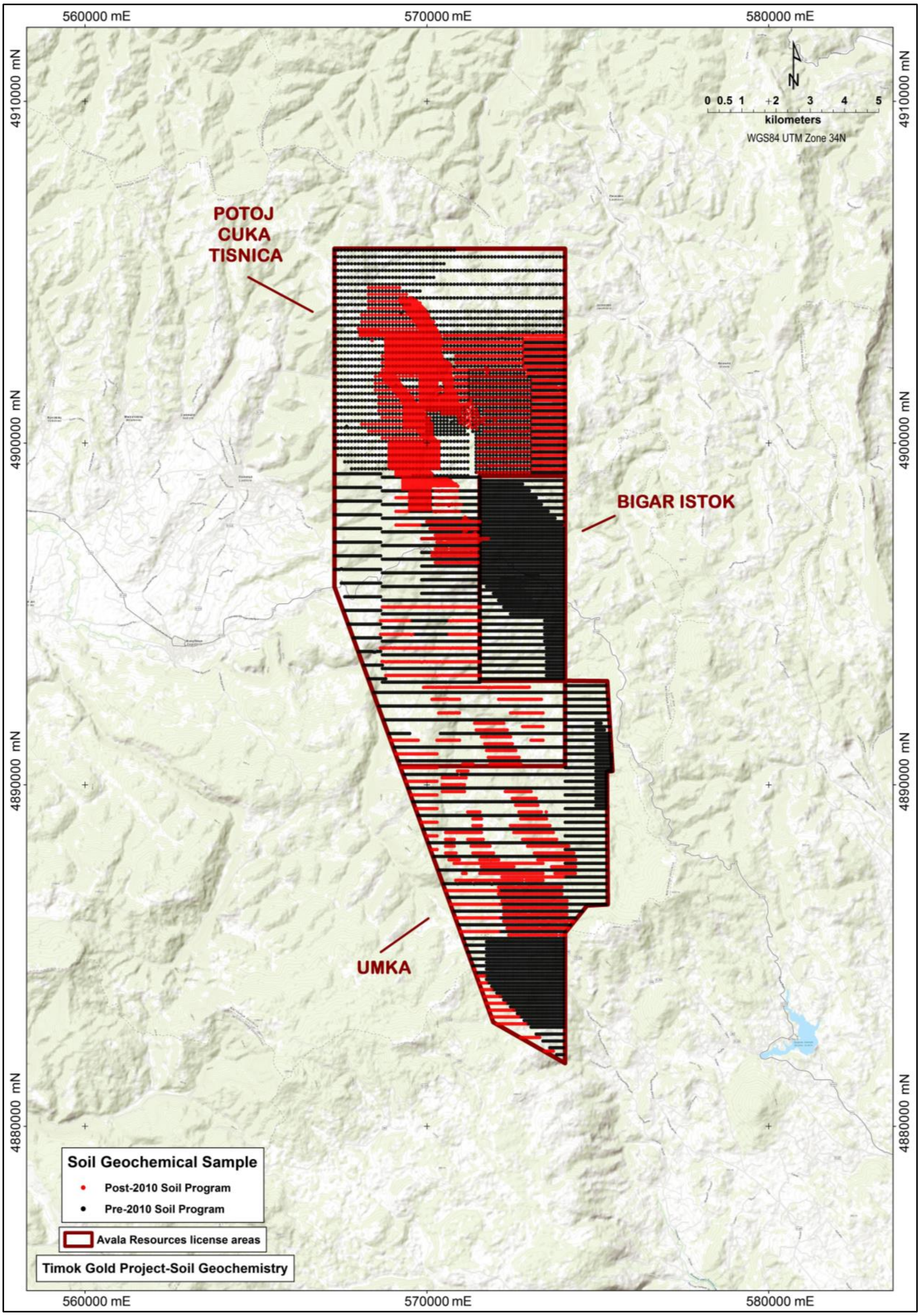


Figure 19: Location of soil sampling lines

Source: Avala, 2018

9.5 Trenching

Trenching was used as a follow-up strategy to explore areas with anomalous soil geochemistry and to assist in defining key geological relationships in view of the limited outcrop in the Project areas. There was a high success rate in intersecting sediment-hosted gold mineralisation by drilling near extensive and well mineralised trench intercepts.

Trenching activity was focused in the Potoj Čuka Tisnica licence area. In the period from 2010 to 2013, approximately 296 trenches (34.5 km) had been completed over the Potoj Čuka Tisnica licence. Trenching in this period was concentrated on the Bigar Hill, Korkan, Kraku Pester, and Umka zones. An additional 135 trenches and channels were completed between 2015 and 2018, for 11,236 m on Potoj Čuka Tisnica, Bigar Istok and Umka licences. Avala's trenching locations are shown in Figure 20.

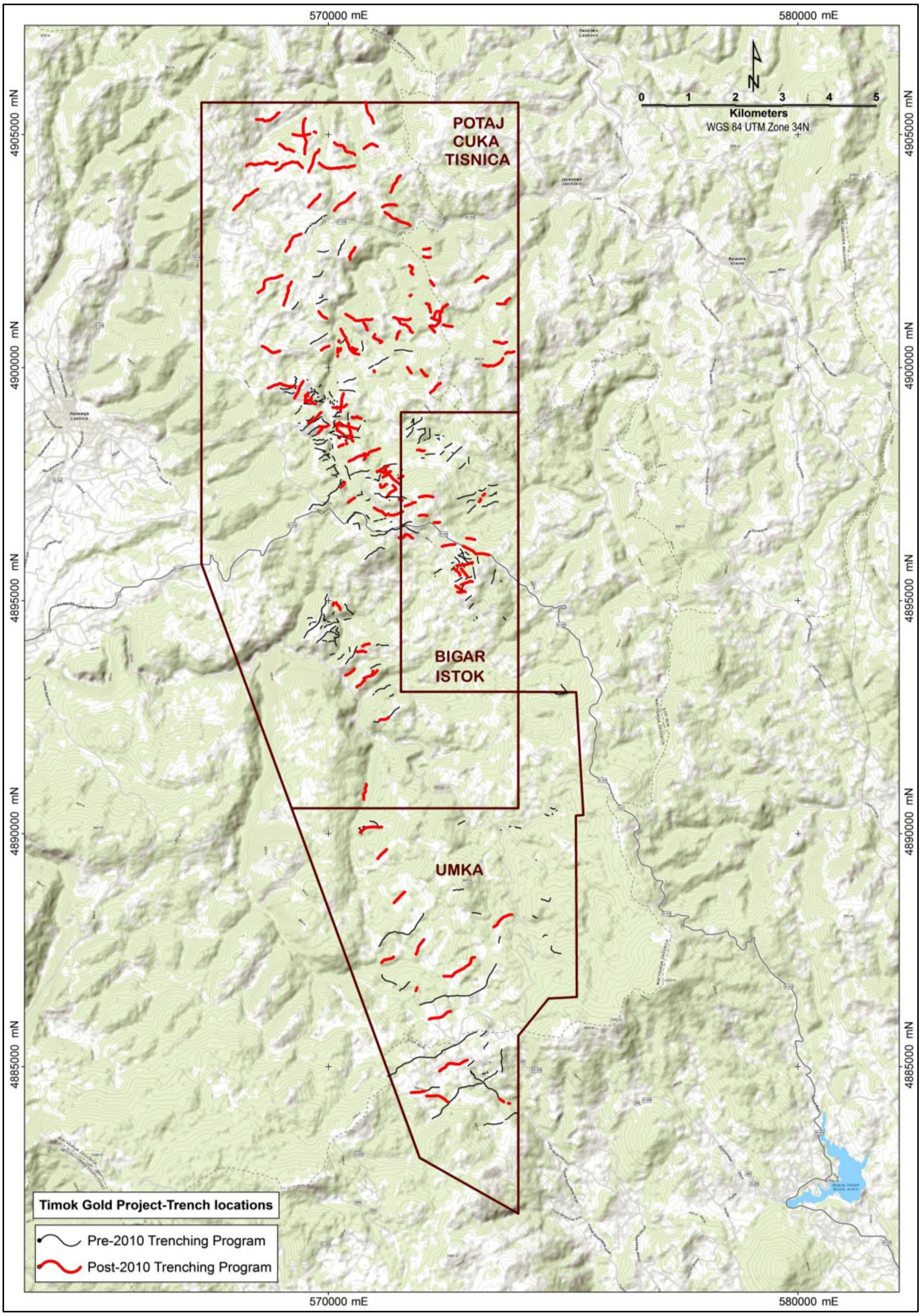


Figure 20: Trenching at the Timok Project

Source: Avala, 2018

9.6 Exploration Drilling

In 2009, four diamond drill-holes were drilled at the Project (Potoj Čuka Tisnica exploration licence). Two drill-holes were drilled on the Kraku Pester area (PEDD001 and PEDD002), and two in the Bigar (Rapture Fault zone) area (BIDD001 and BIDD002).

Avala then focused exploration drilling campaigns from 2010 to 2013 on the Potoj Čuka Tisnica licence to outline mineralisation on the Bigar Hill, Korkan, Kraku Pester, and Umka areas. The drilling that relates to Bigar Hill, Korkan and Kraku Pester is covered in more detail in Section 10.

After 2014, a number of exploration drill-holes were completed at wide space on areas around mineralised prospects which led to the discovery of Korkan West deposit during winter 2016/2017.

9.7 Topographic Surveys

All survey activities are conducted using by a licensed third-party surveyor. A base geodesic operational network within the Timok Gold Project has been established that covers the entire exploration tenement areas. This primary survey control network was implemented using AUSPOS, an online global positioning system (GPS) processing service provided by Geoscience, Australia

High resolution topographic surveys are completed using GPS using a real time kinematic method which provides a centimetre level of precision. The system (Trimble R8 GNSS) uses two receivers; one is centred on control point with known coordinates whilst a second receiver is mobile and is used to determine survey points across the terrain.

All coordinates are recorded using UTM coordinate system, specifically Zone 34 North in WGS 84 datum. The Korkan West topographic surface was surveyed in November 2017, whilst the remaining prospects were surveyed between 2011 and 2012.

9.8 Conclusions

CSA did not observe sampling while at site, because no such activities were taking place during the site visit completed in February/March 2017.

However, from review of procedures, maps, and discussions with site personnel, the sampling methods and sample quality appear to have not resulted in sample biases and have befit exploration programs that allow for follow-up targeting through drilling, as described in Section 10. CSA Global believe these exploration programs to be systematic in their nature to provide samples that are representative, and no factors have been identified that may have resulted in sample biases.

10 Drilling

Where information in the 2014 Technical Report remains current, it has been reproduced below. Where updates are relevant, they have been included. The authors of this technical report do not disclaim any responsibility for the content contained herein.

10.1 Introduction

Avala employed a combination of diamond drilling and RC drilling over the Bigar Hill, Korkan, Korkan West and Kraku Pester exploration areas, but restricted to diamond drilling at Umka. Drilling has been undertaken since July 2010.

Drilling was carried out by Serbian contractors, using Atlas Copco CS-14 and Atlas Copco Mustang 9/13/18, Alton HD, Coretech, YDX 1300G and Gemex MP 1200 rigs for diamond drilling, and GEMSA 500RC rigs for RC drilling. Examples of drilling activities are shown in Figure 21, while drilling operations are summarised by area in Table 6.

Figure 21: Diamond (left) and RC drilling (right) at Bigar Hill

Source: AMC, 2014

Table 6: Summary of drilling for the main resource areas of the Timok Gold Project

Prospect	Diamond drilling		RC		RC pre-collar/ diamond tail		Total	
	Drill-holes	m	Drill-holes	m	Drill-holes	m	Drill-holes	m
Bigar Hill	89	25,393	333	71,287	30	9,127	452	105,807
Korkan (including Korkan West)	228	62,918	295	49,804	10	3,210	533	115,932
Kraku Pester	52	12,625	94	14,962	7	1,681	153	29,268

TOTAL	**369**	**100,936**	**722**	**136,053**	**47**	**14,018**	**1,138**	**251,007**

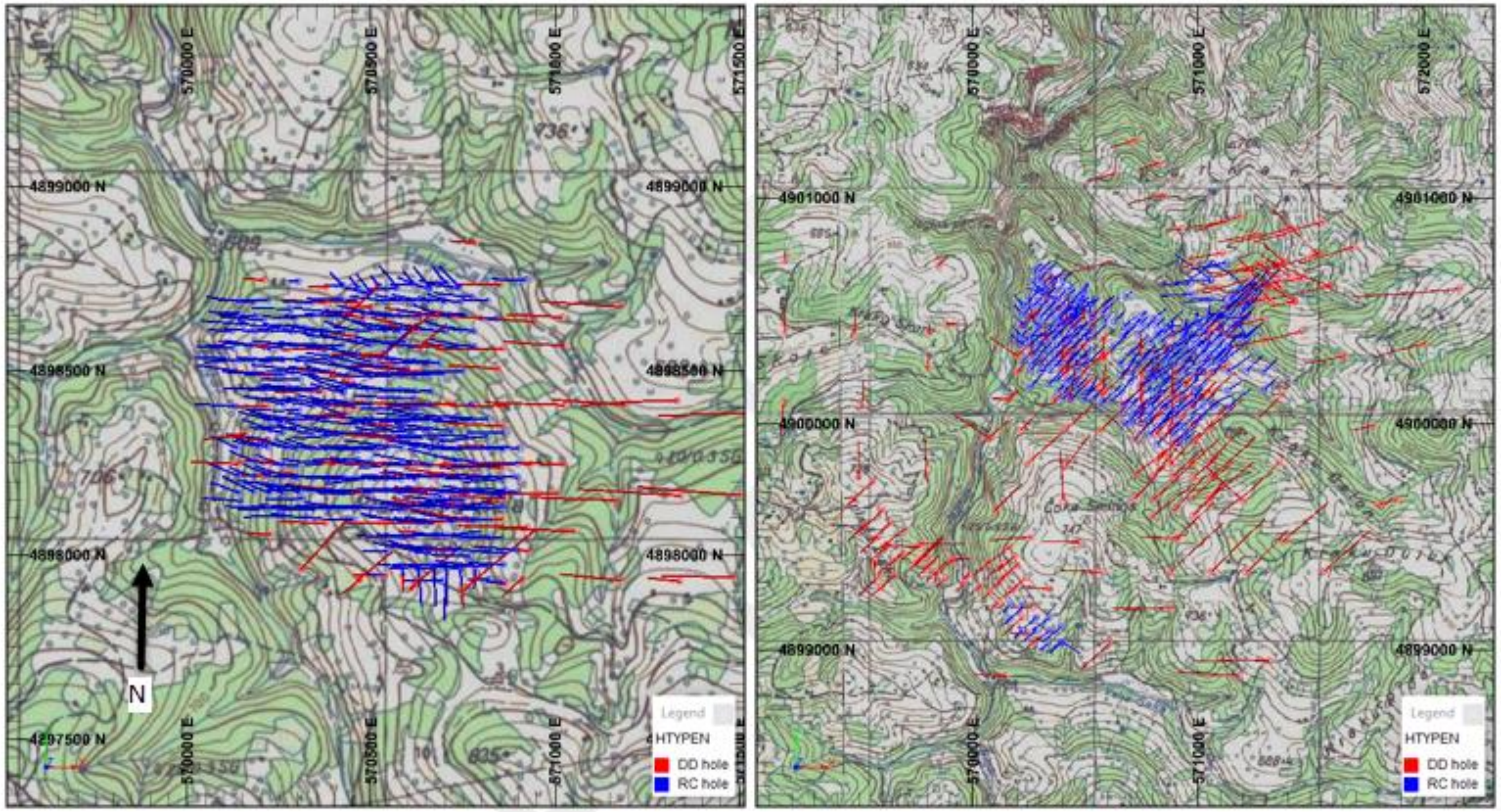


Figure 22: Drilling completed at Bigar Hill (left) and Korkan (including Korkan West) (right)

Source: CSA Global, 2018

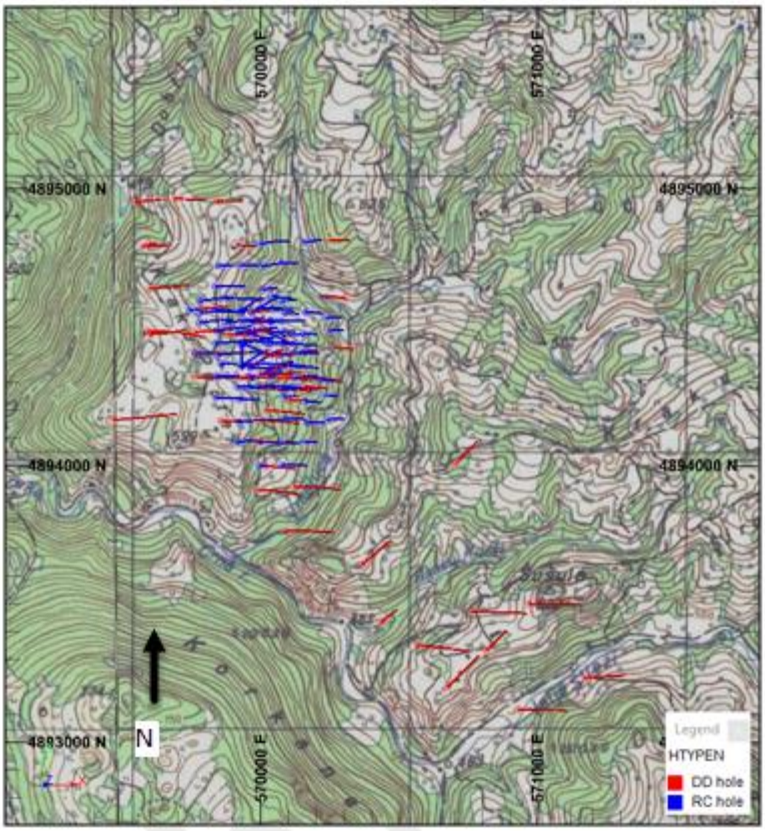


Figure 23: Drilling completed at Kraku Pester

Source: CSA Global, 2018

10.2 Methodology and Planning, Site Preparation, Setup and Rehabilitation

After testing exploration targets with a detailed trenching program, prospects were evaluated with two to three drilling campaign stages, as follows:

- First stage: Wide-spaced diamond drill-holes on a nominal grid spacing of 160 m x 160 m, with the objective of outlining the boundaries of the deposit.
- Second stage: Infill drilling, using RC drill-holes, at nominal 80 m x 80 m spacing. Diamond drilling is used to support RC holes by twinning about 15% of RC holes.
- Third stage: Delineation drilling, using RC drill-holes, at a nominal grid spacing of 40 m x 40 m.

Majority of drill-holes at the Bigar Hill project are orientated at an azimuth of 270° and inclined about approximately 60° to the west. In the case of Kraku Pester, drill-holes are mostly inclined at 60° to the east to intersect the gently west-dipping mineralisation. At Korkan and Korkan West, however, the orientation of the mineralisation is much more variable than at either Bigar Hill or Kraku Pester, and this is reflected in the greater range of drill-hole orientations. The central portion of the Korkan deposit is dominantly explored using holes inclined between 60° and 70° to the northeast while, towards the north, most of the drilling is inclined between 50° and 60° towards just south of west. A significant number of holes are aligned and inclined in a variety of angles outside of these two patterns.

10.3 Collar and Downhole Surveying

For diamond drilling, downhole surveys are carried out by drilling contractors at 30 m intervals. Typically, a Devi Tool digital multi-shot camera is used for diamond holes. RC holes are surveyed at intervals of about 48 m using a Globaltech Pathfinder S@W survey tool after the drill-hole has been completed and drill rods have been extracted. On a few occasions, an Eastman single-shot camera was used on both diamond and RC holes.

Survey results show that downhole deviations from the drill-hole collar azimuth and dip measurements are typically small.

10.4 Drill-Hole Logging and Data Acquisition

This subsection describes the methods and protocols used for RC and diamond core drilling.

10.4.1 Reverse Circulation Drilling

Avala staff and drilling contractors followed a comprehensive set of drilling quality control and safety procedures for all RC drilling programs. All RC drilling was conducted under constant supervision on-site by the Rig Geologist.

RC drilling was undertaken using down hole hammers with face sampling drill bits. All drilling and sampling were confined to dry downhole conditions. Predominantly 141 mm and, to lesser extent, 147 mm and 139 mm drill bits were used with a shroud annulus of 2 mm to 3 mm to enhance sample recovery. All collars were lined with a 6 m casing of PVC pipe.

To ensure sampling was under dry conditions, and to enhance sample recovery, two 1250 cfm compressors and an 870 psi booster are used at each drill site. Pressurised air blow-backs were routinely used after every metre of advance so that all the material within the drill stem was displaced into the sample bag prior to advancing to the next metre. At every rod change, compressed air blow-downs were used for cleaning the air system and for conditioning the hole before drilling resumed.

If drilling could not be continued under dry conditions, the drill-hole was abandoned for RC and re-entered to advance the hole using a diamond core drill. A dedicated compressed airline from the rig compressor was available at all times for cleaning of the cyclone and the sample splitter. All RC sample splits were collected daily by Avala staff from the drill rigs and transported to a secure core-shed facility in Bor where they were maintained under 24-hour security by Avala staff.

RC sample weights were monitored and recorded on data loggers in real time at the drill rig, and were cross-referenced against the drill rods, bit sizes and shroud sizes being used.

10.4.2 Diamond Drilling

Avala staff and drilling contractors followed a comprehensive set of drilling quality control and safety procedures for all diamond core drilling programs. Diamond drilling was carried out such that drill-holes were always started using PQ core and then reduced to HQ triple tube (HQ3) once competent rock had been intersected. The diamond drill core size was maintained at HQ3 for as long as possible. NQ2 core diameter was used to extend RC holes that had not reached target depth because of drilling difficulties.

Core was transferred directly from the core barrel into appropriately labelled aluminium core boxes to ensure that core was correctly placed, and no core was lost. Wooden core blocks were placed between runs, recording the length of the run and any core loss. Forced breaks made by the drillers were marked on the core with a red cross on both sides of the breaks. At the drill site, core was washed clean of surface mud or other drilling fluids. All core boxes were labelled with the drill-hole number, starting and ending depths for the core box, and box number.

Drill core orientation procedures were carried out at approximately 3 m intervals, and less in mineralised zones or areas of poor ground conditions. EzyMark, or occasionally spear-orientation equipment was used to mark the orientation of drill core.

Core boxes were collected by Avala staff at least once a day from the drilling rigs and transported to the Avala core storage facility in Bor on the same day. For transportation, core boxes lids were fitted by adhesive-coated fastening tape, and boxes were firmly secured with strapping in the transport vehicle.

Diamond drilling core recovery averaged 98%. The majority of drill core was HQ3 size, followed by PQ3 and a small proportion of NQ. Specialised drilling muds and polymers were used throughout the program to maximise core recovery and, in areas of poor core recovery, drill runs were reduced to less than 0.5 m.

10.5 Deposit Drilling

Diamond drilling and RC drilling form the basis of modelling and tonnage-grade estimation mineralisation at each of the Bigar Hill, Korkan (including Korkan West), and Kraku Pester deposits. Bigar Hill drilling comprises 89 (25,393 m) core drill-holes and 333 (71,287 m) RC drilling. 30 holes for 9,127 m comprised of RC pre-collars and diamond tails. Twenty-four drill-holes were twinned to confirm repeatability of drilling methods in identifying mineralisation. Korkan (including Korkan West) drilling comprises 228 (62,918 m) core drill-holes and 295 (49,804 m) RC holes, and 10 drill-holes for 3,210 m that comprised of RC pre-collars and diamond tails. This included 18 drill-holes which were twinned. Drill-hole collar locations for Bigar Hill and Korkan (including Korkan West) are shown in Figure 22.

Diamond core drilling and RC drilling data is the basis of the Mineral Resource evaluation for the Kraku Pester project. Drilling comprises 52 (12,625 m) cored and 94 (14,962 m) RC drill-holes. Seven drill-holes for 1,681 m comprised of RC pre-collars and diamond tails. Seven drill-holes were twinned to confirm repeatability of drilling methods in identifying mineralisation. Drill-hole collar locations for Kraku Pester are shown in Figure 23.

Drilling was generally perpendicular to the orebody to attempt to best intersect the true thickness. CSA Global has identified no drilling, sampling or recovery factors that could materially impact the accuracy and reliability of the results.

Representative examples of drill sections through the four mineral deposits are presented in Figure 24 to Figure 27.

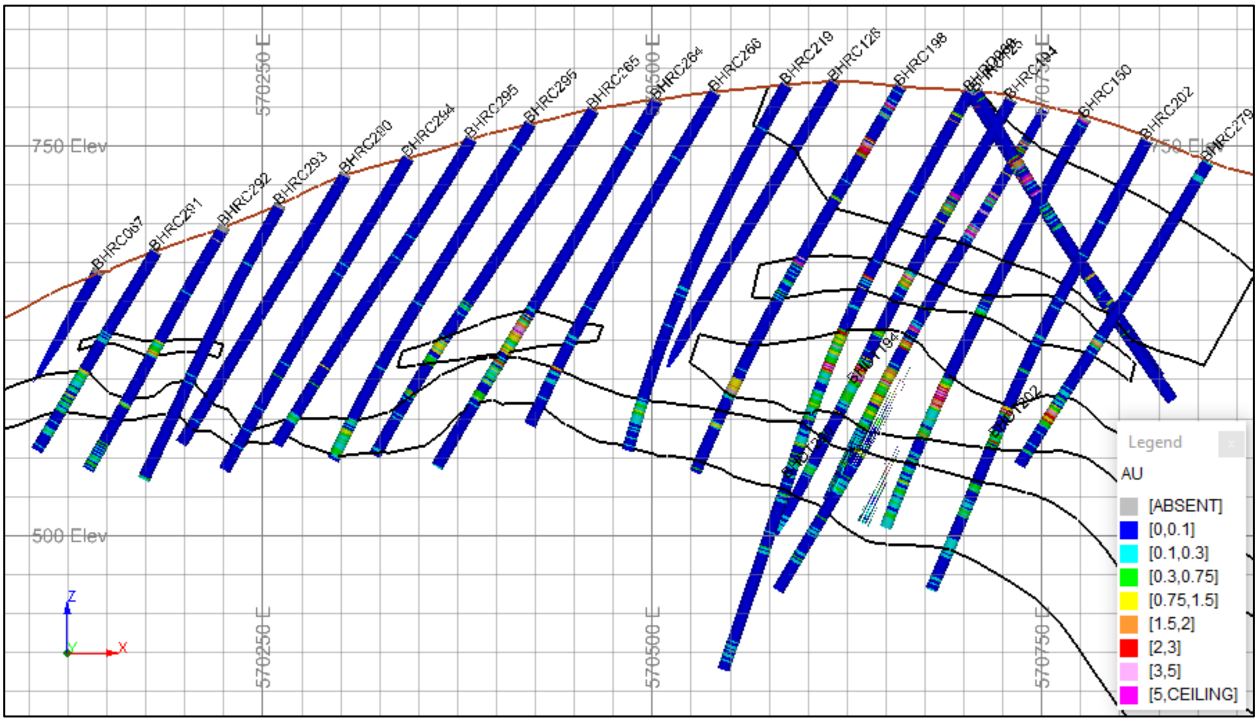


Figure 24: Cross section showing drilling and interpreted mineralisation at Bigar Hill

Source: CSA Global, 2018

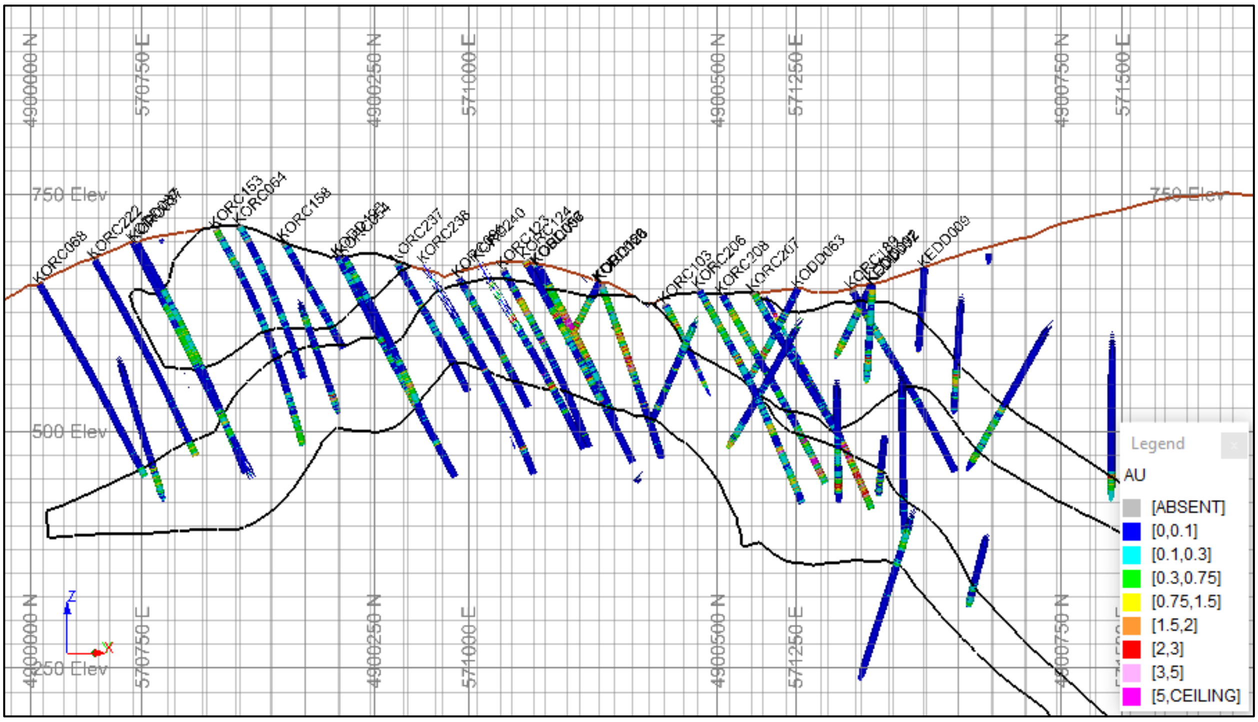


Figure 25: Cross section showing drilling and interpreted mineralisation at Korkan

Source: CSA Global, 2018

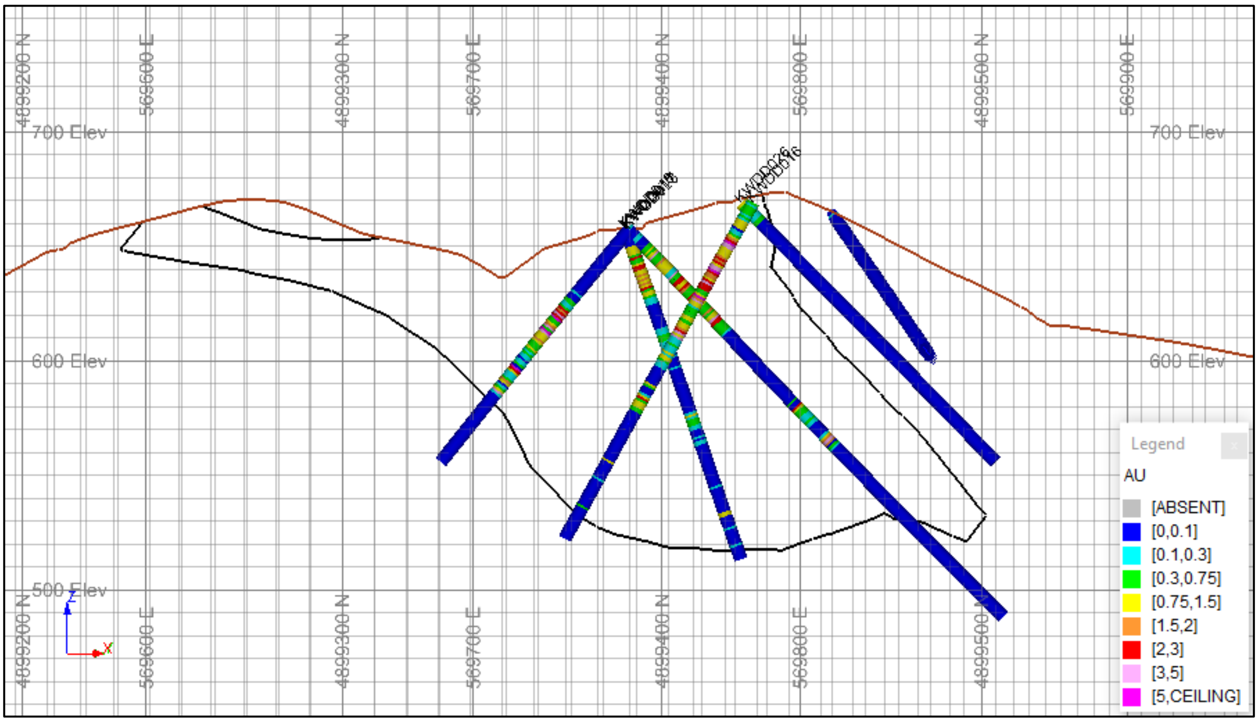


Figure 26: Cross section showing drilling and interpreted mineralisation at Korkan West

Source: CSA Global, 2018

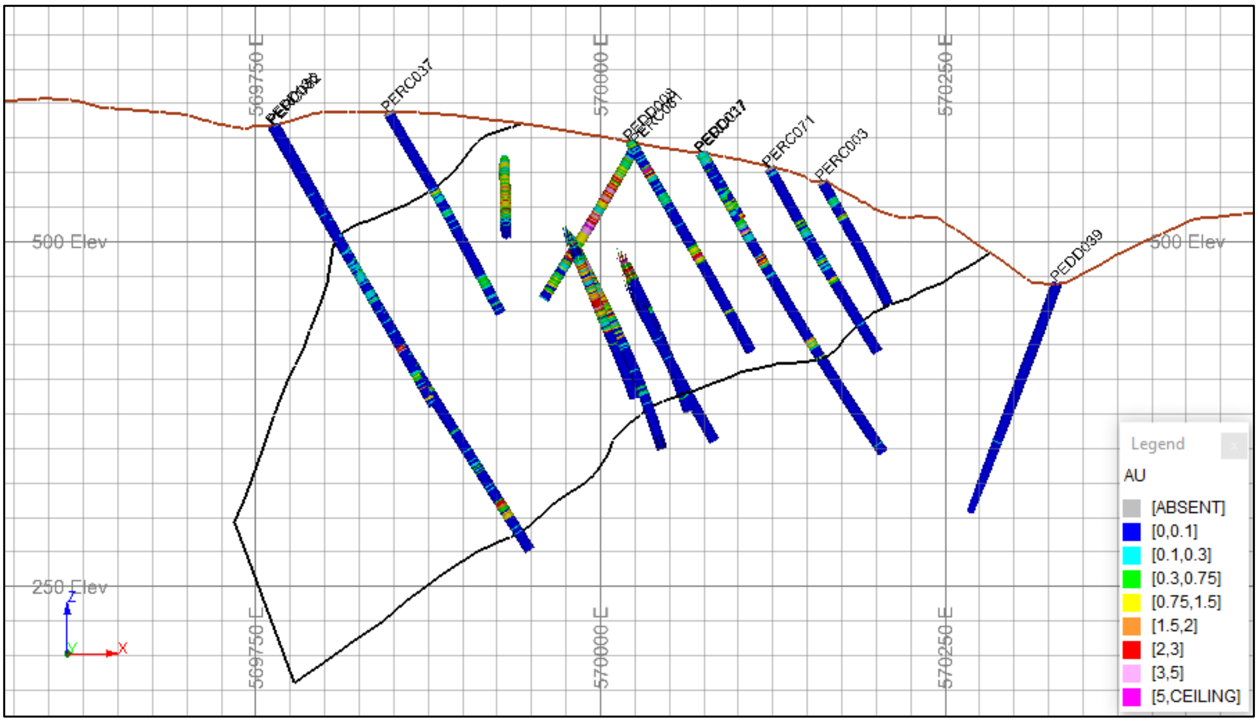


Figure 27: Cross section showing drilling and interpreted mineralisation at Kraku Pester

Source: CSA Global, 2018

11 Sample Preparation, Analyses and Security

This section of the report includes descriptions of sampling methods for different sampling types, sample preparation and analysis and descriptions of quality control procedures employed along with the results of the quality control sampling. Where information in the 2014 Technical Report remains current, it has been reproduced below. Where updates are relevant, they have been included. The authors of this technical report do not disclaim any responsibility for the content contained herein.

11.1 Sampling Method and Approach

Avala collected different types of samples including density, soil and trench samples and samples from reverse circulation and diamond core drilling. These samples are described below.

11.1.1 Dry Bulk Density Measurements

Bulk density measurements are restricted to diamond core only. Half-core samples of 20 cm to 30 cm are collected at an interval frequency of approximately every 3 m of all drilled core. These core lengths are submitted to the SGS sample preparation facility at Bor for determination using a wax-sealed core water immersion method. After measurements have been completed, the core was returned to Avala and replaced in the core boxes.

An external check of 188 bulk density measurements was performed by sending samples for retesting to the Evrotest-Control laboratory in Sofia, Bulgaria, which is certified for BS EN ISO 9001:2008.

11.1.2 Soil and Trench Samples

All soil samples are collected from pits excavated to the lower B soil horizon that, within the Project, generally occurs at a depth of 0.5 m to 1.0 m. Soil field duplicates are collected at frequency of 1 in 20. Blanks and low-level gold certified reference standards are inserted at the same frequency.

Trenches were completed under the supervision of exploration geologists. The dimensions of the trench are set out according to safety regulations, with a maximum depth of 2 m and a minimum width of 0.8 m. During excavation, the upper humus layer is separated from the underlying soil material so that it can be replaced and revegetated during rehabilitation.

Trenches were sampled as channels, with channel samples collected just above the trench floor at either 1 m or 2 m intervals. Except where extensive soil cover is encountered, trenches are sampled in their entirety. The samples were routinely weighed prior to final bagging to maintain an even sample size and to avoid sampling bias in harder rock types. An average channel sample weight of 3 kg/m was maintained. Field duplicate samples and certified standards were taken at a frequency of 1 in 20. As of Q1 2017, blanks were similarly inserted at a frequency of 1 in 20 samples. All data collected in the field is routinely entered into geology and structural geology spreadsheets using Field Marshal Software and later exported to an acQuire database.

Soil and channel samples are collected by Avala field staff and transported to the Avala core storage facility in Bor on the same day they are sampled.

11.1.3 Reverse Circulation Hole Samples

RC drilling samples have been routinely collected at 1 m intervals. Drill cuttings for each drilled metre are collected in a new plastic bag and marked with the drill-hole number and interval sampled. Each bag of cuttings is weighed at the drill site using electronic scales. Cutting weights are recorded using handheld data loggers for input into the acQuire database and are monitored during drilling for consistency using expected weights based on drilling equipment and rock types. Changes in the weight of cuttings are also monitored by evaluating the statistical variations of cutting weights for each drill-hole.

Routine sampling procedures require that the cyclone is cleaned at each rod change and after a wet sample. At every rod change, any material in the hole is cleared before the first new sample is collected. The riffle splitter is cleaned with compressed air and bottle brushes after each sample is split.

Drill cuttings are split using a Jones three-tier riffle splitter to provide a sample that will be submitted to a laboratory for analysis. A typical split sample weighs approximately 4 kg to 5 kg. RC field duplicates, pulp duplicates, and certified standard reference material are submitted at a frequency of 1 in 20 samples.

Blank samples consisting of un-mineralised quartz sand are submitted at a frequency of one for each drilling location at the start of the drill-hole sample sequence. Umpire samples are submitted at a frequency of 1 in 20 to either Genalysis/Intertek (accredited with the National Association of Testing Authorities, Australia), Perth, or ALS Chemex (accredited to the requirements of ISO/IEC 17025), Vancouver.

The average sample recovery is 88%, with an average 1 m sample bag weighing 38.1 kg.

Upon arrival at the Avala core shed in Bor, all RC samples are measured for magnetic susceptibility, using a handheld meter. A sample is washed, and the chips kept in a chip tray for reference.

11.1.4 Diamond Drill Core Hole Samples

All core is photographed dry and wet using a digital camera before logging commences. Core photos record the drill-hole number, box number, starting and ending depths, and date. Photo sets are integrated with the Avala acQuire drill-hole database.

Logging procedures are initiated with geotechnical logging, during which, rock quality designation (RQD), joint strength and roughness, rock strength classification, and detailed core recovery are recorded. Core with drilling orientation marks is aligned with adjacent core intervals so that an orientation line can be drawn more or less consistently over most of the drill core. Geological structures are measured on the basis of alpha, beta, and gamma angles relative to the orientation line. True orientations of features are determined using either a jig or by calculation. Geological logging is recorded using a digital logging form that provides an extensive geological description through a system of codes for lithology, alteration, veins, mineralisation, weathering, and vein descriptors.

After core logging has been completed, core is marked up for sampling at regular 1 m intervals corresponding to drilled depths. The 1 m sample intervals may be adjusted at key geological contacts or in sample intervals with significant core loss. These intervals must be less than 1.5 m and greater than 0.5 m long. Core is split along orientation lines using a diamond saw. Half the core is placed in a heavy cotton sample bag, together with a sample tag. Core samples weigh (on average) 3 kg to 4 kg. The remaining split core is replaced in the core box and retained at Avala’s core-shed facilities in Bor.

Core “field duplicates” are prepared by producing split samples after the jaw crushing stage of sample preparation, with each split being assigned a unique sample number. Pulp duplicates and certified standard reference material are submitted into the assay sequence at a frequency of 1 in 20 samples. Blank samples of un-mineralised quartz sand were submitted at one in every batch submitted to the analytical laboratory at the beginning of the batch sample sequence. The procedure was updated in 2017, wherein coarse blanks (rocks) are now used instead of sand and blanks are now inserted at a 1 in 20 frequency. Umpire samples are submitted, at a frequency of 1 in 20, to either Genalysis/Intertek (accredited with the National Association of Testing Authorities, Australia), Perth, or ALS Chemex (accredited to the requirements of ISO/IEC 17025), Vancouver.

11.1.5 Bottle Roll Testwork Program

A cyanide-gold leach bottle roll work program test was conducted in 2014 on 3,930 five metre composite samples taken from diamond and RC drill-holes from the Bigar Hill (1,810), Korkan (1,201) and Kraku Pester (919) prospects. The samples were ground to 85% passing 75 µm and subsequently 200 g subsamples were analysed by conventional fire assay ("Au-FA505-ppm") and then processed for agitated cyanide leach using tap water at ambient temperature for 4 hours using the SGS LeachWELL method.

The SGS LeachWELL is an accelerated partial digest technique designed to determine the cyanide extractable gold content of samples. The settled solutions were analysed for gold by AAS ("Au-leached-ppm", Au-LWL69J_ppm). The post-leach residues were washed, dried, re-ground and analysed by 25 g Fire Assay with AAS finish to determine the undissolved gold contents; each measurement was replicated ("Au-residue-avg-ppm", Au_FAA303_ppm and Au_FAA303R_ppm). The residue and solution assays were used to calculate the total gold content of the samples and a recovered percentage of gold leached by the cyanide solutions.

11.2 Sample Preparation and Analysis

Sample preparation for all samples (soil, trench, channel sample, RC and diamond core) is undertaken at SGS Bor (SGS) sample preparation facility in Bor. This facility is owned by Avala, but independently managed by SGS, such that the chain of custody is transferred from Avala to SGS at the laboratory door. The SGS facility is located adjacent to Avala's core shed facilities in Bor.

All submissions to the sample preparation facility are accompanied by sample submission forms with instructions for preparation methods, insertion-of-standards protocols, and analytical process codes. Once the samples are delivered to the SGS sample preparation facility, chain of custody records are maintained until reject sample pulps are returned to Avala's jurisdiction.

All samples submitted to the facility are initially dried at 105°C for a minimum of 12 hours.

Core, trench, and rock samples are then crushed to 4 mm, using jaw crushers. Crushing is checked by confirming that 85% of the crushed material can pass through a 4 mm sieve. Core "field duplicates" are produced by splitting crushed samples on a 1-in-20 basis at the jaw crusher output stage. Each field duplicate subsample is assigned its own identification number for the remainder of the assay procedure. All crushed sample material is then pulverised using LM5 pulverising mills (of which there is currently a bank of eight).

RC drilling samples are pulverised in their entirety using the LM5 pulverising mills.

A standard part of the SGS laboratory operating procedures is for 1 in 10 pulps to be wet-sieved using a motorised sieve bank in order to confirm that the sample passes a P90 of 75 µm. If a sample fails the test, the previous 10 samples are re-pulverised.

Pulverised material, from all types of sample, is split into 250 g and 600 g pulps, where the former is used for assay determination, and the latter is stored as part of the reference pulp library which is securely stored within the Avala sample office facility. An additional 250 g pulp duplicate is split from the pulverised material at a frequency of 1 in 13. The current practice was updated at the end of 2016, but the above is applicable to the resource samples discussed in this technical report.

Routine analysis of all samples is currently performed at the SGS analytical laboratory in Bor, or previously at the SGS analytical laboratory in Chelopech, Bulgaria. All laboratory methods, procedures, and QAQC protocols are consistent with standards adopted by SGS worldwide standards. Gold analysis methodology is conventional 50 g fire assay, with an atomic absorption finish. Silver and base metal analyses (copper, molybdenum, arsenic, bismuth, lead, antimony and zinc) are performed using a 0.3 g charge, aqua regia digestion, and atomic absorption analysis. Sulphur samples are analysed by combustion with an infrared finish. The Bor and Chelopech laboratories are not ISO 9002 or ISO 17025 accredited for the above analytical procedures. However, the procedures routinely used at both the SGS laboratories include the following established and standard specifications at all SGS laboratories worldwide:

- Cross-referencing of sample identifiers
- Use of compressed air gun and vacuum gun, along with routine barren quartz "washes", for cleaning of crushing and pulverising equipment
- Routine assaying of quartz washes
- Assaying of SGS-submitted certified standards at a rate of two per batch of 40 original samples
- A minimum of 10% of submitted samples are subject to repeat analysis.

Second splits generated by the SGS CCLAS system are produced at a rate of 1 in 13 and represent a second sub-sample taken from the LM5 pulverised pulp.

All soil samples were assayed by ALS Chemex in Perth and SGS Vancouver, using methods Au-TL43 (gold by aqua regia digestion with ICP-MS and ME-MS41 (combined ICP-MS and ICP-AES dependent on concentration). Elements assayed for are silver, aluminium, arsenic, boron, barium, beryllium, bismuth, calcium, cadmium, cerium, cobalt, chromium, caesium, copper, iron, gallium, germanium, hafnium, mercury, indium, potassium, lanthanum, lithium, magnesium, manganese, molybdenum, sodium, niobium, nickel, phosphorous, lead, rubidium, rhenium, sulphur, antimony, scandium, selenium, tin, strontium, tantalum, terbium, thorium, titanium, thallium, uranium, vanadium, tungsten, yttrium, zinc and zirconium. The ALS Chemex laboratory in Perth is certified to ISO 9002, but is not ISO 17025 accredited for this technique.

An ICP-MS machine has recently been installed and brought online at the SGS Bor laboratory where relevant samples are analysed for 49 elements

Umpire pulp aliquots, sent to two external accredited labs, are assayed for gold by 50 g fire assay, with an atomic absorption finish. Silver is analysed using a 0.3 g charge, aqua regia digestion, and atomic absorption analysis. Sulphur is analysed by combustion furnace.

Pulp aliquots for dispatch to other laboratories (abroad) are packed in boxes which are plastic-wrapped or taped-shut for transport in sealed containers. The sealed sample boxes, accompanied by chain-of-custody documents, are transported door-to-door by an international courier delivery company.

Reject pulps, returned to Avala jurisdiction, are stored in an enclosed "pulp library", with access through secure key card only.

11.3 Avala Assay QAQC Procedures

Avala performs routine checks on every laboratory submission upon import to the drill-hole database, using acQuire QAQC tools. These checks are initially undertaken on receipt of the assay results, in order to determine if the submission has passed the Avala control test. If the submission fails, it is re-assayed. On a monthly basis, the QAQC data in general is assessed using custom acQuire tools to identify any quality control issues or trends, so they can be acted on in a timely manner. Failures in quality control samples can be immediately discussed with the analytical laboratory and, if needed, batches can be rapidly resubmitted.

Avala routinely inserts internationally-certified standards, covering a wide grade range, along with blanks, into the sample submission stream. The samples are in standard pulp packets, but the recommended values of the samples are unknown to the SGS laboratories. The standards and blanks are inserted at a rate of 1 in 20 samples. In addition, Avala has produced, as part of the sample sequence, RC field duplicates, which are also unknown to the SGS laboratory. Coarse crush duplicates have been produced from the diamond core samples by SGS and included for analysis.

Avala considers certified reference material that assays 10% outside of the expected value for gold, or 15% outside of the base metal expected values to be a failure and will require the laboratory to re-assay 10 samples prior to, and 10 samples following the failed quality control assay. This instruction includes the submission of standard reference material control samples. If more than two standards have failed in a submission, the entire submission will be required to be re-assayed. If a failed standard is amid a sequence of results below the detection limit, it is up to the geologist assessing the data to determine if re-assay is required.

As part of the Avala's standard QAQC program, 6,417 umpire samples from the Bigar Hill, Korkan, and Kraku Pester deposits drilling programs were submitted to ALS Chemex in Vancouver BC, and 6,445 samples were submitted to Genalysis/Intertek in Perth for gold analysis. The results of these quality control checks indicated no biases between the umpire laboratories and gold assays from SGS Bor.

Duplicate data from the Project, submitted to the SGS Bor laboratory, were analysed using HARD, HRD, Thompson Howarth, scatter and quantile-quantile (Q-Q) plots. The results indicate no bias, along with a high repeatability or precision for duplicate quality control data, showing a decrease in variance due to increased sample homogeneity.

11.4 Conclusions and Recommendations

CSA Global did not have an opportunity to review any drilling or sampling as this had already been completed, but procedures were reviewed, and discussions held with DPM geologists and the SGS laboratory manager regarding past and current practices. CSA Global concludes that the sample preparation, security, and analytical procedures are robust and industry best practice.

The Avala QAQC procedures are comprehensive and should be suitable to monitor assay contamination, accuracy and precision. CSA Global notes that the failure limits used for the standards should be adequate, although it is more common to use the standard deviations to obtain acceptable limits. Any standard result that varies from the expected value by more than three standard deviations, or any two consecutive standards differing more than two standard deviations would constitute a failure. CSA Global concurs with the conclusions above that no significant bias between labs was observed in the gold external check samples.

12 Data Verification

12.1 Data Verification Completed by CSA Global

12.1.1 Collar Locations

On Tuesday, 28 February 2017, GPS coordinates from six collar locations were collected at Bigar Hill. Weather conditions were such that most of Bigar Hill and all of Korkan and Kraku Pester were inaccessible due to accumulation of winter snow, and drifts on the roads which made them impassable by four-wheel drive.

In most cases, the collar cap and steel tag were missing, and it was not possible to identify the drill-hole name. In those cases, the drill-hole name was inferred from drill-hole plans. In two examples, the cap and steel tag remained intact. In addition, many holes have been rehabilitated, since most drilling was completed in 2012/2013.

It was confirmed that the checked drill-hole collars matched the recorded coordinates, and drill-hole plan within an acceptable tolerance, accounting for resolution differences between handheld GPS devices and surveyed collar locations.

12.1.2 Source Data Verification

DPM maintain comprehensive hard copy records with a file for each drill-hole or trench. These files include the following documents:

- Drill site establishment sheet
- Geology log sheet printout
- DH survey records
- Drill plods
- Chain of custody (drill rig to core yard)
- Sample submission sheet/s (Fire Assay and Sulphur, Bulk Density, Multi Element composites)
- Collar survey
- Drill site rehabilitation sheets.

Eight drill-holes (three from Bigar Hill, three from Korkan and two from Kraku Pester) were randomly selected and the database data checked against the hard copy files. Collar coordinates, DH survey records and lithology records were compared, and no issues were noted.

Files are maintained for all assay submission batches which contain copies of the assay submission sheets as well as printouts of the assay results, QAQC report and QAQC graphs. These were reviewed for the eight drill-holes above, and no issues were noted.

Database gold assay results were compared against the laboratory supplied files for 11 drill-holes containing significant grade. No issues were noted in this comparison.

CSA Global comments that the source data appears to have been accurately captured in the database and that therefore the database should be able to confidently be used in downstream work.

12.1.3 Database Validation

To ensure that the data were validated, the CSV files provided were imported into a SQL (Structured Query Language) relational database, which is an industry best practice standard for exploration project databases. The database schema used is the Maxwell DataShed model; which contains validation constraints and triggers, ensuring that data loaded meets the following validation rules:

- Data is captured in the correct format:
  - Real number: This is a number such as a drill-hole depth, coordinate, etc. In some cases, there can be a constraint on a number (e.g. a number which is a percent should be ≤100).
  - Date: Set format such as dd/mm/yyyy.
  - Text: Usually a comment.
  - Library field: A library field (lookup) has a predetermined list of values and only these values can be entered into that field (e.g. lithotype codes or responsible person). This ensures that there is consistency in the database (e.g. a quartz vein is always captured as "Qv" not as Q-V, Qtz V, etc).
- Collar table: Incorrect coordinates (not within known range), unique hole IDs per dataset. Data can only be merged into the database if the drill-hole has been entered into the collar table.
- Survey table: Duplicate entries, survey intervals past the specified maximum depth in the collar table, overlapping intervals and anomalous dips and azimuths are not merged until corrected.
- Geotechnical tables: Core recoveries and RQDs greater less than 0% or greater than 110% (Recovery) or 100% (RQD), overlapping intervals, negative widths, geotechnical results past the specified maximum depth in the collar table are not merged until corrected.
- Geology table: Duplicate entries, lithological intervals past the specified maximum depth in the collar table, overlapping intervals and negative widths are not merged until corrected. Standardised logging codes are required.
- Sampling table: Duplicate entries, sampling intervals past the specified maximum depth in the collar table, negative widths, overlapping intervals, sampling widths exceeding tolerance levels, missing intervals and duplicated sample IDs are not merged until corrected.
- Assay table: Missing samples (assay results received, but no samples in database) are imported into an incoming assay table, assay metadata such as detection limits, methods, etc. are captured where possible.

CSA Global notes that minor interval issues were observed and corrected, but none were deemed to materially affect the integrity of the dataset.

12.1.4 Core Inspection

Sections of mineralised core from three holes were inspected – one from each deposit – PEDD010, BHDD044 and KODD085. The contacts between stratigraphic units was observed and cross-referenced against assay results and geological logging.

It was observed that the core has deteriorated following cutting, being friable and incompetent. However, core photos and recovery data confirm that this is as a result of aging and cutting and is not a reflection of condition when drilled.

12.1.5 QAQC Review

QAQC reports were produced for three project areas; namely Bigar Hill (BH), Korkan (KO) and Kraku Pester (KP) for the CSA Global 2017 NI 43-101 report. QAQC was reviewed globally (in other words, quality control results were not broken down by laboratory, but instead by project area) for the elements of interest which were predominantly Au and Ag with some S and Cu. Results of the 2017/2018 Au and S quality control samples were reviewed separately for each sample type and added to the 2017 NI 43-101 Report results below.

Contamination is monitored with coarse blanks, assay accuracy by inserting standard samples with known concentrations of the relevant elements and precision by comparison of various duplicate sample analyses.

Cross Contamination

Two blanks were used prior to the 2017/18 drilling; a non-certified coarse blank (BLANK_BOR) and a certified pulp blank (GREY BLANK). No issues were observed with the results of the blank analysis for Au and Ag. Failures were noted in the Grey Blank results for S and it appears that some of these failures could be due to mislabelling/misidentification of standards and blanks. No Cu blank results were available. 2018 blank results did not indicate any signs of Au or S contamination.

CSA Global notes that no sample contamination was observed in the assay of the Ag and Au samples, but some potential contamination was noted in the S samples. 2018 drill samples had no indications of Au or S contamination.

Assay Accuracy

Geostat's certified reference material (CRM) have been used throughout the drilling campaigns. DPM standards with a prefix of Mo were included with the primary samples prior to 2017 and CRM with the prefix TGP were included with the 2017/2018 drilling. Failures were observed in the pre-2017 results, which in some instances are probably due to misidentification of blanks and CRM. Minor failures were noted in the 2017/2018 CRM results (apart from TGP001 – S results which had a 100% failure rate). Figure 28 below is a plot of the results of gold CRM G308-8, showing two outliers which are probably mislabelled/ misidentified quality control samples. The first failure is probably meant to be G905-7 (expected value 3.92 ppm Au) and the second should probably be a blank.

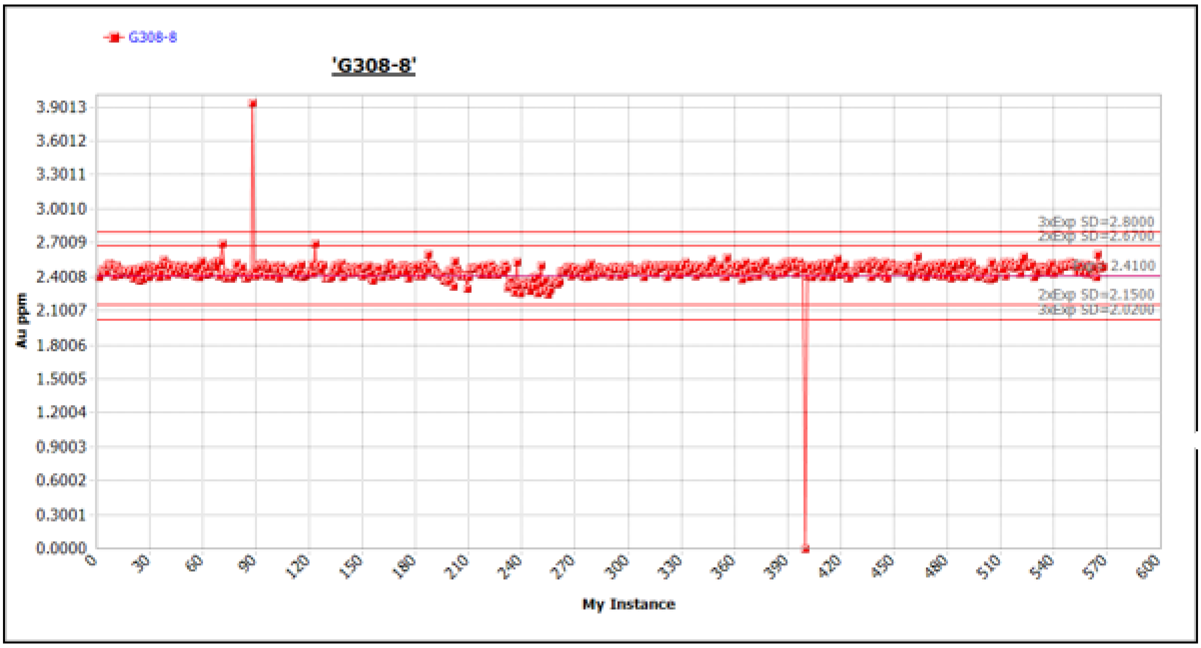


Figure 28: Results of Geostats gold CRM G308-8 showing failures

Source: CSA Global, 2018

Once the apparent misidentified samples are filtered out, there are no significant issues with the gold standard results (i.e. no significant or systematic bias and no failures noted).

Failures and bias were noted in the pre-2017 Ag standard results. Table 7 below lists the results of the silver standard analyses per project area. Absolute biases ≥5% are highlighted in red with most standard results under reporting relative to the expected value. Low grade standards, which include the Mo series, perform worse than the higher grade Geostats standards.

Table 7: Ag standard results (absolute bias ≥5% in red) – pre-2017 samples

Standard code	Exp. value	BH				KO				KP			
		Samples (count)	Mean Ag	CV	Mean bias	Samples (count)	Mean Ag	CV	Mean bias	Samples (count)	Mean Ag	CV	Mean bias
GBM303-8	7.00	457	6.54	0.08	-7%	100	6.67	0.07	-5%				
GBM307-3	0.60	425	0.53	0.73	-11%	107	0.61	1.28	2%				
GBM309-4	42.30	466	41.56	0.06	-2%	109	42.92	0.07	1%				
GBM311-11	19.60	13	18.63	0.04	-5%	20	17.83	0.22	-9%				
GBM398-4	48.70	421	47.16	0.05	-3%	105	46.56	0.11	-4%				
GBM907-6	26.80	467	26.85	0.04	0%	101	26.47	0.05	-1%				
GBM909-11	25.50	18	24.56	0.06	-4%	13	23.60	0.10	-7%				
GBM909-13	127.30	13	125.38	0.05	-2%	16	132.38	0.05	4%				
GBM910-13	1.90	14	1.57	0.33	-17%	14	1.36	0.34	-28%				
Mo1	0.39	62	0.37	0.28	-4%					10	0.27	0.45	-31%
Mo2	0.85	69	0.91	0.40	7%					7	0.76	0.75	-11%
Mo3	2.34	80	2.21	0.18	-6%					7	2.36	0.34	1%
Mo4	1.12	63	1.05	0.28	-7%					7	0.95	0.09	-15%
Mo5	3.91	71	3.55	0.09	-9%					12	3.15	0.18	-20%
GBMS304-3	1.50									9	1.10	0.54	-27%
GBMS304-5	0.80									6	0.60	0.78	-25%

Geostats S standards generally show acceptable accuracy, but the Mo series all fail. Expected values could be incorrect as failures are by orders of magnitude.

CSA Global notes that once the apparent mislabelled or misidentified standards have been filtered out, Au standard assay results have acceptable accuracy, as do the higher-grade Ag samples and the Geostats S standards.

Precision

Precision error can be estimated by measuring the precision error at each stage of the sampling and assay process. Field duplicates contain all sources of error (sampling error, sample reduction error and analytical error), Laboratory duplicates contain sample reduction error and analytical error, pulp duplicates contain analytical error only.

Table 8: Duplicate types

Duplicate type	Description	Detail description
FIELDDUP	Field duplicate (sampling stage)	Sampling stage duplicate
LABDUP	Laboratory duplicate (crushing stage)	Crushing stage duplicate
LABREP	Laboratory repeat (instrument stage)	Instrumental stage duplicate
LABSPLIT	Laboratory split (pulverising stage)	Pulverising stage duplicate
UMPIRE	External laboratory check	Blind pulp duplicate

The data were assessed using coefficients of variation (CV = std dev/average – also known as relative standard deviation) calculated from individual duplicate pairs and averaged using the RMS (root mean squared) approach. This approach is recommended by Stanley and Lawie (2007) and Abzalov (2008) as a way of defining a fundamental measure of data precision using duplicate paired data.

Precision errors (CV_{AVR}(%)) were calculated for duplicates with mean values ≥10 times the analytical detection limit and compared to acceptable limits. Acceptable and best practice limits are obtained from

Abzalov's 2008 paper, "Quality Control of Assay Data: A Review of Procedures for Measuring and Monitoring Precision and Accuracy". Scatterplots, relative difference plots and Q-Q plots were produced.

CSA Global reviewed the precision results for Au and S for the 2017/2018 drilling and results are discussed below:

Table 9: Gold duplicate precision errors (with acceptable limits) – 2017/2018 samples

Duplicate type	CV(AVR(%)) best practice	CV(AVR(%)) acceptable practice	Precision			Bias		
			Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Mean Au Orig (ppm)	Mean Au Dup (ppm)	Bias
Field Dup	20	30	455	55	14	1.41	1.44	2%
LabDup	10	20	34	7	5	0.95	0.97	1%
LabSplit	10	20	184	25	4	1.53	1.55	2%
LabRep	10	20	160	20	5	1.28	1.29	1%

Table 10: S duplicate precision errors – 2017/2018 samples

Duplicate type	Precision			Bias		
	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Mean S Orig (%)	Mean S Dup (%)	Bias
Field Dup	455	55	14	1.41	1.44	2%
LabRep	184	25	4	1.53	1.55	2%
LabSplit	160	20	5	1.28	1.29	1%

Results of the duplicate pair comparisons are summarised below:

- Au pairs have good precision (within best practice limits) and no significant bias (2% bias to field duplicates)
- S pairs are precise with no significant bias.

Results for the pre-2017 drilling are listed in the tables below.

Table 11: Gold duplicate precision errors (with acceptable limits) – pre-2017 samples

Duplicate type	CV(AVR(%)) best practice	CV(AVR(%)) acceptable practice	BH			KO			KP		
			Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %
Field Dup	20	30	3,477	805	33	2,366	580	30	848	223	39
LabDup	10	20	4,400	891	21	4,612	809	16	1,273	287	14
LabSplit	10	20	5,014	1,037	6	5,157	899	5	1,452	336	5
LabRep	10	20	8,290	1,990	6	8,814	1,617	5	2,370	526	5
Umpire	10	20	4,734	4,612	18	0			2,147	1,910	16

Results of the gold duplicate pair comparison are summarised below:

- Field duplicate pairs have CV(AVR)% from 30% (Korkan) to 39% (Kraku Pester) which exceeds the acceptable limit of 30% (Abzalov, 2008) for coarse to medium grained gold, but is within the 40% limit for nuggety gold indicating that pairs have acceptable repeatability
- External checks show no bias
- Lab dups have an acceptable precision error
- Lab replicates and lab splits show excellent repeatability with average CV within best practice limits.

Table 12: Silver duplicate precision errors) – pre-2017 samples

Duplicate type	BH			KO			KP		
	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %
Field Dup	1,323	5	10	0			103	0	
LabDup	2,173	11	19	524	5	3	117	0	
LabSplit	2,602	13	1	604	3	3	108	1	
LabRep	4,934	40	2	1,325	6	19	218	1	
Umpire	1,061	156	22	0			151	0	

Results of the silver duplicate pair comparison are summarised below:

- In most cases, the sample size is too small to make any definitive conclusions
- Precision and repeatability acceptable for lab split and lab replicates
- External checks have bias to duplicates (19% for Bigar Hill) and poorer repeatability.

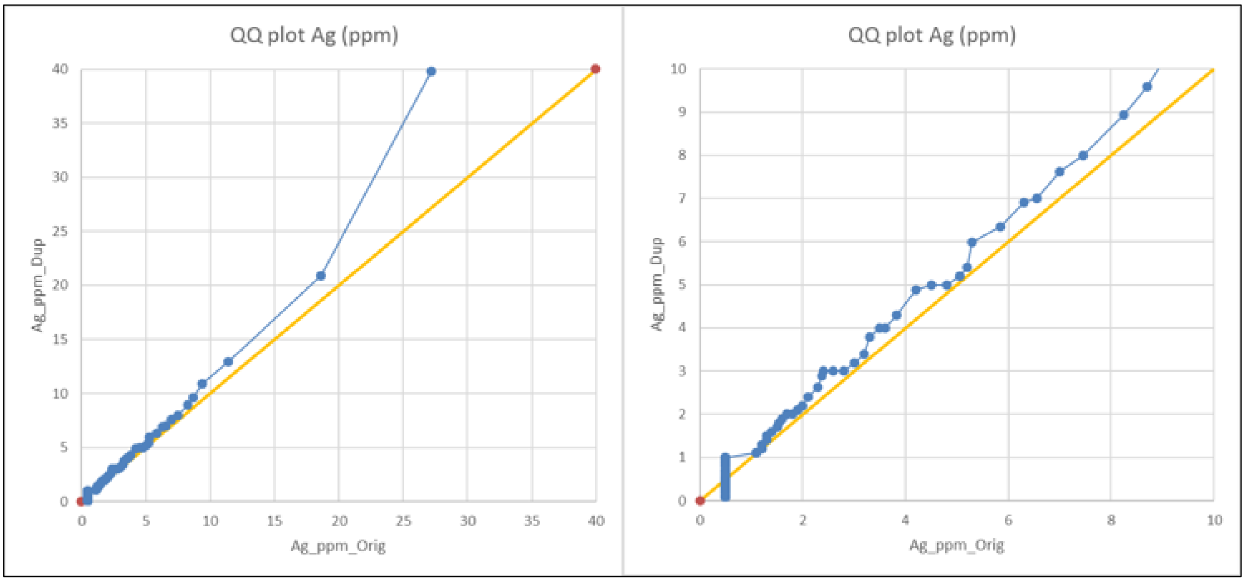


Figure 29: Q-Q plot for silver external check assays (umpires) showing bias to duplicate sample) – pre-2017 samples

Source: CSA Global

Table 13: Sulphur duplicate precision errors) – pre-2017 samples

Duplicate type	BH			KO			KP		
	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %
Field Dup	1,490	392	26	1,384	457	22	363	176	21
LabDup	2,471	546	11	3,562	956	9	708	392	12
LabSplit	2,940	571	2	3,999	1,088	2	792	428	4
LabRep	5,525	1,136	2	7,903	2,154	2	1,557	859	6
Umpire	1,060	559	18	0			950	720	18

Results of the sulphur duplicate pair comparison are summarised below:

- Acceptable precision and no significant bias for duplicates.

Table 14: Copper duplicate precision errors) – pre-2017 samples

Duplicate type	BH			KO			KP		
	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %	Pairs (total)	Count of pairs (>10 x DL)	CV(AVR) %
Field Dup	0			0			103	95	15
LabDup	12	4	12	0			117	105	8
LabSplit	16	6	4	0			108	97	3
LabRep	31	13	10	0			217	194	3
Umpire	0			0			198	174	13

Results of the copper duplicate pair comparison are summarised below:

- In the Bigar Hill and Korkan datasets, the sample size is too small to make any definitive conclusions
- Acceptable precision and no significant bias for Kraku Pester duplicates
- Kraku Pester external duplicates have a 4.5% bias to the duplicate samples (mean grade 80.2 ppm vs. 83.8 ppm Cu).

CSA Global notes that the precision errors measured for all the Au and S pairs indicate an acceptable repeatability with no significant bias noted. Ag pairs were mostly too low grade to accurately measure precision error, but the Bigar Hill external duplicates were biased towards the check laboratory. Only Kraku Pester had sufficient Cu pairs to analyse and these showed acceptable repeatability. However, there was a 4.5% bias to the external check laboratory in the external check comparison.

Conclusions and Recommendations

CSA Global considers that the gold assay results provided should accurately represent the underlying samples and therefore can confidently be used in Mineral Resource estimation. Due to sporadic failures or biases, Ag, S and Cu assay results provide less confidence and a greater degree of caution is required if these values were to be used for MREs. However, only Au results are material to this report.

CSA Global recommends ongoing vigilance to ensure that standards and blanks are correctly identified and labelled.

12.1.6 Inspection of Procedures

DPM and Avala have used the standard DPM procedures (Red, Blue, Green and Orange Books) since 2007, updated with some additional RC and trenching procedures in 2010 and 2011 respectively. These procedures are comprehensive and should ensure that best practices are maintained.

Discussions were held with DPM's Exploration Manager (Justin van der Toorn), Senior Geologist (Dragana Davidovic) and Regional Geologist (Mladen Zdravkovic) and it was apparent that these procedures have been applied to the exploration activities completed to date.

12.1.7 Twinned Hole Review

Avala completed a twinned hole program to compare DD drilling with RC to ensure RC was representative for use in closer spaced infill drill programs. CSA Global reviewed comparison work on this dataset completed by AMC, as well as completed additional review of twin holes.

The CSA Global review focused on twin holes intersecting the modelled mineralisation solids. Of these, there are 30 holes twinned at Bigar Hill, 20 holes twinned at Korkan, and seven holes twinned at Kraku Pester. None were twinned at Korkan West.

CSA Global notes that broadly, the twinned hole grade comparisons show the same mineralisation trends. While there can be significant local variability, particularly in higher-grade portions at Bigar Hill, this is more likely to be attributed to short-scale grade variability than any bias identified in drilling or sampling methods. CSA Global concludes that assays derived from RC and DD drilling can be combined for use in the grade estimation.

12.1.8 Laboratory Audit

An audit of the onsite, Société Générale de Surveillance (SGS) managed preparation and analytical laboratory was undertaken on the 1 March 2017. The laboratory is managed by SGS and processes DPM samples as well as samples from other clients. In 2016, the breakdown was approximately 70% DPM, 30% other (pers. comm., George Daher, SGS laboratory manager). The laboratory is not independently accredited but operates under the SGS company accreditation and uses SGS accredited methods.

SGS Bor takes part in the six monthly Geostats round robin as well as in the monthly SGS round robin.

The sample preparation, fire assay and sulphur analytical sections were not in use when CSA Global visited the laboratory, but samples were being analysed for a multi element suite using the ICP-MS machine.

The laboratory was clean with no indication of contamination, well laid out and no significant issues were noted.

12.2 Conclusions

Subject to the limitations listed below and based on the outcomes of the above data verification undertaken, as well as discussions with DPM geologists and the SGS laboratory manager; CSA Global considers the drill-hole database for the Bigar Hill, Korkan and Kraku Pester projects to be sufficiently reliable for Mineral Resource estimation and associated downstream work.

Limitations to the data verification completed include:

- Many of the drill pads have already been rehabilitated and these could not be verified. Due to snow on the ground, the Korkan and Kraku Pester project areas could not be accessed by CSA Global and no verification of collar positions could be undertaken in these areas.
- No current drilling or trenching was being undertaken at the time of the site visit and therefore no physical check of these work practices was possible by CSA Global, which meant review of these were restricted to discussions with site personnel and procedures. These are sound and robust.
- The DPM database manager was on leave when CSA Global was on site, so no direct observation of data management practices was possible. Procedures were reviewed, and discussions held with the DPM exploration manager and DPM geologists regarding data management.

13 Mineral Processing and Metallurgical Testing

13.1 Metallurgical Testing Summary

Metallurgical testing has focused on supporting the development of the Timok Gold Project as a heap leach operation for processing weathered and transitional ore types from the various deposits. Testing to date has focused on gold recovery at coarse particle sizes. Metallurgical testing was initiated in 2017 using samples from existing exploration diamond drill-holes.

Coarse sample bottle roll and column leach tests were conducted in 2018 at SGS Lakefield (SGS) on composite samples representing the oxide and transitional mineralisation types from the Korkan deposit, and oxide zones from Bigar Hill and Korkan West deposits. Results from coarse sample bottle roll and column leach tests were mainly used in deriving metallurgical recoveries for use in the updated Mineral Resource Estimate for the oxide and transitional ore zones.

Results of the coarse bottle roll leach tests indicated gold leach extractions ranging from 53% for the Korkan transitional ore to 94% for the Bigar Hill oxide ore, after 14 days of leaching, and at a crush size of 100% -16 mm. Leach curves indicated that gold leaching was still ongoing after 14 days of leaching when the tests were terminated.

Column leach tests carried out at the optimal crush size of 80% - 12.5 mm exhibited fast leach kinetics except for the Korkan transitional ore, where leaching was still ongoing of 63 days when the tests were terminated. Lime consumption is moderate and cyanide consumption is low for all ore types.

The projected gold recovery, reagent consumption, leach time and crush size based on the column leach testwork results are summarised in Table 15 below.

Table 15: Column leach testwork results

Sample ID	Crush size mm (P_{80})	Leach (days)	Calculated head (Au g/t)	Extracted grade (Au g/t)	Leach recovery (Au %)	Reagent consumption (kg/t)	
						Cyanide	Lime
Korkan Oxide	-12.5	63	1.54	1.46	94.8	0.21	0.88
Korkan Transitional			1.96	1.34	67.9	0.36	0.90
Bigar Hill			2.01	1.90	94.2	0.36	1.21
Korkan West Oxide			1.14	0.87	75.5	0.30	0.99

Note: Gold leach recoveries have not been downgraded to consider losses resulting from short-circuiting and on the side of the heaps or adjusted to consider CIC and slag metal losses.

Size-by-size analysis of the column leach test feed and tails samples shows gold evenly distributed among the size classes, roughly following the mass splits. Some of the metallurgical samples showed low gold recovery in the coarse size fractions; +19.0 mm.

There was generally good correlation between gold extraction obtained from the coarse bottle roll leach and column leach tests apart from the Korkan transitional ore which was still leaching in both tests.

Results of the testing program indicate that oxide and transitional ore samples from the Timok Gold Project are amenable to heap leach processing. Leach rates are relatively fast with high gold recovery for the Korkan and Korkan West oxide ore, and moderate gold recovery for the Korkan transitional, and Korkan West oxide ore zones.

Size-by-size analysis would tend to indicate that some of the ores could benefit from a finer crush size.

13.2 Sample Selection and Representivity

A series of metallurgical twin-holes were completed during December 2017 in order to collect fresh material for testwork. Figure 30 shows the location of the drill-holes from which the sample intervals were selected to prepare the master composites representing the various oxide and transitional mineralisation zones. Details of the metallurgical drill-holes are shown in Table 16.

The sample composites targeted mineralisation within the S1 stratigraphic horizon, which is the dominant host of mineralisation at Timok. Samples were selected based upon logged weathering style, visual estimates of the percentage of oxidation and review of the sulphur assay data. All sample composites are located within conceptual pit shells, used to constrain the Mineral Resource Estimates that are the subject of this report.

In total, four composites were collected:

- Met18_KO_01 – Korkan Oxide:
  - Oxidised, sedimentary breccia-conglomerate with quartz and limestone pebble fragments within a sandy matrix. Taken from the S1 unit from within the Korkan deposit
- Met18_KO_02 – Korkan Transitional:
  - Transitional S1 unit material from the Korkan deposit, comprised of alternating zones oxide and sulphide mineralisation, of equal proportions. The rock type is comprised of a sedimentary breccia-conglomerate with quartz and limestone pebble fragments within a sandy, or to a lesser extent mudstone matrix.
- Met18_BH_01 – Bigar Hill Oxide:
  - Oxidised S1/S2 horizon material from the Bigar Hill deposit. Coarse to medium grained sandstone with interbedded mudstone laminas within S1 fraction of the sample.
- Met18_KW_01 – Korkan West Oxide:
  - Oxidised S1 calcareous, medium/fine grained sandstone from the Korkan West deposit.
  - A sulphide sample from BH was also collected, but no testwork was conducted on this sample.

Table 16: Metallurgical drill-hole summary

Drill-hole ID	Prospect	Easting	Northing	Elevation	Azimuth	Dip	Target depth	Comment
BHDDMET01	Bigar Hill	570478	4898645	675	280	-55	80	Oxide Composite
BHDDMET02	Bigar Hill	570622	4898611	688	275	-64	175	Sulphide Composite
KODDMET01	Korkan	570227	4900437	610	45	-45	70	Oxide/Trans Composite
KODDMET02	Korkan	570266	4900472	622	45	-70	60	Oxide/Trans Composite
KODDMET03	Korkan	570266	4900473	622	40	-50	65	Oxide/Trans Composite
KWDDMET01	Korkan West	569839	4899342	640	190	-60	70	Oxide Composite
Total meterage							**520**	

Plan and section views showing the location of the metallurgical drill-holes in each of the respective deposits are shown in Figure 31 to Figure 36.

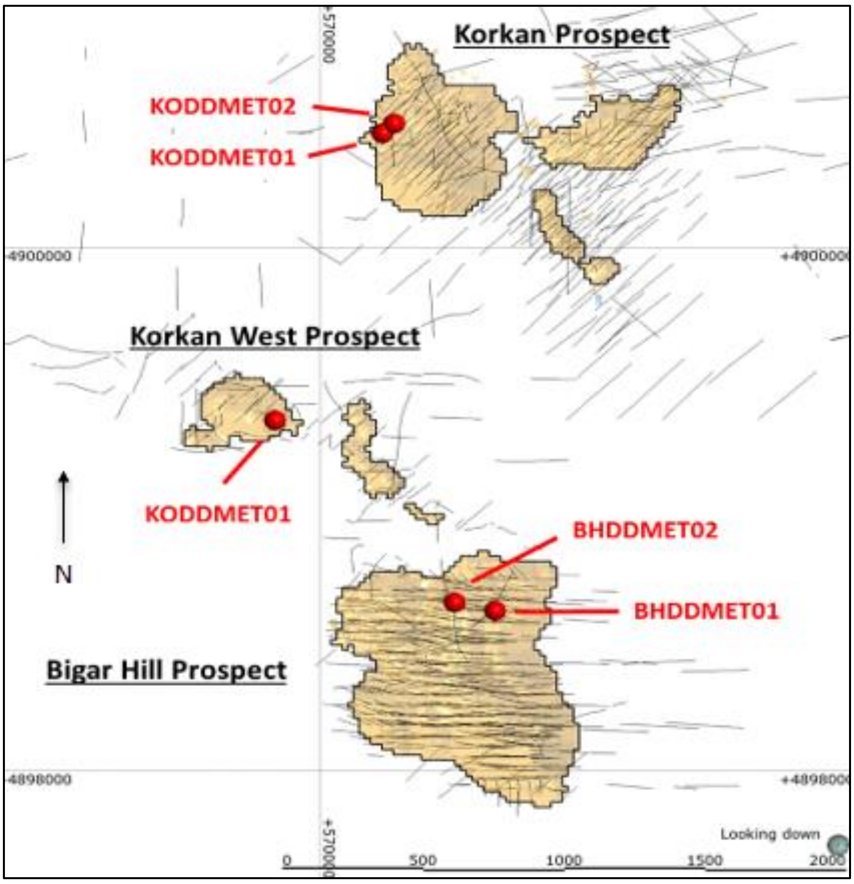


Figure 30: Location of drill-holes sampled for metallurgical bulk composite samples – all samples fall within the conceptual pit shells (light orange) used to constrain mineral resources

Source: Avala, 2018

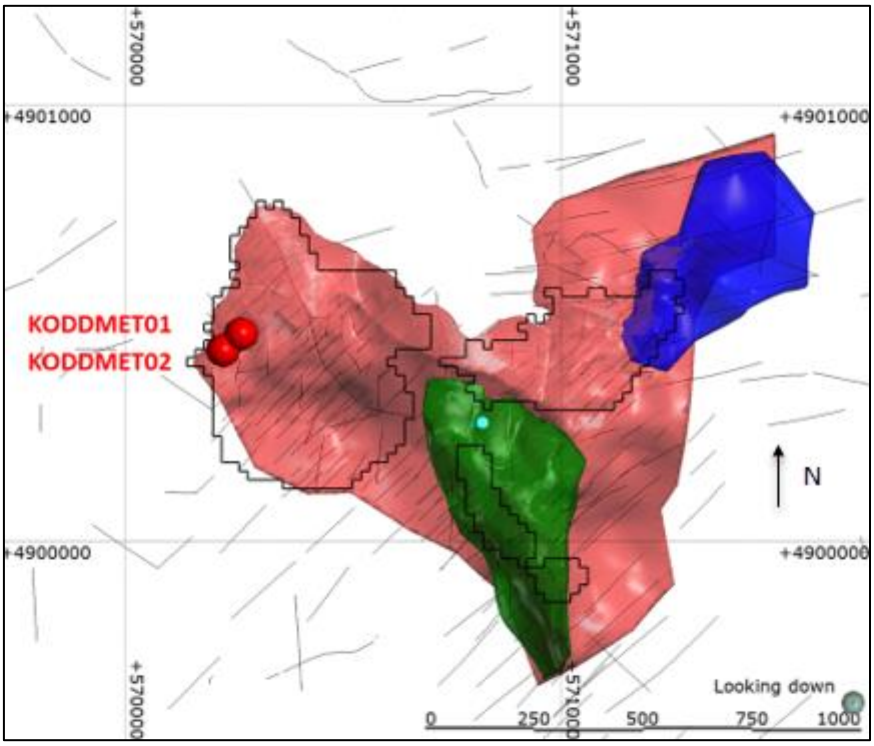


Figure 31: *Plan view of the location of the Korkan oxide and transitional samples with drill-holes and mineralisation outlines*

Source: Avala, 2018

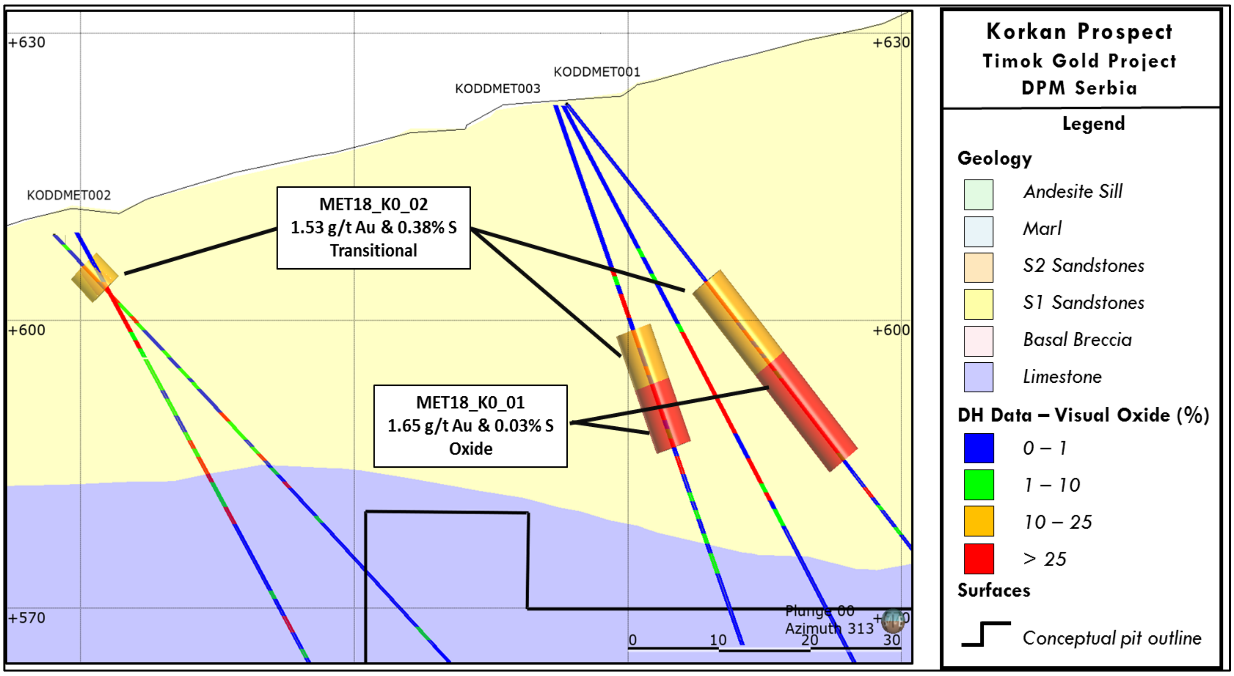


Figure 32: *Section view of drill-holes for Korkan oxide and transitional ore samples*

Source: Avala, 2018

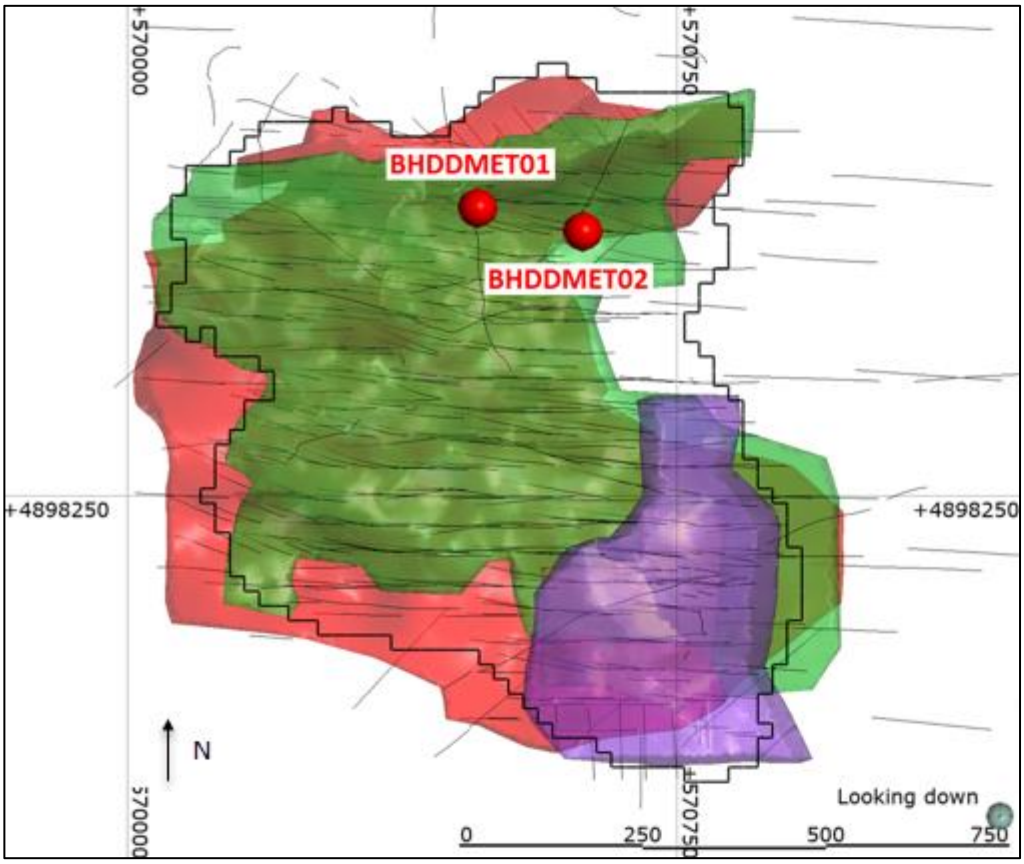


Figure 33: Plan view of the location of the Bigar Hill oxide sample with drill-holes and mineralisation outlines

Source: Avala, 2018

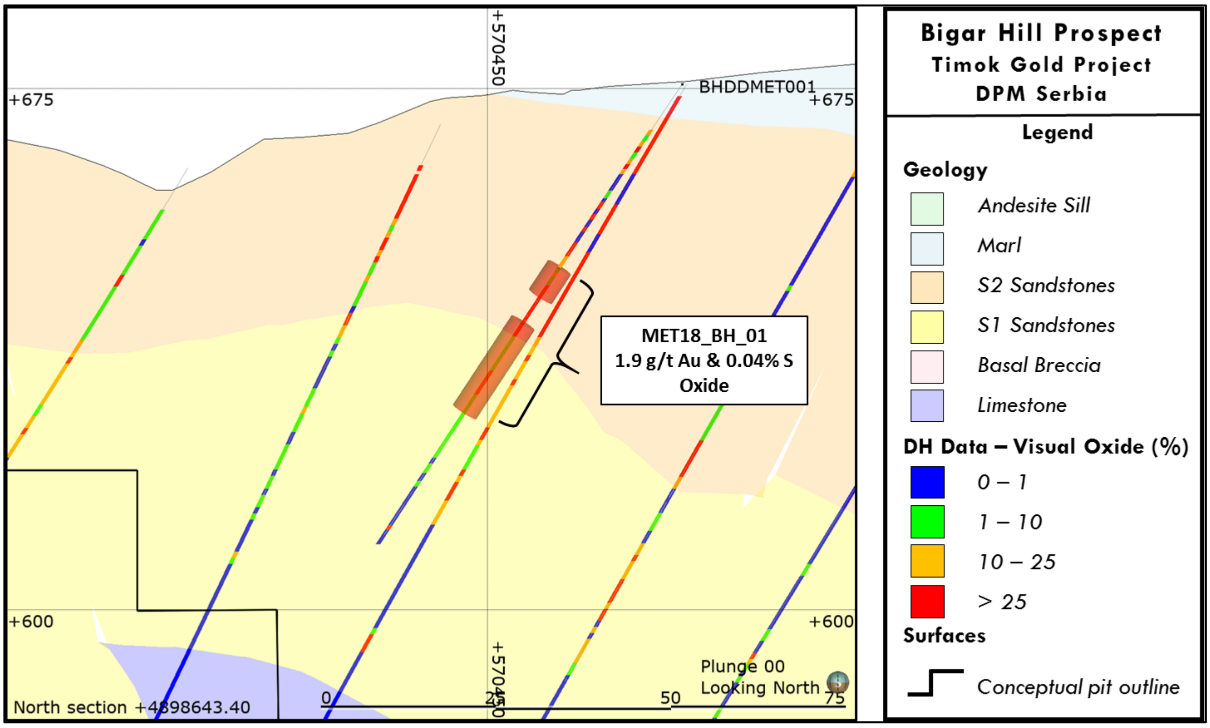


Figure 34: Section view of drill-hole for Bigar Hill oxide ore sample

Source: Avala, 2018

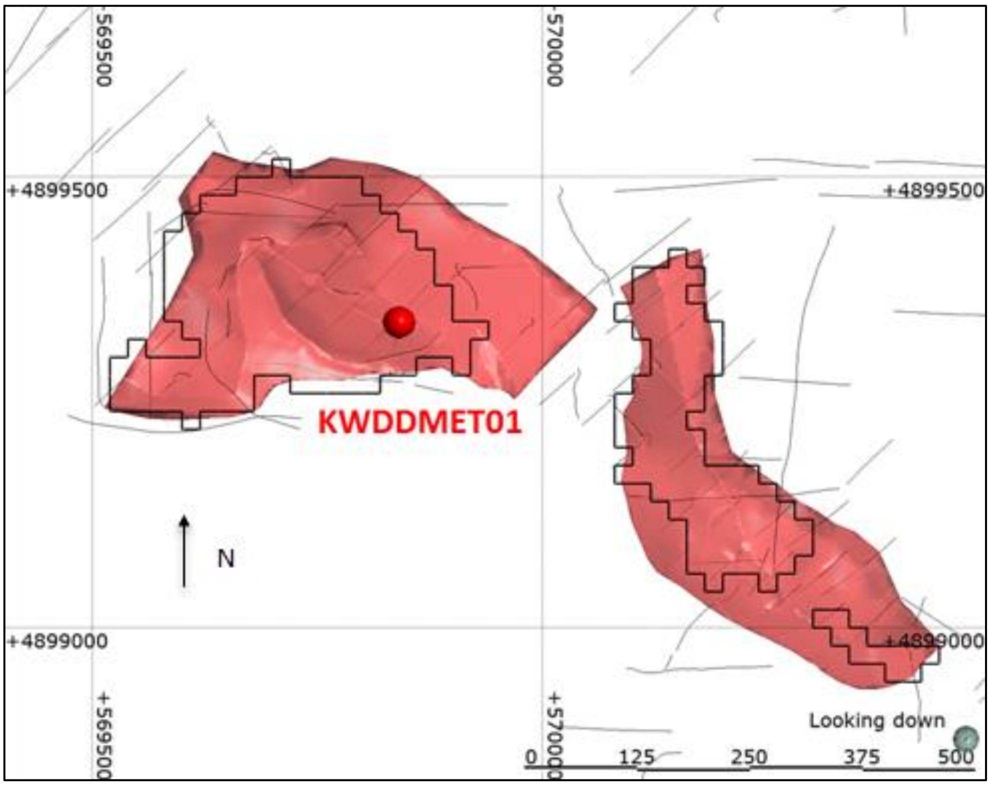


Figure 35: Plan view of the location of the Korkan West oxide sample with drill-hole and mineralisation outlines

Source: Avala, 2018

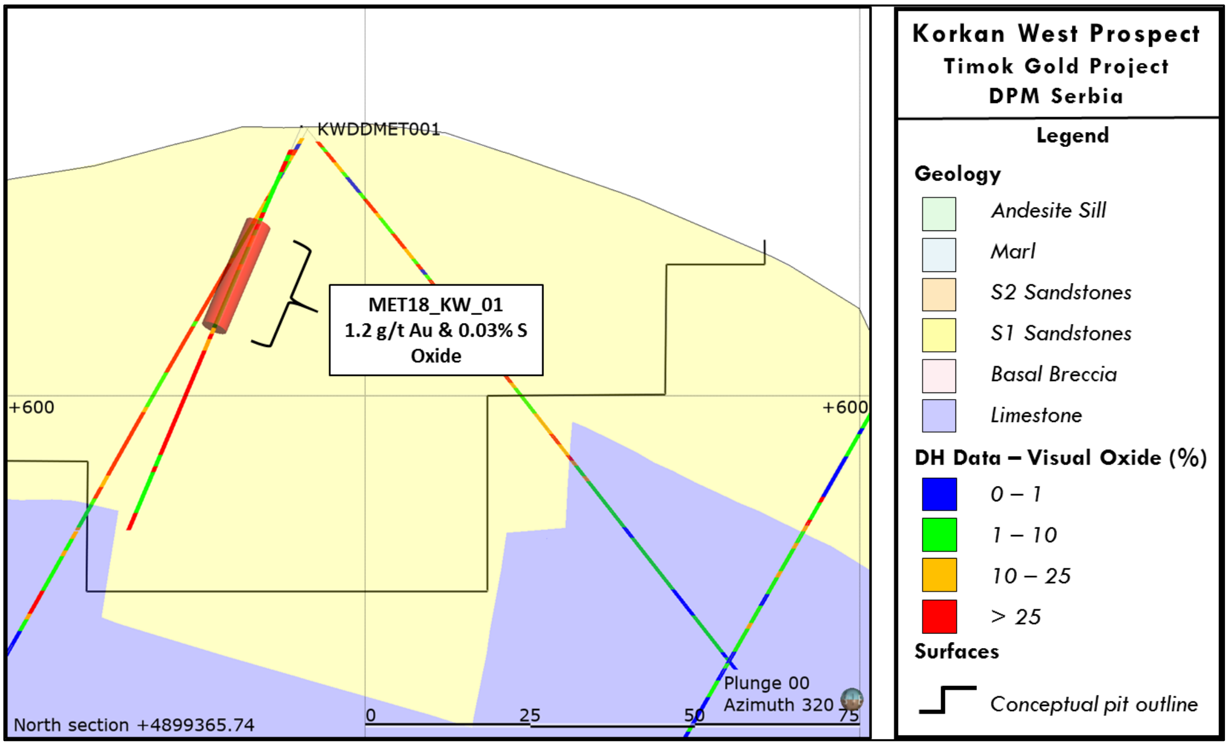


Figure 36: Section view of drill-hole for Korkan West oxide ore sample

Source: Avala, 2018

13.3 SGS Testwork Program

SGS's testwork program was conducted on composites selected from PQ drill core intervals taken in 2017. The testwork program commenced in February 2018.

Sample intervals were selected to prepare master composites representing:

- Korkan oxide: Met18_KO_01
- Korkan transitional: Met18_KO_02
- Bigar Hill oxide: Met18_BH_01
- Korkan West: Met18_KW_01.

The scoping testwork program consisted of:

- Head assays
- Coarse sample bottle roll leach tests
- Percolation tests
- Column leach tests
- Size-by-size analyses; column heads and tails.

The testwork program primarily considered the application and suitability of heap leach technology using coarse sample bottle roll and column leach tests.

Coarse sample bottle roll leach tests were conducted on the individual composites to determine the optimum crush size. A total of three bottle roll leach tests were conducted on each of the individual composites at crush sizes of 100% -50 mm (1"), -16 mm (5/8") and -6.4 mm (1/4"). A single column leach tests was carried out on each of the master composites at the optimum crush size derived from the coarse bottle roll leach tests; 80% -12.5 mm.

13.4 Head Assays

Detailed head assay was performed on each of the composite samples to determine the level of a range of elements of interest.

The analyses were performed on a representative subsample of the -2.0 mm material from each sample which had been pulverised to 100% passing 75 µm. Results are given in Table 17.

Table 17: Head assay results

Composite ID	Calculated head grade (Au g/t)	Total weight (g)	+150 mesh			-150 mesh			% Au distribution	
						Mass (%)	Au			
			Mass (%)	Mass (g)	Au (g/t)		a (g/t)	b (g/t)	+150 (#)	-150 (#)
MET18_KO_01	1.44	963.1	3.14	30.3	0.22	96.9	1.45	1.50	0.5	99.5
MET18_KO_02	1.73	997.2	3.05	30.5	0.32	96.9	1.79	1.76	0.6	99.4
MET18_KW_01	1.04	998.5	2.94	29.4	0.34	97.1	1.09	1.04	1.0	99.0
MET18_BH_01	1.86	999.4	2.58	25.8	0.49	97.4	1.89	1.90	0.7	99.3

The results showed gold assays, based on screen fire assay, to range from 1.04 ppm Au in the BH_01 sample to 1.73 ppm Au in the KO_01 sample.

A more detailed analysis was also carried out on the different master composites. Results are shown in Table 18.

Table 18: Detailed head assay results

Element	Units	Timok deposit composites			
		MET18_KO_01	MET18_KO_02	MET18_KW_01	MET18_BH_01
Au	g/t	1.44	1.73	1.04	1.86
As	%	0.008	0.010	0.007	0.016
Hg	g/t	0.9	1.2	1.1	2.8
S_T	%	0.02	0.48	0.01	0.04
$S^=$	%	< 0.01	0.41	< 0.01	< 0.01
S°	%	< 0.05	< 0.05	< 0.05	< 0.05
SO_4	%	< 0.1	< 0.1	< 0.1	< 0.1
C_T	%	5.08	5.73	6.58	4.05
C_g	%	< 0.05	< 0.05	< 0.05	< 0.05
TOC	%	< 0.05	0.14	0.06	0.07
CO_3	%	31.3	26.5	41.0	23.3
Ag	g/t	2	< 2	< 2	3
Al	g/t	13,100	18,900	7,480	16,600
Ba	g/t	43.3	356	58.0	84.2
Be	g/t	0.28	0.42	0.16	0.28
Bi	g/t	< 20	< 20	< 20	< 20
Ca	g/t	202,000	173,000	268,000	152,000
Cd	g/t	< 2	< 2	< 2	< 2
Co	g/t	< 4	< 4	< 4	< 4
Cr	g/t	23	132	10	35
Cu	g/t	6.8	6.0	12.6	11.9
Fe	g/t	5,600	8,490	5,510	9,910
K	g/t	3,680	5,660	1,960	4,680
Li	g/t	< 5	< 5	< 5	< 5
Mg	g/t	1,430	1,910	1,930	1,580
Mn	g/t	225	202	922	389
Mo	g/t	< 5	< 5	< 5	< 5
Na	g/t	158	347	122	245
Ni	g/t	< 20	< 20	< 20	< 20
P	g/t	< 300	< 300	< 300	375
Pb	g/t	< 60	< 60	< 60	< 60
Sb	g/t	< 30	< 30	< 30	< 30
Se	g/t	< 40	< 40	< 40	< 40
Sn	g/t	< 30	< 30	< 30	< 30
Sr	g/t	105	173.0	167	110
Ti	g/t	612	989	509	1070
Tl	g/t	< 30	< 30	< 30	< 30
U	g/t	< 20	< 20	< 20	< 20
V	g/t	16	24	19	32
Y	g/t	5.4	6.0	6.3	7.6
Zn	g/t	7	14	27	27

Silver levels ranged between 2 g/t to 3 g/t Ag. Total sulphur levels within the samples were generally low, averaging 0.02% in the three oxide samples and higher in the Korkan transitional ore sample at 0.48% TS.

The proportion of sulphide sulphur in the KO_02 sample was 85.4% of total sulphur assay.

13.5 Coarse Sample Bottle Roll Leach Tests

Coarse sample bottle roll testing was conducted to identify the maximum gold recovery achievable from each of the samples at crush sizes typical of conventional heap leach operations.

A series of tests were performed to investigate the effect of crush size on leach performance at a fixed cyanide concentration of 0.5 g/L.

Coarse sample bottle roll leach tests were carried out for a leach duration of 14 days; various crush sizes (P100 -50 mm, -16 mm and -6.3 mm) were tested.

A summary of the gold recovery achieved during the coarse sample bottle roll test program are given in Table 19.

Results did show a slight improvement in gold extraction between a crush size of 100% -50 mm, and that achieved at 100% -16 mm. There was no real increase in gold extraction arising from crushing to the finer crush size of 100% -6.3 mm.

Gold extraction from testing conducted on the different master composites at the optimum crush size of 100% -16 mm; after 14 days of leaching were:

- Korkan – oxide ore: 93.2%
- Korkan – transitional ore: 53.1%
- Bigar Hill – oxide ore: 93.7%
- Korkan West – oxide ore: 75.5%.

The effect of crush size is graphically represented in Figure 37 to Figure 40.

Table 19: Summary of coarse sample bottle roll test results

Composite ID/ Deposit Oxidation	Ore crush size (inch)	Test no.	Reagent addition (kg/t of CN feed)		Reagent consumption (kg/t of CN feed)		Au % extraction (CN) (hours/days)								CN residue (Au g/t)	Head (Au g/t)	
			NaCN	CaO	NaCN	CaO	4 h	1 d	2 d	5 d	7 d	9 d	12 d	14 d		CN calc	CN direct
MET18_KO-01 Korkan Oxide	-1/4"	COBR-1	0.74	0.79	0.51	0.76	76.7	86.6	88.9	85.6	94.2	90.0	89.5	**95.6**	0.07	1.60	1.44
	-5/8"	COBR-2	1.39	0.78	0.93	0.70	65.9	81.2	85.3	84.2	88.7	90.6	83.1	**93.2**	0.11	1.62	
	-1"	COBR-3	1.38	0.80	0.90	0.70	53.7	75.7	78.0	79.1	91.2	86.8	85.8	**93.4**	0.10	1.52	
MET18_BH-01 Bigar Hill Oxide	-1/4"	COBR-4	0.77	1.18	0.27	1.14	54.6	79.7	79.7	80.9	91.3	88.9	88.2	**93.6**	0.11	1.65	1.86
	-5/8"	COBR-5	1.31	1.08	0.92	0.98	46.8	78.3	87.1	81.0	95.4	91.2	88.5	**93.7**	0.11	1.75	
	-1"	COBR-6	1.60	1.01	0.95	0.92	32.2	66.3	82.0	82.7	83.9	89.6	86.5	**93.9**	0.11	1.72	
MET18_KW-01 Korkan West Oxide	-1/4"	COBR-7	0.77	0.76	0.46	0.71	41.2	61.6	68.4	69.6	76.3	73.1	72.5	**75.9**	0.26	1.08	1.04
	-5/8"	COBR-8	1.17	0.76	0.68	0.62	30.2	56.3	68.2	69.3	73.4	76.7	77.7	**75.5**	0.26	1.06	
	-1"	COBR-9	1.14	0.77	0.71	0.67	24.0	51.0	65.0	66.7	69.5	68.0	69.9	**74.1**	0.28	1.08	
MET18_KO-02 Korkan Transitional	-1/4"	COBR-10	0.85	0.76	0.32	0.71	37.7	46.0	51.5	42.7	51.0	50.3	51.1	**55.1**	0.80	1.77	1.73
	-5/8"	COBR-11	1.23	0.81	0.86	0.77	30.5	42.3	47.9	44.5	49.8	51.3	50.4	**53.1**	0.71	1.51	
	-1"	COBR-12	1.34	0.87	0.98	0.83	11.6	43.7	48.6	45.5	46.8	50.9	53.7	**54.3**	0.73	1.60	

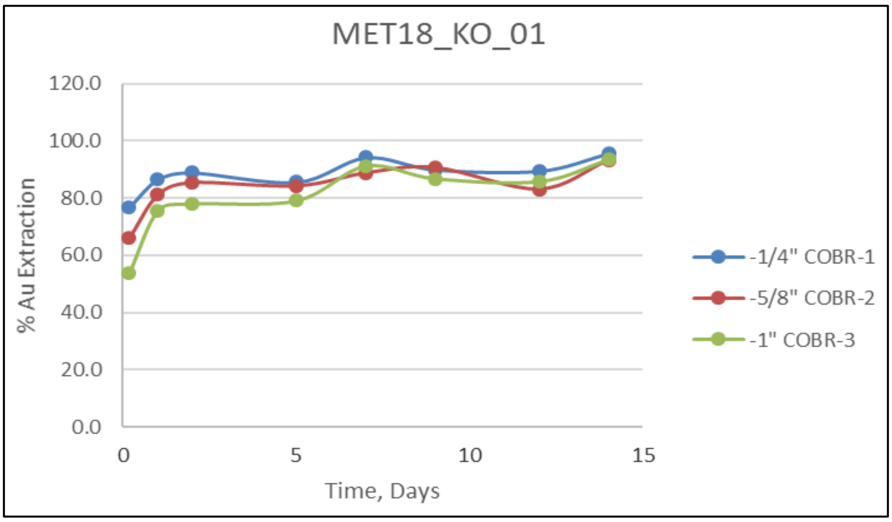


Figure 37: Coarse bottle roll test leach curves – Korkan oxide ore sample

Source: Avala, 2018

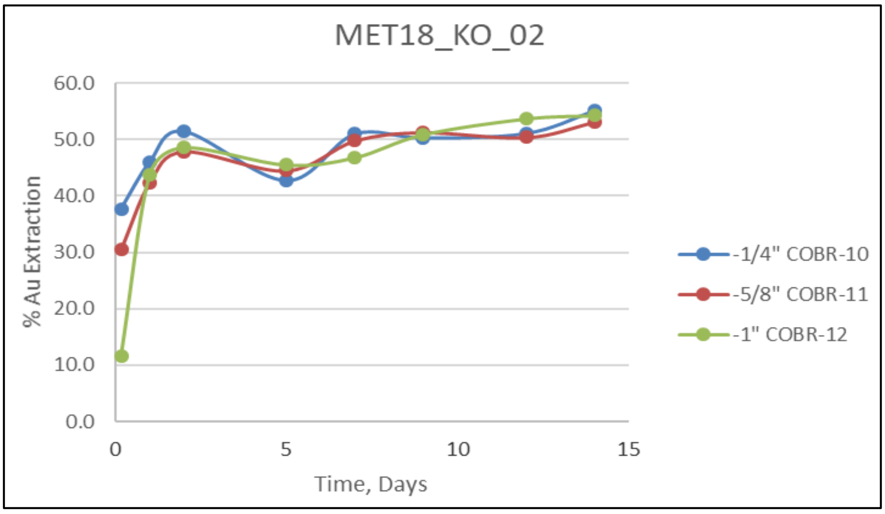


Figure 38: Coarse bottle roll test leach curves – Korkan transitional ore sample

Source: Avala, 2018

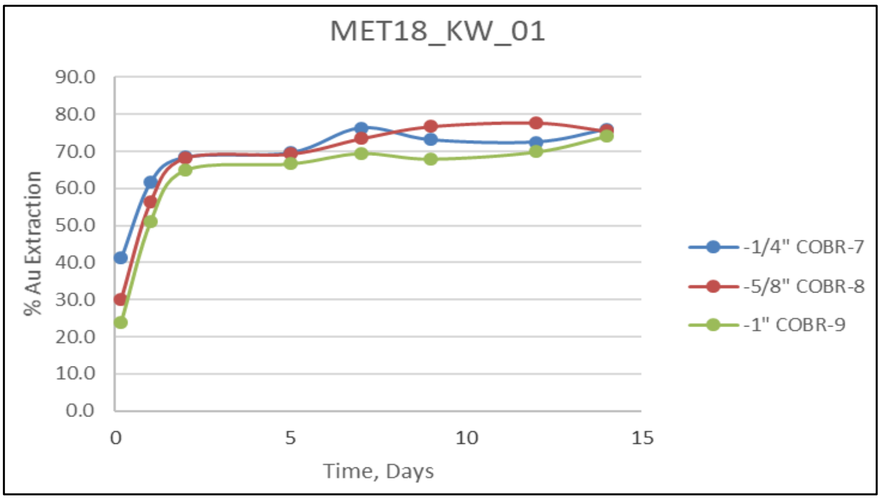


Figure 39: Coarse bottle roll test leach curves – Bigar Hill oxide ore sample

Source: Avala, 2018

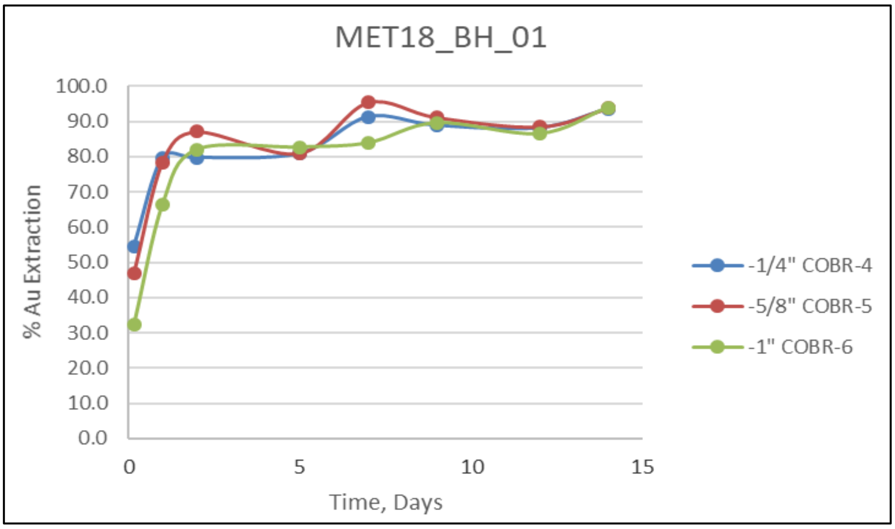


Figure 40: Coarse bottle roll test leach curves – Korkan West oxide ore sample

Source: Avala, 2018

In most cases, the leach curves indicate that leaching was still ongoing after 14 days.

13.6 Percolation Testing

Percolation testing was undertaken to determine the drainage characteristics of each sample and to identify whether it was necessary to agglomerate with cement prior to subsequent column leach testing.

Each sample was subjected to a total of three percolation tests; at the three different crush sizes. A 500 g charge of the ore was tested. Each charge was placed in a plastic, 2-inch diameter tube fitted with a filter cloth at the bottom. After the sample was loaded into the column, the column was lightly tapped to settle the material. The charge height in the column was measured. A piece of filter cloth was placed on the top of the material in the column to allow for better solution dispersion.

The column apparatus was then placed over top of a 4-L plastic jar containing 2 L of water. Using a pump, the water flow was recycled through the column. Initially at a rate of approximately 20 L/m²/hr.

Dependant on the progress of the test, the water flowrate may be increased. Observations such as water clarity, water flow and ore height in the column were recorded.

During the percolation testing some of the column began to flood at the high solution application rate. However, based on testing it was deemed unnecessary to agglomerate the columns.

13.7 Column Leach Testing

Column leach testing was undertaken to provide confirmation of the achievable metal recoveries and leach rates from each of the samples under heap leaching conditions. A total of four tests were conducted; one on each of the master composite samples at the optimal crush size of 80% -12.5 mm.

Samples were leached for a total of 63 days, using a 0.5 g/L cyanide solution at a target solution application rate of 10 $L/m^2/hr$. The pregnant leach solution was passed through activated carbon to adsorb the gold. The activated carbon was changed on days 1, 4 and 7, and weekly thereafter.

The results of the column leach tests are summarised in Table 20. The results show good correlation between the gold extraction based on back calculated head, and that based on carbon assays and solids leach residue.

A comparison of column leach versus coarse bottle roll leach test results are summarised in Table 21. Results show a good correlation between column and coarse bottle gold extractions; except for the Korkan transitional ore sample. As discussed in Section 13.5 the coarse bottle roll leach tests were still leaching when the test was terminated after 14 days of leaching.

Table 20: Summary of column leach test results

Sample ID	Crush size (80% mm)	Agglom stage	Head assay (Au g/t)	Calc. head (Au g/t)	Extracted grade (Au g/t)	Tails grade (Au g/t)	Column leach recovery (based on)		
							Measured Head	Calculated head	Carbon/Residue
							% Au		
Korkan Oxide	-12.5	No	1.48	1.54	1.46	0.08	98.6	94.8	94.4
Korkan Transitional	-12.5	No	1.72	1.96	1.34	0.62	77.9	68.4	67.9
Bigar Hill	-12.5	No	1.87	2.01	1.90	0.11	101.6	94.5	94.2
Korkan West Oxide	-12.5	No	1.11	1.14	0.87	0.27	78.4	76.3	75.5

Table 21: Comparison of column leach test vs. coarse bottle roll leach test results

Sample ID	Ore type	Leach time (days)	Crush size (80% mm)	Column leach recovery (based on)			Leach time (days)	Crush size (100% mm)	Bottle roll leach recovery (Au %)
				Measured head	Calculated head	Loaded carbon/ residue			
				% Au					
Korkan	Oxide	63	-12.5	98.6	94.8	**94.4**	14	-16	93.2
	Transitional		-12.5	77.9	76.3	**67.9**		-16	53.1
Bigar Hill	Oxide		-12.5	101.6	71.6	**94.2**		-16	93.7
Korkan West Oxide	Oxide		-12.5	78.4	70.5	**75.5**		-16	75.5

The gold leach recoveries, based on column calculated head grades, as a function of time are shown in Table 22.

Table 22: Gold leach recoveries based on column calculated head grades

Leach days	C-1	C-2	C-3	C-4
	KO_01	KO_02	BH-01	KW_01
1	44.2	8.0		25.1
4	87.7	35.0	0.0	63.7
7	89.2	41.7	1.4	67.6
14	92.1	50.7	41.1	70.5
21	93.4	56.0	75.9	72.2
28	93.9	59.9	88.1	74.4
35	94.1	62.5	91.5	75.0
42	94.2	63.7	91.9	75.2
49	94.3	64.9	93.3	75.3
56	94.3	65.9	93.8	75.4
63	94.4	67.9	94.2	75.5

The column leach curves for the four master composites are shown in Figure 41.

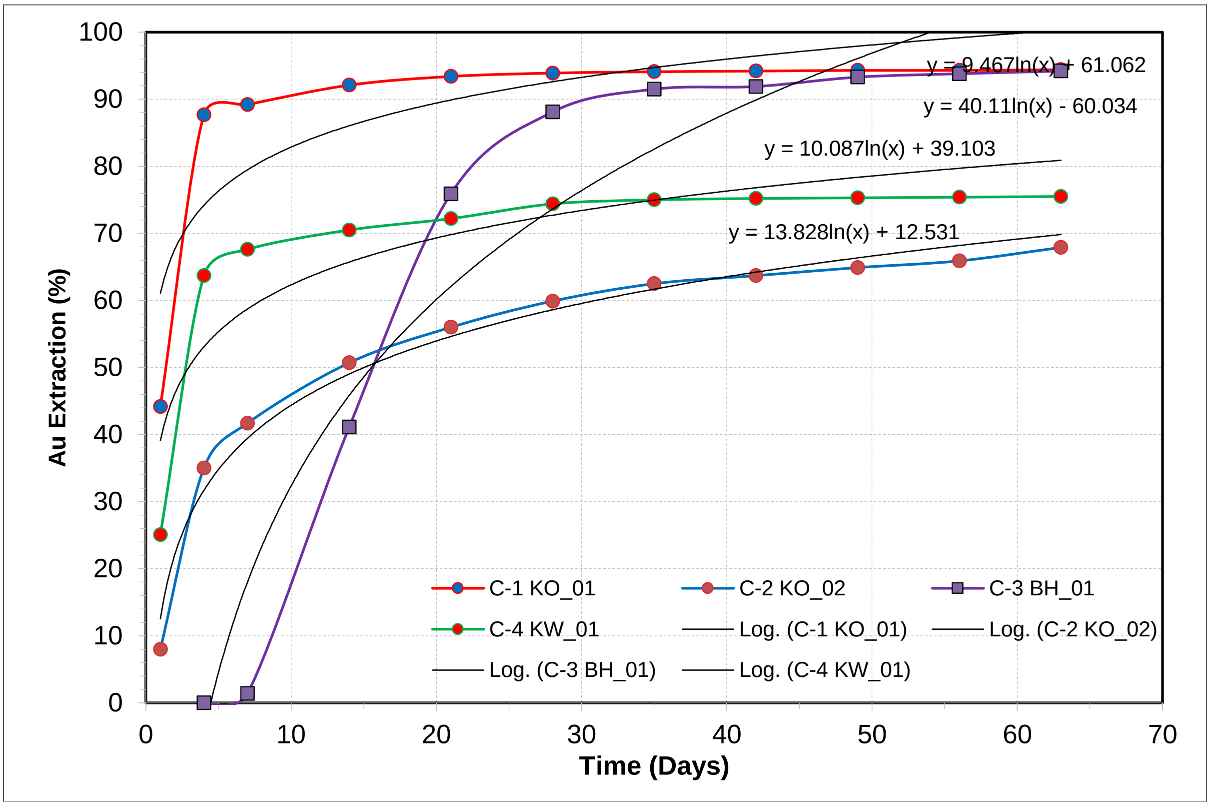


Figure 41: Column leach curves

Source: Avala, 2018

The test results showed gold recoveries to carbon ranged from 67.9% (KO-02), to 94.4% (KO-01).

Analysis of the leach kinetics during the tests showed the gold to be fast leaching with between 92.1% (KO-01) and 70.5% (KW-01) of the total gold recovered within the first fourteen days of leaching. Gold leach kinetics for the transitional ore zone were slower, and leaching was still ongoing after 63 days of leaching.

During testing, consumption of lime was moderate, ranging from 0.88 kg/t to 1.21 kg/t whilst the consumption of cyanide was low, ranging from 0.21 kg/t to 0.36 kg/t.

Figure 41 shows an initial lag in the gold extraction for the Bigar Hill oxide sample, due to the column being plugged. The column was drained, cleared, and solution irrigation re-started. This appears to have had no detrimental effect on the final gold extraction achieved for the Bigar Hill oxide sample, with metallurgical performance after 63 days of leaching being similar to that achieved for the Korkan oxide sample.

13.8 Size-by-Size Analysis

Subsamples of both the column leach feed and leach residues from the four samples were submitted for size-by-size analysis for gold to determine the distribution of metal within each sample and to allow metal recoveries by size to be calculated. The gold distribution in the leach residue as a function of size is shown in Table 23, and graphically represented in Figure 42.

Table 23: Gold residue assay/feed assay by size fraction

Sample ID	C-1	C-2	C-3	C-4
Size fraction (µm)	KO_01	KO_02	BH-01	KW_01
12,700	10%	37%	11%	30%
9,525	7%	39%	8%	30%
4,750	6%	29%	7%	25%
1,700	6%	35%	6%	22%
600	5%	46%	5%	22%
150	6%	37%	4%	21%
75	6%	39%	3%	20%
38	6%	40%	3%	21%
-38	2%	21%	3%	13%

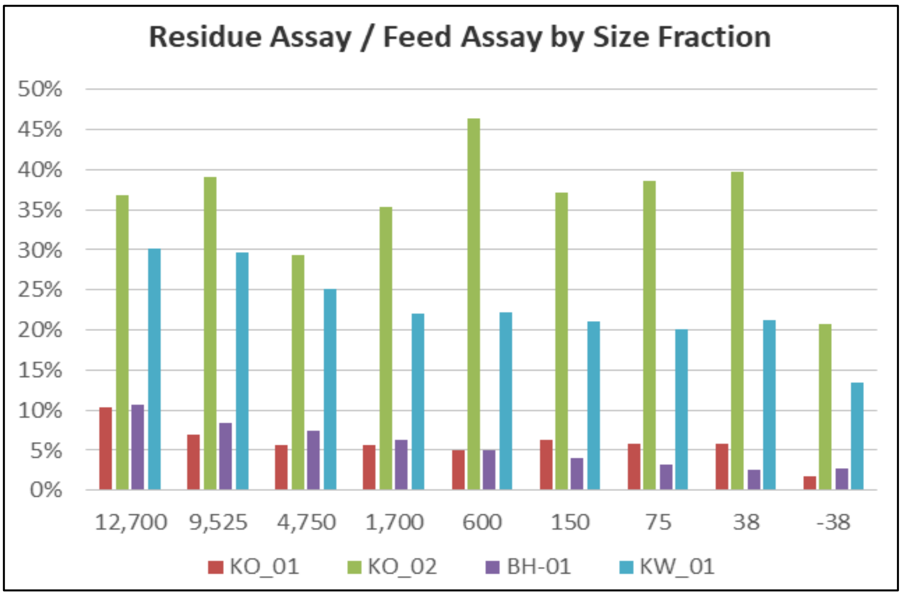


Figure 42: Residue assay/feed assay by size fraction

Source: Avala, 2018

Size-by-size recoveries for the four metallurgical composites are shown in Figure 43 to Figure 46.

The size-by-size recovery curves show a decrease in gold extraction in the coarse size fractions (+19.0 mm). This suggests that a finer crush size of 100% -12.5 mm could result in higher gold leach extractions.

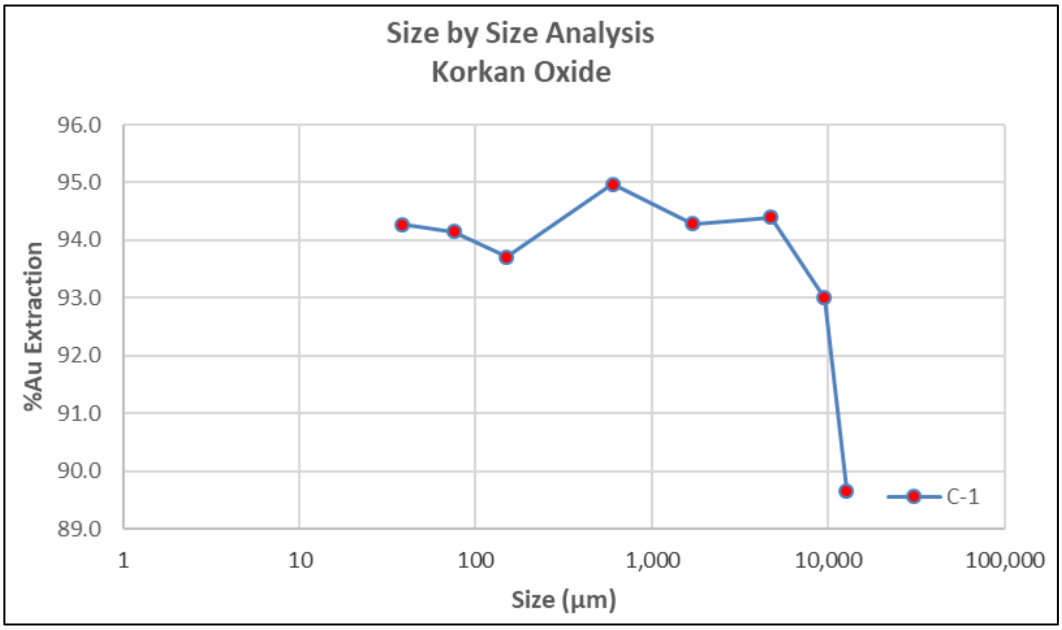


Figure 43: Size-by-size recovery – Korkan Oxide

Source: Avala, 2018

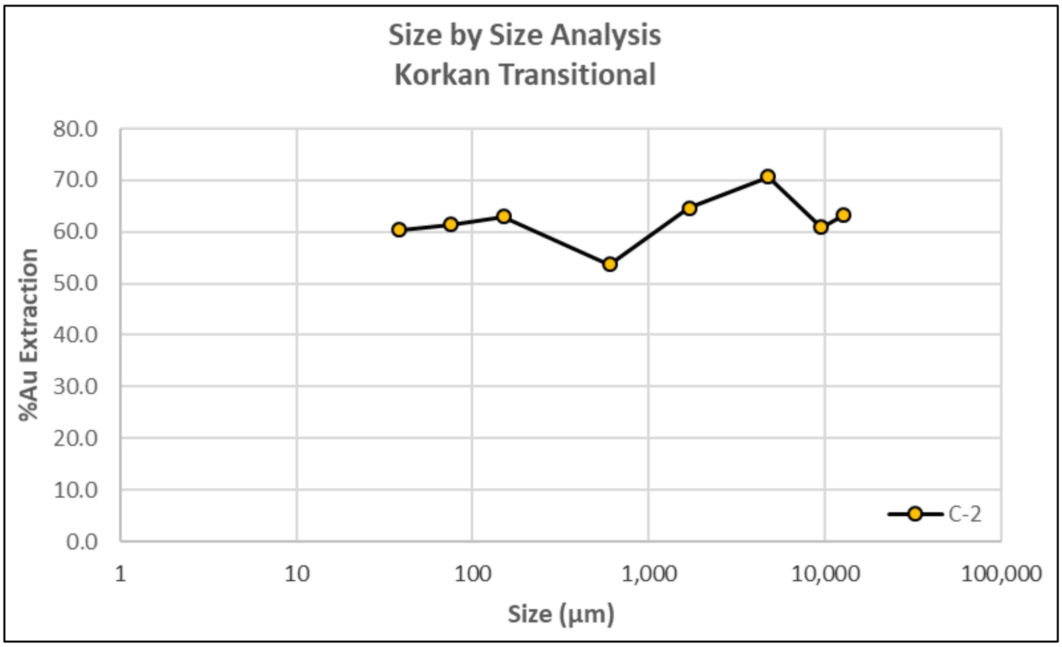


Figure 44: Size-by-size recovery – Korkan Transitional

Source: Avala, 2018

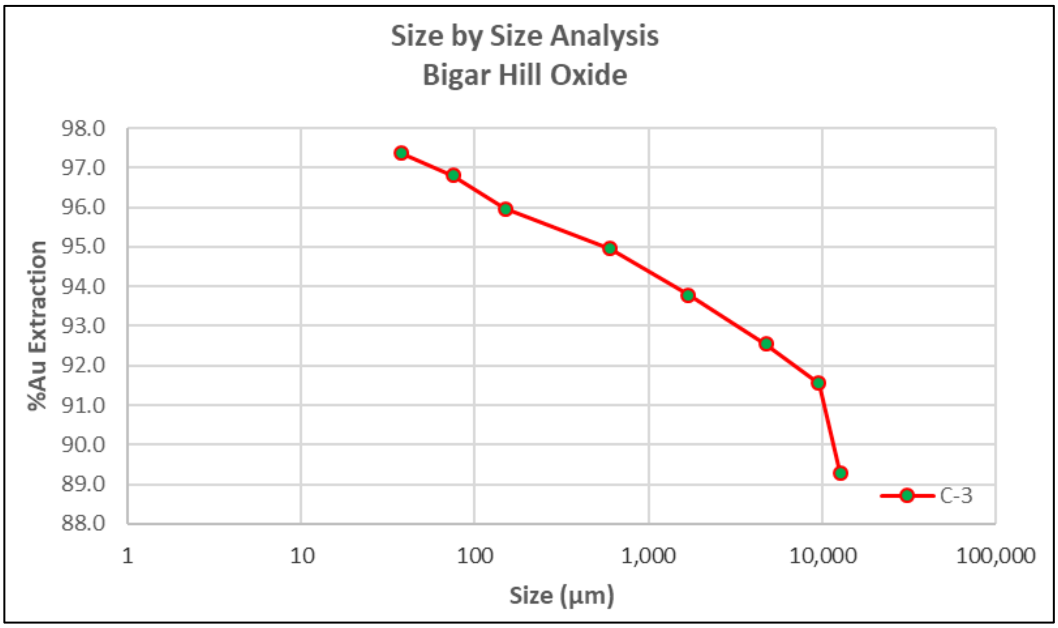


Figure 45: Size-by-size recovery – Bigar Hill Oxide

Source: Avala, 2018

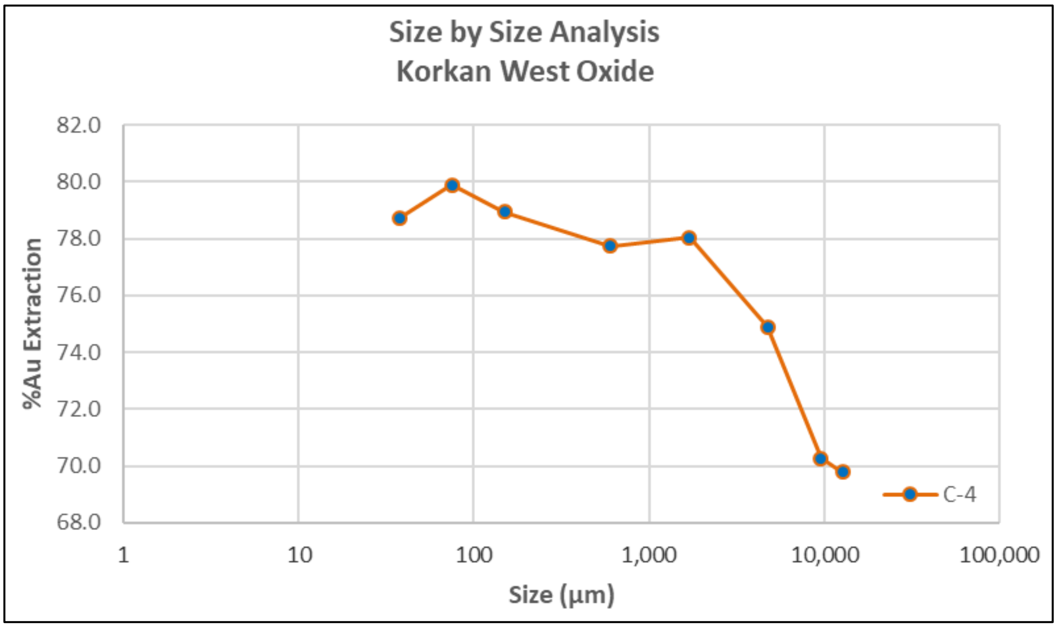


Figure 46: Size-by-size recovery – Korkan West Oxide

Source: Avala, 2018

13.9 Metallurgical Data Interpretation and Predictions

13.9.1 Preferred Process Option

Based on the metallurgical performance obtained from column leach tests, the Timok mineralisation types can be considered amenable to heap leach technology.

Capital and operating costs for heap leach technology are lower than those of conventional carbon-in-leach (CIL), for the same recovered gold ounces, therefore resulting in improved project economics.

13.9.2 Predicted Metallurgical Recovery

As stated above the column leach for the Korkan transitional ore sample was still leaching when the test was terminated after 63 days of leaching.

The column leach kinetics have been fitted with a natural log curve to predict gold leach recovery assuming an extended leach time. The fitted equation is: $Y = 13.828\ln(x)+12.531$ with a regression value of 0.9832.

Using the fitted curve for the Korkan transitional ore the predicted gold leach recovery after 90 days of leaching is 75%.

For the purposes of the updated MRE, laboratory column gold extractions are normally discounted by two to three percentage points when estimating field extractions. The Korkan transitional ore leach recovery has been discounted by 5% pending further testing.

Gold recoveries to doré are also multiplied by 99% to take into gold solution and metal losses to slag.

Based on the above discount values for gold leach extractions the predicted full-scale metal leach extractions are shown in Table 24.

Table 24: Summary of discounted column leach test results

Sample ID	Crush size (mm)	Column leach recovery	Correction factor	Corrected recovery	CIC/gold room (%)	% Au recovery to doré
		% Au				
Korkan Oxide	-12.5	**94.4**	2	**92.4**	99%	**91.5**
Korkan Transitional	-12.5	**75.0**	5	**70.0**	99%	**69.3**
Bigar Hill	-12.5	**94.2**	2	**92.2**	99%	**91.3**
Korkan West Oxide	-12.5	**75.5**	2	**73.5**	99%	**72.8**

13.9.3 Predicted Reagent Consumption

Based upon typical heap leach operations with mostly clean non-reactive materials, cyanide consumption in production heaps would be only 25% to 33% of the laboratory column test consumptions.

The predicted full-scale heap leach reagent consumptions are shown in Table 25.

Table 25: Summary of reagent consumptions

Column ID	Deposit ID	Crush size (mm)	Reagent consumption (kg/t)			
			Lime	NaCN	Lime*	NaCN*
BH-01	Bigar Hill	-12.5	1.21	0.36	0.40	0.12
KO_01	Korkan	-12.5	0.88	0.21	0.29	0.07
KO_02	Korkan	-12.5	0.90	0.36	0.30	0.12
KW_01	Korkan West	-12.5	0.99	0.30	0.33	0.10
Weighted average			**1.11**	**0.34**	**0.37**	**0.11**

**Assumed that 33% of the laboratory scale test reagent consumption consumed in full scale heap leach.*

13.9.4 Predicted Leach Cycle Time

Leach profiles were plotted to determine leach cycle time. Leach cycle times for full scale heap leach operations are typically measured in tonnes of leach solution applied to tonnes of mineralisation under leach (ts/to ratio). The full leach cycle is not normally completed with a single continuous application of solution. The cycle is usually broken down into the primary leach cycle where solution is directly applied to the mineralisation under leach, and a secondary leach cycle, where solution flows through an area previously leached from a lift above.

Figure 47 shows gold leach recovery as a function of flux rate (ts/to) for the various oxide and transitional column tests.

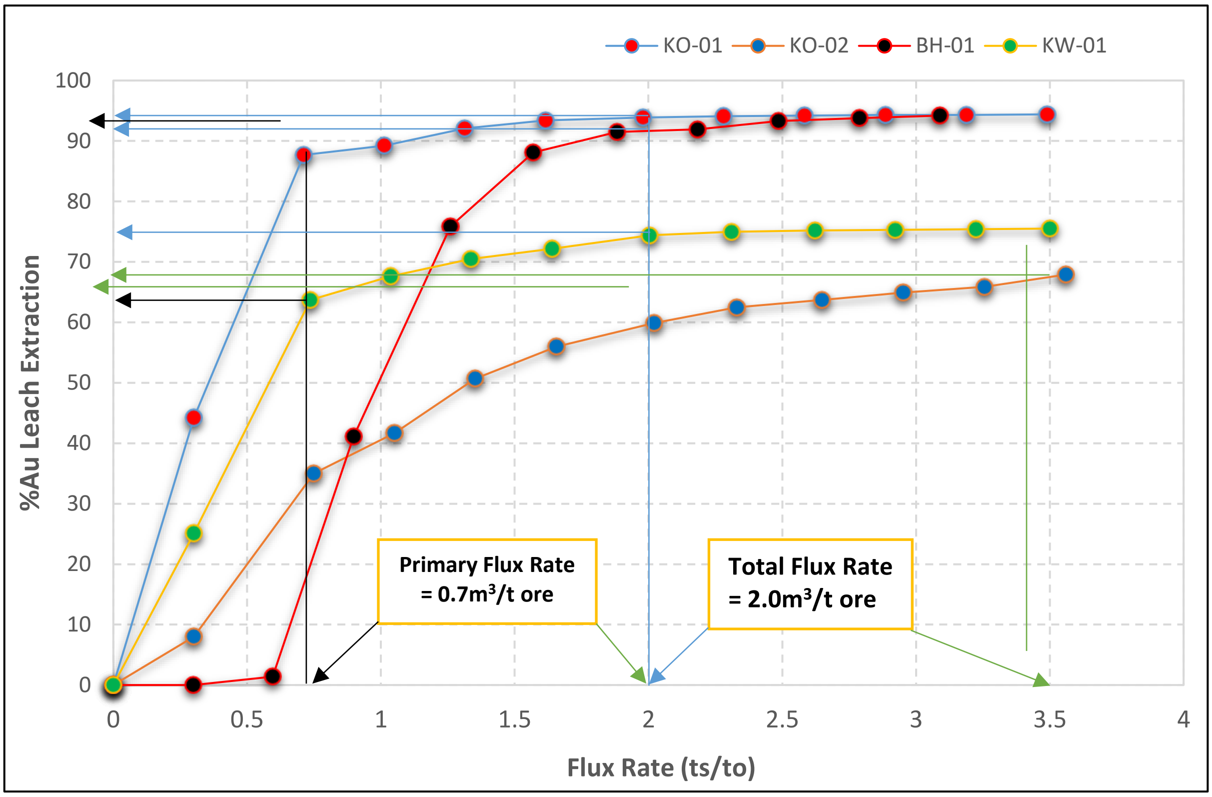


Figure 47: Gold flux rate curves

Source: Avala, 2018

Full gold leach recovery is achieved between a flux rate (ts/to) of 2.0 and 3.5:1. The primary leach cycle has been designed for a flux rate of 0.7:1 (7 leach days), whilst the secondary leach cycle has been designed for a flux rate of 1.3:1 (56 leach days). The combined design total flux rate is 2.0:1. The remainder of the gold would be leached during leaching of mineralisation in the subsequent lifts above (i.e. lifts two and three).

At the design flux rate (ts/to) of 2.0:1, the predicted gold recovery for the metallurgical composites are:

- Korkan oxide mineralisation is 93.9%, or 99.5% of ultimate gold leach recovery of 94.4% (uncorrected)
- Korkan transitional mineralisation is 59.9%, or 88.2% of ultimate gold leach recovery of 67.9% (uncorrected)
- Bigar Hill oxide mineralisation is 88.1%, or 93.5% of the ultimate gold leach recovery of 94.2% (uncorrected)
- Korkan West oxide mineralisation is 74.4%, or 98.5% of the ultimate gold leach recovery of 75.5% (uncorrected).

Given the slower leach kinetics exhibited by the Korkan transitional ore higher design flux rates of 2.0 m^3/t ore (primary) and 3.5 m^3/t ore (total) are required. The logical sequence of stacking on ore on the heap would be oxide ore followed by transitional ore to enable optimal leach conditions and cycles to be applied for each ore type.

There is a correlation between the solution application rate and days of leaching, the latter derived from the heap lift height (8 m), design cell size for each primary leach cycle, and the solution irrigation rate of

10 L/m^2/hr. The primary and secondary leach cycles are seven days and 56 days, resulting in a total leach cycle of 63 days.

As the column leach tests were not conducted under conditions equivalent to the proposed HLF, i.e. 2 m tall column tests, versus 8 m high lifts, the rate of gold extraction from the columns tests were scaled to industrial conditions by equating the column test extraction rates as a function of cumulative solution to the crushed feed ratio to the proposed industrial flux rate.

The gold leach extraction has been scaled to reflect actual field days. Figure 48 shows gold leach recovery as a function actual field days.

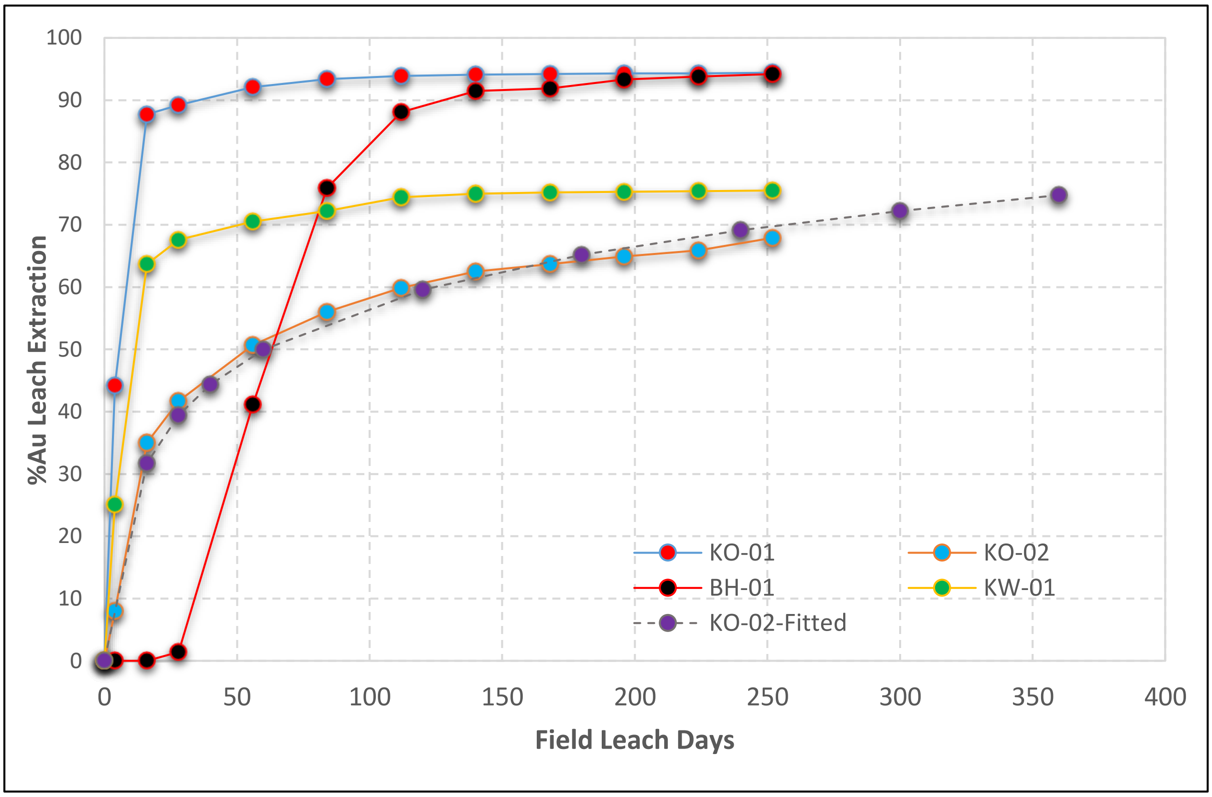


Figure 48: Field days vs. gold leach extraction curves

Source: Avala, 2018

Figure 48 also shows the fitted curve for the Korkan transitional ore zone. Based on the fitted curve the predicted gold leach extraction is 75% (uncorrected) after 360 field days of leaching.

13.10 Sulphide Ore Testwork

Several metallurgical testwork programs have been undertaken on samples selected from the Project deposits. Avala initiated the scoping-level metallurgical study for the Project during 2011. The primary objective of the scoping-level study during 2011 and 2012 was to determine the potential recovery of gold and identify the potential processing options. The focus of these programs was predominantly cyanide leaching, including refractory gold recovery enhancement techniques such as pressure oxidation (POX). The results of these testwork programs have been described within a previous NI 43-101 report ("Timok old Project, Serbia, Technical Report and Mineral Resources Estimates for Avala Resources Ltd" and in the Australian Mining Consultants (AMC), AMC (UK) Report No. AMC 413006, 14 October 2013).

Combinations of flotation, refractory concentrate treatment (roasting, pressure oxidation or bio-oxidation), with cyanide leaching of oxidised concentrate and flotation tailings was necessary to achieve reasonable gold recovery (72–76% overall), but capital and operating costs were prohibitive Given the refractory nature of the ore and concentrate the capital and operating costs for adopting a pre-oxidative stage were prohibitive. A simplified approach aiming to maximise recovery to a flotation concentrate for third party treatment, either domestically or internationally, offers the lowest on-site capital and operating costs and this approach was adopted for the 2014 PEA study design, and has been taken forward as the base case process flowsheet by Dundee for treating the sulphide ore types from the Timok deposit.

In 2013, metallurgical testwork focused on demonstrating that milling and flotation could produce a gold-rich sulphide concentrate (for treatment by others) and form the basis of a viable process flowsheet.

The relevant testwork completed to date is contained in the following reports:

- **Phase 1 Program:** “Preliminary Testing of Various Ore Samples from Timok Deposit, Serbia”, SGS Mineral Services UK Ltd, 26 May 2012
- **Phase 2 Program:** “Phase 2 Testing of 3 Ore Types from Avala Resources (Draft)”, SGS Mineral Services UK Ltd, Project No. 10866-410, 29 October 2013
- **SGS Lakefield Tests:** “SGS Lakefield Lab Floats – Avala – 20131104.xls”, SGS Lakefield testwork results summary received from Woodgrove
- Extra Flotation Testing.

Additional flotation program developed to assess cleaning flotation performance and final concentrate analyses was conducted during late 2013 by SGS (UK).

In general, the Phase 1 testwork program (SGS UK) focused on selective flotation of sulphides and gold associated with non-sulphide gangue to produce a gold-rich concentrate including the optimisation of flotation feed grind size, reagent types and other flotation parameters.

The Phase 2 program (SGS UK) further explored the fine grind milling and flotation approach to further confirm the veracity of the production of a saleable gold-rich sulphide concentrate. A wide range of variables were tested including laboratory flotation procedures, flotation froth removal rates and final grind sizes. In general, the optimum flotation reagent types and dosage rates derived from the Phase 1 program were employed for the Phase 2 program in order to minimise testwork variables. In addition, testwork was initiated to establish the veracity of a beneficiation by size approach where a barren reject fraction could be separated from a high-grade fraction after attritioning.

Samples were despatched to SGS Lakefield (Canada) for bench scale and Woodgrove “Mini-SFR pilot plant” flotation testwork. Unfortunately, the latter tests were not successful due to procedural issues with the newly commissioned pilot plant equipment but the SGS laboratory testwork results were instructive.

An additional “Extra Flotation Testing”, program was initiated in late 2013 to compare the performance of an alternative (less expensive) flotation reagent regime and confirm final concentrate analyses for marketing purposes. The results of that program are yet to be formally reported but some preliminary outcomes are described in the following sections.

Similarly, additional high intensity scrubbing testwork was undertaken with some encouraging results and, whilst not formally reported.

13.11 Testwork Samples

Detailed metallurgical testwork during 2013 focused on the two largest deposits, Bigar Hill and Korkan, although some work was also completed on samples from the Kraku Pester deposit. General information regarding the composite samples used for the 2013 flotation (Phase 2) testwork program is presented in Table 26.

Table 26: 2013 metallurgical testwork sample summary

Sample ID	Deposit	No. of holes	Intersection (m)	Weight (kg)	Au (g/t)	S (%)

MET13_KO_01	Korkan	7	30	62.9	1.51	1.48
MET13_BH_01	Bigar Hill	5	52	113.00	1.45	3.14
MET13_PE_01	Kraku Pester	2	20	50.6	1.41	4.36

Further sample details are available within the October 2013 AMC report.

13.12 Mineralogical Characterisation

Mineralogical characterisation testing has been undertaken by SGS UK and key aspects of the studies include the following:

- Sulphur grades are relatively low. Head assays for the Phase 2 program composite samples (multi-hole and multi-interval) indicated sulphur to gold ratios of approximately 1.5, 0.87 and 2.80 for the Bigar Hill, Korkan and Kraku Pester samples, respectively.
- X-ray diffraction analyses indicate that:
  - almost the entire sulphides content is present as pyrite, with less than 10% (relative) classed as other sulphides including chalcopyrite and pyrrhotite
  - gangue is dominantly quartz, calcite, dolomite (Korkan) and feldspars (Kraku Pester), but some samples also showed significant levels of clays and micaceous minerals
- QEMSEM analysis indicated that mean pyrite grain sizes of 25 µm, 19 µm and 17 µm were applicable for the Bigar Hill, Korkan, and Kraku Pester composite sub-samples, respectively.
- Approximately 34–50% of the free and liberated sulphide particles are under 25 µm, whereas 29–38% are above 25 µm in size. The total proportion of pyrite classified as free or liberated was 45–92%. The remainder was classified as middlings, where composite particles with quartz/feldspar and calcite represented the main occurrences.
- Pyrite exposure (defined as greater than 50% exposed) was reported as 82%, 74% and 59% for the Bigar Hill, Korkan, and Kraku Pester composite subsamples, respectively. These levels of exposure should render sulphide particles amenable to flotation, but samples with pyrite exposure values closer to 50% can be expected to exhibit slower flotation kinetics.
- Dynamic secondary ions mass spectrometry (D-SIMS) examinations undertaken in 2012 indicated the presence of substantial quantities of sub-microscopic and solid solution gold within the tested sample. Gold was observed within pyrite, chalcopyrite and iron oxide host minerals. Three different pyrite types were observed (coarse, porous and fine) where each displayed varying gold grades.

The mineralogical characterisation studies are considered to largely explain the flotation performance observed for the various ore type samples during the combined flotation testing results where it may be concluded that:

- Pyrite grain size is relatively fine, and a corresponding fine flotation feed size will be required for optimum sulphur recoveries.
- Whilst gold is associated with pyrite, there is a significant proportion associated with the oxide components. Bright phase analysis targeting gold values would be useful to quantify non-sulphide mineral associations.
- Gold grades varied within the three pyrite types and, as it can be expected that each pyrite type displays differing flotation rates, provided some insight into the flotation concentrate gold grade kinetic profile.

13.13 Flotation Testwork

As outlined in Section 13.9.4, four relatively recent testwork programs have been completed on sulphide ore samples from the Timok deposit where flotation formed a major component of the scope, such as:

- Phase 1 Program conducted SGS Mineral Services (UK) during early 2012
- Phase 2 Program completed by SGS Mineral Services (UK) during mid-2013
- SGS (Lakefield) tests undertaken in conjunction with a Woodgrove SFR mini-pilot plant trial during late 2013
- Extra flotation testing conducted by SGS Mineral Services (UK) in late 2013.

The following sections describe the general features of the flotation testwork elements of these programs, summarise the reported results and outline the metallurgical basis for the flotation circuit design.

13.13.1 Phase 1 Flotation Testing (SGS UK Report 10866-255)

The Phase 1 testwork program (SGS UK) investigated various parameters to demonstrate the UFG/flotation concept including some optimisation of flotation feed grind size, reagent types and other flotation parameters. The program included laboratory batch flotation and comparative gravity concentration testwork on several samples representing Bigar Hill, Korkan and Kraku Pester ore types.

The program included the following flotation related testing:

- Detailed head assays and mineralogical characterisation.
- Gravity recovery testing. Comparative flotation testing demonstrated superior gold recoveries and grade relationships and gravity recovery testing was abandoned during the program.
- Batch flotation testing at various grind sizes and conditions, including the investigation of several reagent addition regimes.

The results from this program have not been used as metallurgical recovery inputs for the updated MRE for the sulphide ore zone due to the following considerations:

- Gold head assays for the "original" samples varied between 0.52 g/t and 1.18 g/t which are significantly lower than the current expected life-of-mine (LOM) flotation feed gold grade of around 2 g/t. The subsequently provided "new blue" samples were more consistent with respect to gold head grade and ranged between 1.54 g/t and 3.34 g/t.
- Tested grind P_{80} size was mainly 37 µm (100% passing 53 µm) although some 53 µm and 25 µm tests were completed. This compares to the target flotation feed P_{80} size of 20 µm.
- Very high rougher concentrate weights (generally around 40% but up to 70%) were recorded for most tests in an attempt to maximise rougher gold and sulphur recovery.

13.13.2 Phase 2 Flotation Testing (SGS UK Report 10866-410)

The Phase 2 testwork program (SGS UK) further explored the fine grind milling and flotation approach to generally confirm the veracity of the production of a saleable gold-rich sulphide concentrate. A wide range of flotation parameters were tested including laboratory flotation procedures, flotation froth removal rates and flotation feed grind sizes. In general, the optimum flotation reagent types and dosage rates derived from the Phase 1 program were employed for the Phase 2 program in order to minimise testwork variables. These reagents included proprietary flotation collectors developed specifically for the flotation of gold-containing oxide-based minerals as well as more common sulphide mineralisation.

The Phase 2 testing program included laboratory batch flotation testwork on "MET13" composite samples representing Bigar Hill (BH-01), Korkan (KO-01) and Kraku Pester (PE-01) ore types. In general, the following flotation related testing was conducted:

- Detailed head assays and mineralogical characterisation.
- Investigation of coarse flotation applicability via four-stage sequential flotation tests at reducing P_{80} grind sizes (i.e. 75 µm, 53 µm, 38 µm and 20 µm). The BH test indicated very good sulphur recoveries (to 92%) but relatively poor gold recoveries (up to 68%) as gold-containing oxide particles were not

floated during the procedure due to the lack of flotation time at the finer final tested grind size. Similar results were reported for a KO sequential test and this approach was abandoned for the remainder of the program.

- All rougher-scavenger flotation testing was undertaken using the Phase 1 Variability testing FT7 reagent addition regime (i.e. 100 g/t MaxGold 900 and 100 g/t Aero 3418A collectors, no activation and minor dispersant additions).
- Several physical rougher flotation test methods were investigated where various grind sizes, scrape rates, cell types and general rougher concentrate pulling procedures were adopted.

Testwork demonstrated that the metal recovery rate is related to the percentage pyrite exposed and the offset between the sulphur recovery and the gold recovery being due to the gold that is associated with the gangue minerals.

The Bigar Hill ore type is the least mineralogically constrained in terms of pyrite associations, followed secondly by Korkan and thirdly by Kraku Pester. The metallurgical results reported herein, show that this mineralogy is the main driver on the metallurgical responses, which are not surprisingly, best for Bigar Hill and worse for Kraku Pester.

It was clear from the results that the grind size required for effective liberation of sulphides was circa 75 µm for Bigar Hill (slightly finer for Korkan and Kraku Pester) but that ultimately a 20 µm grind size is required to maximise rougher gold recovery on Bigar Hill and Korkan ore types.

The Kraku Pester ore type is clearly still mineralogically constrained at 20 µm and so some ultra-fine (10 µm and 5 µm) grinds were performed on this ore type alone but were unsuccessful. As a consequence, no further testing was conducted on this ore type, and Bigar Hill and Korkan became the main focus of testing.

Flash flotation simulation gave good sulphur recoveries and demonstrates that pyrite and gold can be floated at up to 75 µm, but the overall terminal gold recovery was lower than when the material is ground to 20 µm and then floated. This could be because the pyrite provides a “flotation carrier” for the gold-gangue particles? This needs further investigation before it can be built into the design.

The metallurgical and mineralogical results for Bigar Hill show that it has greater potential than the other two ore types. The exposed pyrite surfaces for Bigar Hill is 82%, Korkan is 73%, whilst the Kraku Pester sample is 59%. These exposed pyrite edges are what helps the bubbles attach to the particles during flotation. The lower the percentage of exposed edges the harder it is to conventionally float.

By linking the mineralogy to metallurgy, the results follow a similar pattern, the metallurgical comparison of the three ore types is shown in Table 13, Bigar Hill has the highest sulphide and gold recovery 96.9% and 86.8% respectively. Korkan is next recoveries of 80% and 71% respectively and Kraku Pester has an excellent sulphur recovery of 74.7% but the gold recovery is extremely poor at 51.6%.

13.13.3 Batch Rougher Tests

Bigar Hill was shown to be the best rougher flotation performer of the samples tested, followed by Korkan and then Kraku Pester, as illustrated in Table 27.

Table 27 2013 rougher flotation optimisation results summary

Ore type	Sample ID	Mass pull (Wt.%)	Grade		Recovery	
			Au (g/t)	S (%)	Au (%)	S (%)
Bigar Hill	MET13_BH_01	24.5	5.5	9.7	86.8	96.9
Korkan	MET13_KO_01	17.9	6.32	6.7	71.8	80.2
Kraku Pester	MET13_KP_01	24.8	2.98	12.7	51.6	74.7

It must be noted that to achieve the 86.8% gold recovery and the 96.9% sulphur recovery the weight needed was 24.5%, which is extremely high. It is lower than the weight pulls achieved in the previous testwork where the froth removal was extracted at a higher more conventional rate.

Results of the bulk rougher tests carried out on the Kraku Pester ore sample are shown in Table 28.

Table 28: 2013 Kraku Pester rougher flotation results

Kraku Pester (grind size 6 µm)					Kraku Pester (grind size 11 µm)				
Mass pull (Wt.%)	% Au recovery	% cum. recovery	Grade		Mass pull (Wt.%)	% Au recovery	% cum. recovery	Grade	
			Au (g/t)	Cum. Au (g/t)				Au (g/t)	Cum. Au (g/t)
2.5	6.60	6.60	3.58	3.58	2.20	7.38	7.38	4.44	4.44
2.5	7.68	14.28	4.31	3.94	1.9	7.45	14.83	5.1	4.75
1.9	6.62	20.90	4.86	4.2	1.60	7.47	22.30	6.14	5.14
3.6	13.85	34.75	5.33	4.58	2.6	11.83	34.13	5.89	5.38
4.5	19.15	53.90	5.82	5.0	3.8	12.13	46.26	4.24	5.02
3.4	6.53	60.43	2.68	4.54	3.3	7.97	54.23	3.17	4.63
81.60	39.57	100.00	0.67	1.38	84.6	45.77	100.00	0.71	1.31
100.00	**100.00**		**1.38**		**100.00**	**100.00**		**1.31**	

Results in Table 28 show that gold recovery to the bulk sulphide concentrate increases with increasing liberation fineness.

Open Cycle Cleaner Tests

The Phase 2 FT8 flotation tests included bulk rougher-scavenger tests to produce concentrates for subsequent open cycle cleaner (OCC) testing of the Bigar Hill and Korkan composite samples (no cleaning flotation was conducted on Kraku Pester samples). Unfortunately, the gold recoveries to the bulk rougher concentrate were not satisfactory for the FT8BH test at 77% and, particularly, the FT8KO test at 60%.

The reported calculated head gold grade of the FT8KO test correlated poorly with the assay head grade. This is due to an error in the FT8KO reported rougher tailings gold grade assay of 0.18 g/t whereas the actual assayed grade was 0.64 g/t which has a detrimental effect on all the reported recoveries for that test. The applicable information has been corrected within this report. In both cases, the relatively low gold recoveries were due to insufficient concentrate weight (around 7%).

Notwithstanding the relatively low rougher gold recoveries for the FT8 tests (which were also reflected in the subsequent cleaner testing results), reasonable cleaner concentrate grades were demonstrated as presented in Table 29.

Table 29: OCC test results summary

Sample description	Bigar Hill (FT88H)					Korkan (FT8KO)				
Product	Mass pull cum. Wt.%	% Au recovery	% cum. recovery	Grade		Mass pull (Wt.%)	% Au recovery	% cum. recovery	Grade	
				Au (g/t)	Cum. Au (g/t)				Au (g/t)	Cum. Au (g/t)
Cleaner 1 conc.	1.60	22.43	22.43	19.90	19.9	1.00	25.34	25.24	26.43	26.4
Cleaner 1-2 conc.	3.41	27.82	50.25	21.89	20.9	1.71	17.69	41.4	23.69	25.3
Cleaner 1-3 conc.	4.08	10.15	60.40	21.44	21.0	2.10	8.99	50.24	23.55	25
Cleaner 1-4 conc.	4.50	6.58	66.99	22.01	21.1	2.46	4.92	55.61	15.76	23.6
Cleaner 1-5 conc.	4.68	2.18	69.17	17.50	21.0	2.92	8.24	63.98	18.87	22.9

Cleaner tailings	7.79	8.09		3.69	14.1	7.19	14.99		4.89	12.2
Rougher conc.	7.79	77.26	77.3	14.07		7.19	80.16	83.99	12.19	
Rougher tailings		22.74		0.35		92.81	19.84		0.18	
Calc. Head	**100.00**	**100.00**	**100.00**	**1.42**		**100.00**	**100.00**	**100.0**	**1.04**	

The difference in cleaning of the concentrates can be compared in Figure 49. The sulphide grades achieved in Korkan and that of Bigar Hill are different. Bigar Hill ore produced a 92% pyrite concentrate compared with 62% pyrite concentrate on Korkan.

This is undoubtedly due to the coarser pyrite mineralogical associations on Bigar Hill when compared with Korkan which exhibits finer pyrite mineralogical associations. The very fine pyrite mineral associations observed for Kraku Pester are undoubtedly the reason why this ore type shows the least tendency to upgrade selectively.

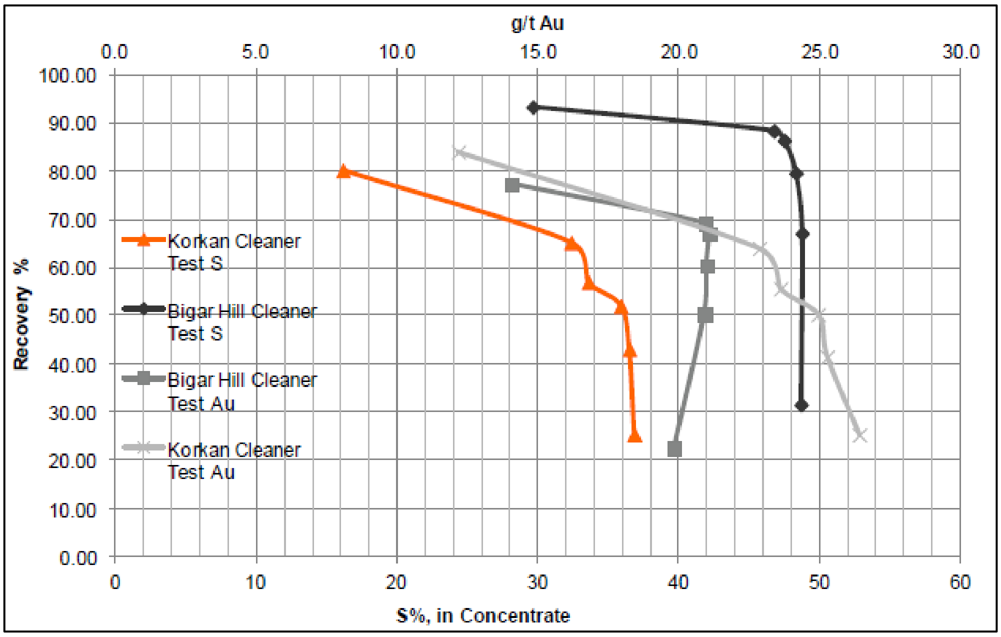


Figure 49: OCC grade-recovery curves

Source: Avala, 2018

Results of the OCC flotation tests demonstrated:

- For the FT8BH test, a relatively flat gold grade-recovery relationship was reported where a final cleaner concentrate (1 to 5 combined) gold grade of 21 g/t was obtained. Gold recovery to the final concentrate of 69.2% represented an absolute loss of 8.1% gold recovery to the cleaner tailing. The final concentrate weight was 4.7% of the flotation feed.
- For the FT8KO test, the grade-recovery relationship was more typical where the reported final cleaner concentrate (1 to 5 combined) gold grade was 23 g/t. Gold recovery to the final concentrate of 65.0% represented an absolute loss of 20.0% gold recovery to the cleaner tailing. The final concentrate weight was 2.9% of the flotation feed.

All FT8 cleaner tests were conducted in open circuit so the recoveries stated above reflect that the cleaner tail gold is lost from the system. In reality, the cleaner tail would be recycled to the head of the cleaner circuit (or similar such as a separate cleaner-scavenger circuit) and a proportion could report to the final concentrate thus improving gold recovery. However, this also implies that the final concentrate weight will increase with consequent reduction in the final concentrate grade.

Whilst the BH curve is not typical (it is considered unusual for both grade and recovery to increase on a cumulative basis), a final concentrate weight of approximately 4.7% appears optimum for this sample.

The average calculated Au head grades for the MET13 samples used in all Phase 2 and SGS Lakefield flotation tests were 1.47 g/t and 1.44 g/t for the BH and KO ore types. These grades are considered relatively low where corresponding LOM mill feed gold grades of around 2 g/t have been determined for the sulphide ores as per the Mineral Resource Estimate dated 15th May 2018. As such, and if final concentrate weights remain near the values shown above, final concentrate grades are expected to be higher than demonstrated by these tests and require verification via variability testwork.

No locked cycle or similar cleaner testing has been conducted to date. Similarly, no variability style testing has been completed so the effect of higher flotation feed gold and sulphur grades on parameters such as concentrate weights, recoveries and grades is not able to be confirmed at this stage.

13.13.4 Flotation Testwork Results Summary

The relevant data available from the rougher-scavenger flotation testwork programs described above was collated and assessed and individual tests selected for further analysis where the following rationale was employed:

- Phase 1 results have not been included for the reasons discussed in Section 13.13
- Kraku Pester flotation testing during the Stage 2 program was not entirely comparable with that undertaken for the Bigar Hill and Korkan samples, predominantly due to the addition of further investigative tests following relatively poor performance under conditions which had obtained reasonable gold recoveries for the latter samples. In addition, Kraku Pester samples were not included within the Lakefield SGS or Extra Flotation testwork programs, and cleaning flotation testing was not undertaken either.
- In general, some Phase 2 rougher-scavenger flotation test results were not considered relevant as the results are anomalous or not consistent with the final design approach, such as:
  - FT1 and FT2 procedures produced poor results due to the slower scrape rates, presumably as the gold containing oxide particles dropped out of the froth.
  - FT9, FT10 and FT11 flotation test procedures were undertaken at P_{80} grind sizes of 75 µm, 53 µm and 35 µm, respectively and are thus not comparable with the target grind size basis of a flotation on feed P_{80} size of 20 µm.
- Each of the rougher-scavenger flotation tests used to generate cleaner flotation test feed for the Phase 2 FT8 tests did not perform as well as some of the corresponding rougher-scavenger tests.
- The SGS Lakefield BH1 and KO1 tests produced poor results, perhaps due to effects associated with the very fine grind size (~7 µm P_{80}) although BH2 performed much better (albeit at a higher concentrate weight).

Elimination of the individual flotation tests described above allowed for a selected Phase 2 and Lakefield SGS flotation testwork results dataset for further detailed analysis to derive preliminary metallurgical parameters suitable for the base case flotation circuit. This data set represented Bigar Hill and Korkan samples only. The flotation performance of the corresponding Kraku Pester sample has not been specifically considered for the flotation circuit design due to the later planned Kraku Pester pit development and ore treatment period. However, Kraku Pester projected flotation performance has been assessed under the conditions expected to apply for treatment of this ore using the base case flowsheet for the estimation of metal recoveries and similar values required for input parameters into the updated MRE dated 15th May 2018.

13.14 Flotation Circuit Design Basis

The metallurgical testwork results interpretation as outlined above provides the basis for the Timok sulphide flotation circuit design as follows:

- No consideration of Korkan East sample results as this is an underground polymetallic resource not destined for the main Timok facility at this stage.
- In general, the results from flotation testing of the Kraku Pester samples were not considered for the design elements of the flotation circuit due to the relatively poor performance shown to date and the planned treatment towards the end of the LOM period.
- As Bigar Hill represents the greatest proportion of LOM mill feed throughput and metal and will be processed first through the facility, the physical aspects of the flotation circuit design are predominantly based on the Bigar Hill samples testwork results analysis.
- True specific gravity estimated values of 2.6, 3.1 (~20% pyrite) and 4.8 (~92% pyrite) are assumed for whole ore, rougher concentrates and final concentrates, respectively for future design purposes.
- Flotation feed P_{80} size of 20 µm. Kraku Pester sample results indicate generally softer characteristics than the other ore types and could allow for a finer flotation feed size for treatment of these ores.
- No inclusion of flash flotation within the flowsheet.
- Rougher-scavenger combined laboratory testing flotation time of 45 minutes, equivalent to approximately two hours at the full scale for conventional flotation cells. As with the flotation feed size, there are opportunities to increase flotation circuit residence times (or similar) for the Kraku Pester ore types during the treatment period.
- Target cumulative rougher concentrate weights of 25% for the Bigar Hill and Kraku Pester ore types and 20% for Korkan ore types, respectively.
- Target rougher-scavenger gold recoveries of 85%, 74% and 60% for Bigar Hill, Korkan and Kraku Pester ore types, respectively.
- Similarly, target rougher-scavenger sulphur recoveries of 94%, 88% and 73% Bigar Hill, Korkan and Kraku Pester ore types, respectively.
- No flotation concentrate regrind requirements for the base case flowsheet. There may be improvements available to the cleaner grade-recovery relationships by regrinding rougher concentrate or perhaps the Cleaner tailing. However, the flotation feed is already quite fine (20 µm P_{80}) and potential effects of an even finer regrind (perhaps 10 µm P_{80}) on recovery due to sliming related issues or similar are unknown at this stage.
- Final concentrate gold recovery of 70%, 65% and 50% for Bigar Hill, Korkan and Kraku Pester ore types, respectively.
- Similarly, final concentrate sulphur recoveries of 90%, 80% and 70% for Bigar Hill, Korkan and Kraku Pester ore types, respectively.
- Average final concentrate weight of approximately 4% but a design allowance for 5.5% for higher sulphur grade feed ores expected during the development of the starter pits and for the Kraku Pester ore types.
- Target final concentrate sulphur grades of over 30%. Whilst, a considerably higher final sulphur grades have been demonstrated (Phase 2 FT8 BH test recoded 48% sulphur equivalent to 92% pyrite), adoption of a design sulphur grade of this order results in relatively low final concentrate weights under nominal LOM conditions which is likely to reduce gold recovery.
- Target final concentrate gold grades of 30–50 g/t, depending on feed gold and sulphur grades and the final concentrate weight corresponding to the metal recoveries described above.

The metallurgical flotation circuit design basis is shown in Table 30.

Table 30: Metallurgical flotation circuit design basis

Deposit		Bigar Hill	Korkan	Kraku Pester
Parameter	**Unit**			
Flotation feed P_{80} size	µm	20		<20
Rougher concentrate weight	%	25	20	25
Rougher Au recovery	%	85	74	60
Rougher S recovery	%	94	88	73
Cleaner relative Au recovery	%	93		
Cleaner relative S recovery	%	97		
Final concentrate Au recovery	%	70	65	50
Final concentrate S recovery	%	90	80	70
Final concentrate weight	%	4.7	2.9	4.0

Metallurgical testwork conducted on the various samples from Bigar Hill, Korkan and Kraku Pester provided the gold recoveries presented in Table 24 which were used as the base case assumptions for open pit optimisation and update MRE for the Timok Gold Project dated 15th May 2018.

13.15 Chlorination laboratory testwork completed in 2016

In 2016, Avala submitted 16 bags of core samples from Bigar Hill to Dundee Sustainable Technologies (“DST”) for characterisation work. The work is outlined in Avala document “Results of Laboratory Tests on Avala Ore” and the conclusions have been extracted and presented below.

- A composite sample, BH-1, was made up to represent and ‘average Ca content’ sample. The composite sample assays were: 1.98g/t Au, 24.8g/t Ag, 1.27% S^{2-}, 2.20% Fe, 10.4% Ca.
- A concentrate and tails sample was produced through a locked cycle floatation test of the composite sample having a P80 of 60.1 µm – thus coarser as the phase 2 floatation work conducted in 2013.
- Chlorination with sodium hypochlorite tests were performed on the composite, the floatation concentrate and tails samples. All samples were subjected to a 3h sulphuric acid leach prior to chlorination.
- The Au associated with the sulphides is considered highly refractory and requires an oxidation step to maximize Au recovery from the leaching step. Chlorination feed samples containing more than 1% sulphides, composite and concentrate sample, were subjected to an oxidation step to reduce the sulphur content to <1% prior to the acid leach and chlorination.
- Chlorination of the various samples achieved the following recoveries:
  - BH-1 composite sample without oxidation: 75.0%
  - BH-1 composite sample with oxidation: 83.8%
  - Floatation concentrate of BH-1 with oxidation: 61.6%
  - Floatation tails of BH-1 without oxidation: 82.6%
- Based on the results from these samples, the potential to extract a further ~80% Au from the floatation tails, without oxidation, indicate that the potential to recover 85-90% total Au exists by considering other processing options.

13.16 Conclusions

13.16.1 Oxide / Transitional Ore

Results of the coarse bottle roll leach tests indicated gold leach extractions ranging from 53% for the Korkan transitional ore to 94% for the Bigar Hill oxide ore, after 14 days of leaching, and at a crush size of 100% -16 mm. Leach curves indicated that gold leaching was still ongoing after 14 days of leaching when the tests were terminated.

Column leach tests carried out at the optimal crush size of 80% -12.5 mm exhibited fast leach kinetics except for the Korkan transitional ore, where leaching was still ongoing of 63 days when the tests were terminated. Lime consumption is moderate and cyanide consumption is low for all ore types.

The projected gold recovery, reagent consumption, leach time and crush size based on the column leach testwork results are summarised in Table 15.

Size-by-size analysis of the column leach test feed and tails samples shows gold evenly distributed among the size classes, roughly following the mass splits. Some of the metallurgical samples showed low gold recovery in the coarse size fractions; +19.0 mm.

There was generally good correlation between gold extraction obtained from the coarse bottle roll leach and column leach tests apart from the Korkan transitional ore which was still leaching in both tests.

Results of the testing program indicate that oxide and transitional ore samples from the Timok Gold Project are amenable to heap leach processing. Leach rates are relatively fast with high gold recovery for the Korkan and Korkan West oxide ore, and moderate gold recovery for the Korkan transitional, and Korkan West oxide ore zones.

Size-by-size analysis would tend to indicate that some of the ores could benefit from a finer crush size.

13.16.2 Fresh Ore

Testwork demonstrates that the fresh ore types are amenable to bulk sulphide flotation to produce a gold bearing sulphide concentrate. Based on testing the following predictions on gold and sulphur recoveries to the cleaner concentrate are:

- Final concentrate gold recovery of 70%, 65% and 50% for Bigar Hill, Korkan and Kraku Pester ore types, respectively.
- Similarly, final concentrate sulphur recoveries of 90%, 80% and 70% for Bigar Hill, Korkan and Kraku Pester ore types, respectively.

Recommendations from the characterisation work completed in 2016 by DST are as follows:

- All gold chlorination tests were preceded by sulphuric acid leaching. Chlorination tests should be conducted without acid leaching to verify the removal of this step on the gold recovery. If the gold recovery remains stable, the withdrawal of acid leaching will simplify the process and reduce the capital cost.
- The chlorination of the oxidized and acid-leaching sulphide concentrate provided a gold recovery of 61.6%. Gold is possibly finely disseminated in sulphides. Generally, an ultra-fine grinding of the sulphide concentrate should improve the gold recovery. Equipment for ultra-fine grinding is available (ISA mill), but their capacity is rather limited. Ultra-fine grinding of the sulphide concentrate is feasible because its tonnage represents 4.25% of the feed. Ultra-fine grinding tests of the sulphide concentrate should be performed to verify whether gold recovery will increase.

14 Mineral Resource Estimates

14.1 Introduction

CSA Global completed Mineral Resource estimation for the Bigar Hill, Korkan and Korkan West, and Kraku Pester deposits in September 2018. The following section describes the methodology, parameters and key assumptions regarding the preparation of the updated MRE.

The MRE was based on interpretations using integrated geological and grade information recorded from RC and diamond core logging and assaying. DPM geologists conducted the geological interpretation and modelling work using the Leapfrog software package. CSA Global reviewed these models and found them suitable for use in the MRE. The estimation work was completed using the Datamine Studio and Isatis software packages by CSA Global. The date of receipt of final data for the Bigar Hill, Korkan and Korkan West, and Kraku Pester deposits was 15 May 2018, which can be considered the effective date of the MRE.

The deposits have been evaluated regarding the UTM grid (Zone 34 North in WGS 84 datum), and all directional references in the MRE portions of this report are according to this grid.

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be affected by various factors inherent to mineral properties. See "Forward Looking Statements". In particular, it is unknown if DPM can obtain all required governmental approvals and permits for the possible development and operation of the Project.

14.2 Data Supplied

Drilling and trench data files were provided in comma-separated-values format, being exports from DPM's acQuire database, as well a collection of data and analytical files relating to QAQC protocols. The date of receipt of final data for the Bigar Hill, Korkan and Korkan West, and Kraku Pester deposits is 15 May 2018.

The breakdown of drill-holes by drilling type, and drilling database tables is summarised in Table 31 and Table 32 respectively. Gold is currently the only assay field considered to be economically significant and was therefore the sole grade field selected for the estimation of grades.

Table 31: Exploration drilling

Deposit	Drill-hole type	No. of holes	Average length	Total metres	No. of assays
Bigar Hill	RC	333	214.1	71,287.0	71,287
	Diamond	120	288.7	34,637.6	28,920
Korkan	RC	283	170.2	48,171.0	48,171
	Diamond	174	302.4	52,614.0	49,880
Korkan West	RC	12	136.1	1,633.0	1,633
	Diamond	61	216.5	13,205.4	13,210
Kraku Pester	RC	94	159.2	14,962.0	14,962
	Diamond	57	242.9	13,844.7	13,151

Table 32: Sample database data tables

Table	Records			
	Bigar Hill	Korkan	Korkan West	Kraku Pester
Collar	453	457	73	151
Survey	3,724	3,307	578	1,006
Assay	100,207	98,051	14,843	28,113
Lithology	100,200	98,044	14,841	28,113

Table	Records			
	Bigar Hill	Korkan	Korkan West	Kraku Pester
Alteration	4,859	3,867	303	4,175
Geotechnical	20,329	29,958	6,695	9,595
Density	5,657	10,007	2,957	2,289

Prior to estimation, twin drill-holes were removed, in order to mitigate potential grade bias and excessive clustering. The twin holes were reviewed both visually and statistically. Generally, DD holes were retained in preference to the RC holes, unless the tenor of the RC holes were more in line with the surrounding drill-hole grades. Table 33 lists the drill-holes removed from the resource estimation database.

Table 33: Twin drill-holes removed from the resource estimation database

Deposit	Twin drill-holes removed
Bigar Hill	BHDD035, BHDD073, BHRC005, BHRC006, BHRC011, BHRC013, BHRC015, BHRC016, BHRC017, BHRC018, BHRC019, BHRC022, BHRC024, BHRC028, BHRC031, BHRC038, BHRC040, BHRC045, BHRC047, BHRC054, BHRC076, BHRC081, BHRC105, BHRC125, BHRC132, BHRC188, BHRC195, BHRC233, BHRC234, BHRC330
Korkan	KEDD004, KODD082, KORC003, KORC008, KORC011, KORC013, KORC019, KORC020, KORC037, KORC039, KORC043, KORC044, KORC054, KORC057, KORC067, KORC070, KORC085, KORC090, KORC097, KORC099, KORC109, KORC141
Kraku Pester	PERC007, PERC017, PERC020, PERC025, PERC026, PERC041, PERC082

14.3 Interpretations

14.3.1 Geology

Geological Units

A series of wireframe solids were generated by DPM using Leapfrog modelling software, representing the interpreted stratigraphic units. For the four deposits, these solids constitute:

- Bigar Hill:
  - Overburden, Andesite Sill, Marl, Conglomerates (S2), Sandstones and Conglomerates (S1), Basal Breccia, Jurassic Limestone and Metamorphic Phyllite.
- Korkan:
  - Overburden, Andesite Sill, Hornblende Diorite Porphyry, Marl, Conglomerates (S2), Sandstones and Conglomerates (S1), Basal Breccia, Lower Cretaceous Limestone and Metamorphic Phyllite.
- Korkan West:
  - Overburden, Marl, Conglomerates (S2), Sandstones and Conglomerates (S1), Lower Cretaceous Limestones, Jurassic Limestone and Metamorphic Phyllite.
- Kraku Pester:
  - Overburden, Andesite Sill, Hornblende Diorite Porphyry, Skarn, Marl, Monzonite, Jurassic Limestone and Metamorphic Phyllite.

Faults

A set of wireframes representing the interpreted planes of fault surfaces were generated by DPM. Individual surfaces had been constructed from a combination of correlated drill intersections, mapped surface positions, inferred fault alignments derived from mapping, and other geological indicators.

Figure 50 illustrates the interpreted fault relationships at Bigar Hill from an oblique elevated view, looking northeast. The sub-horizontal shapes represent the mineralisation. The northern and southern bounding faults of the interpreted graben structure are clearly apparent.

Figure 51, Figure 52 and Figure 53 show similar northeast looking oblique views of relationship between the faults and mineralisation at Korkan, Korkan West and Kraku Pester.

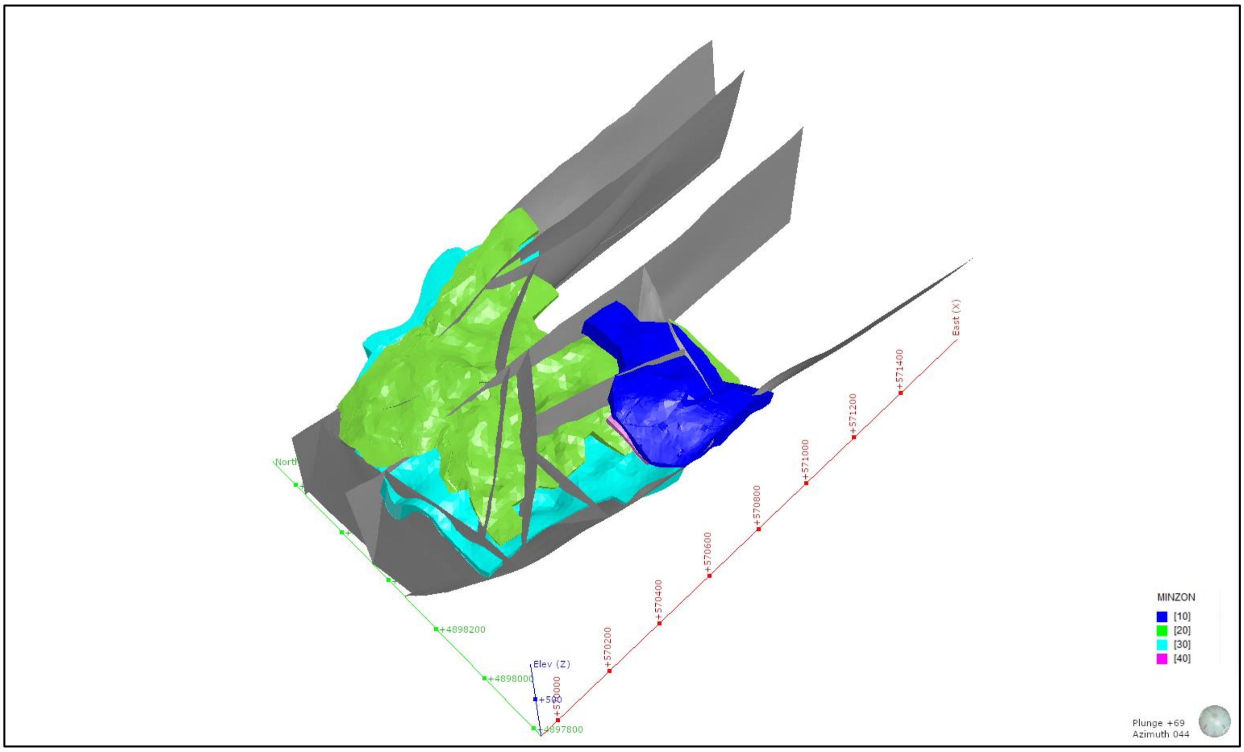


Figure 50: Distribution of faults and mineralisation (MINZONs 10, 20, 30 and 40) – Bigar Hill

Source: CSA Global, 2018

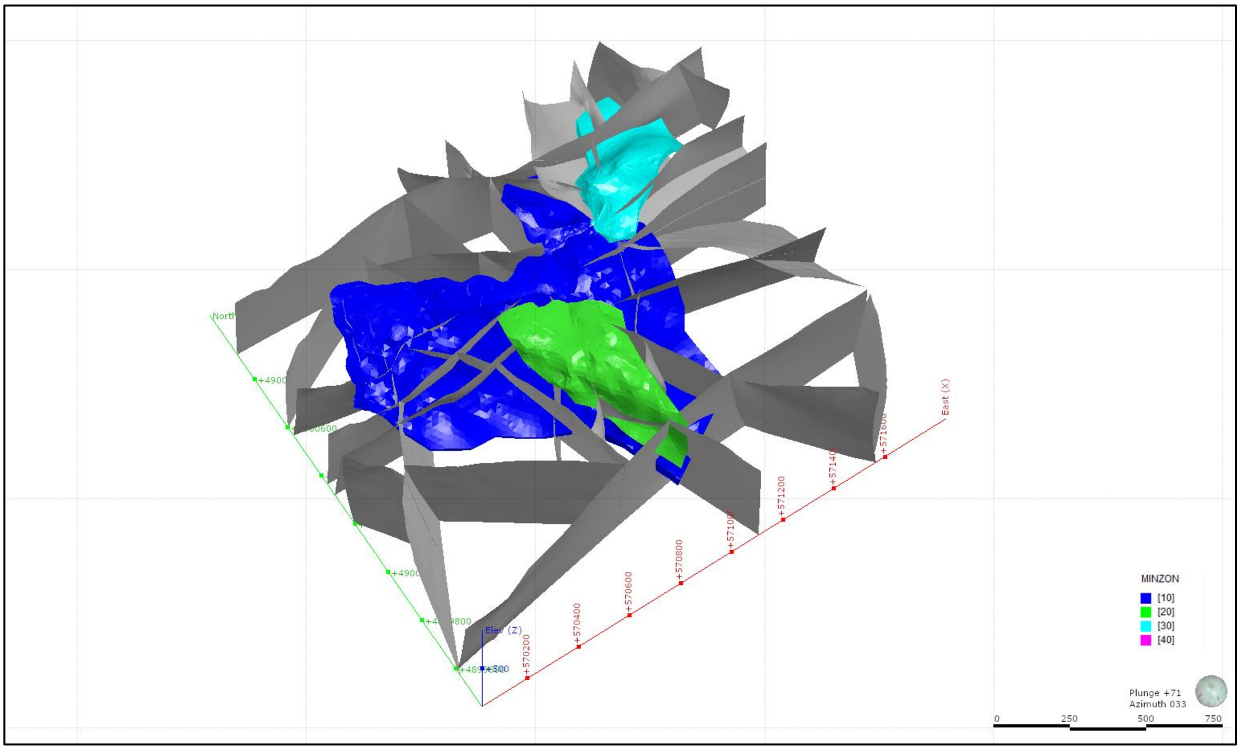


Figure 51: Distribution of faults and mineralisation (MINZONs 10, 20 and 30) – Korkan

Source: CSA Global, 2018

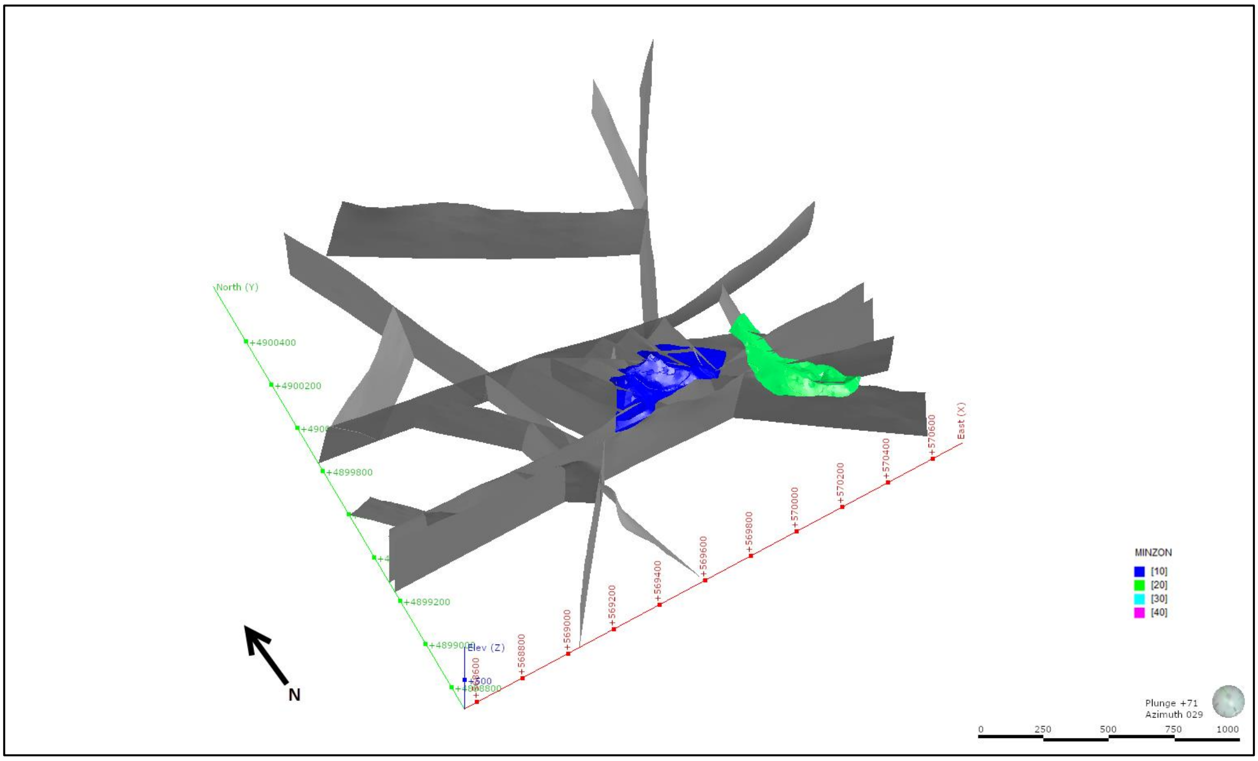


Figure 52: Distribution of faults and mineralisation (MINZONs 10 and 20) – Korkan West

Source: CSA Global, 2018

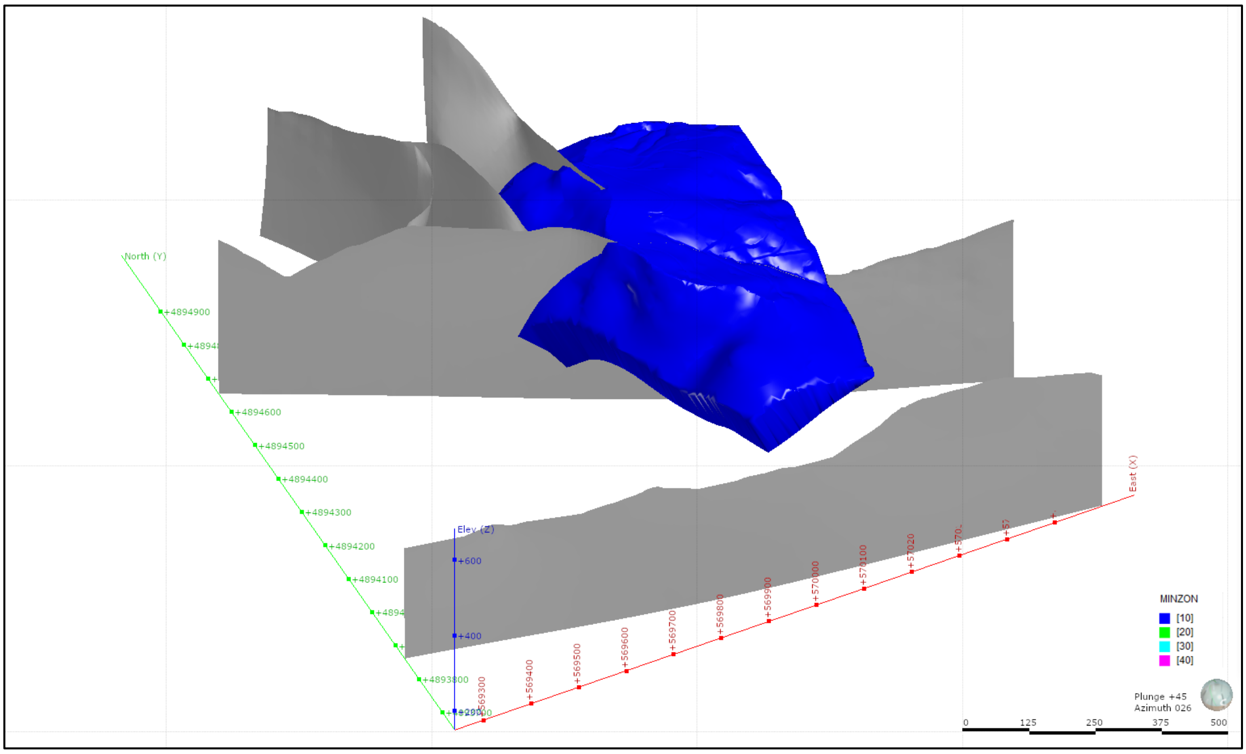


Figure 53: Distribution of faults and mineralisation (MINZON 10) – Kraku Pester

Source: CSA Global, 2018

14.3.2 Mineralisation

Bigar Hill

While occurrences of gold mineralisation can be observed throughout the Bigar Hill stratigraphy, it is clear that elevated gold values are concentrated along certain horizons, most particularly the S1/S2 and S1/limestone contacts. The S1/S2 contact mineralisation displays both the best continuity and clarity of definition and presents a relatively coherent body of above 0.5 g/t Au material. However, although at times the upper boundary of the mineralisation is well defined, more typically both the upper and lower boundaries are gradational and variable in character, and the interpretation is therefore subjective.

In view of both the gradational character of the mineralisation boundaries and particular requirements of the selected grade estimation method, it was considered more appropriate to apply looser constraints for the interpretation of mineralisation. For this purpose, an indicative cut-off grade of 0.1 g/t Au, applied to 1 m composites, was used to guide the definition of grade shells for each body of mineralisation. Single mineralised shell volumes were defined for each of the S1/S2 and S1/limestone zones, as well as a zone of less continuous mineralisation towards the southern end of the andesite unit.

The mineralised shell for the S1/limestone zone strikes roughly north-south, mostly dipping to the east between 20° and 30°, flattening to approximately horizontal near surface in the west. The S1/S2 shell also strikes approximately north-south, with dips ranging up to 20° east, further steepening to 30° with depth. These two mineralisation zones jointly extend about 950 m east-west and 850 m north-south, and from near surface to a depth of 300 m elevation. The S1/limestone mineralisation in particular, pulls sharply upwards against the northern and southern graben boundaries.

The andesite mineralisation strikes approximately north-south with a gentle dip to the east and extends about 300 m in east-west and 500 m in the north-south directions. The vertical extent of the mineralisation is from near surface to a depth of 580 m elevation.

Korkan

Mineralisation at the Korkan deposit is generally easterly-trending and shares similar stratigraphic relationships to those found at the Bigar Hill deposit. Unlike Bigar Hill, however, stratiform gold mineralisation at Korkan occurs primarily along the unconformable and breccia-like lower contact zone of the clastic S1 sequence against the underlying KLS limestone unit, and in karst-infill zones at the upper boundary of the KLS.

In plan, the dominant sediment-limestone mineralisation forms a broadly hook-shaped body with an east-west extent of around 1,300 m. For much of this strike, the zone dips to the south but, to the northeast it passes over a crest, adding a north-dipping limb. The southern limb typically dips around 25°, while on the northern limb dips are low in the west, increasing to in excess of 50° towards the east. The deepest interpreted part of the southern limb reaches around 440 m below surface.

The sediment-hosted mineralisation is restricted to 300 m of strike and 650 m down dip, above the central portion of the sediment-limestone mineralisation south limb. With a similar shallow dip to the south, this zone extends to a maximum of 300 m below surface.

The relatively poorly-defined volcanics-hosted mineralisation is restricted to a 150 m strike-length by 350 m (northerly) dip zone above the northern limb of the sediment-limestone mineralisation.

Korkan West

Mineralisation at the Korkan West deposit is found within two main zones. The eastern zone dips approximately 25–30° toward the northeast and is approximately 500 m in strike length and 150 m in down-dip extent. The zone of mineralisation follows the stratigraphic contacts and as such, has an approximate tabular form.

Gold mineralisation is found predominantly within the S1 sandstones and conglomerates with mineralisation localised around the S1/S2 contact and S1/SLS contact. It rarely extends into the S2 unit. Mineralisation is also found as Karst in-fill features within the underlying limestone.

Both zones are located within the same stratigraphic level. Between the zones of mineralisation an east-west trending fault zone appears to displace the mineralisation. In this area there are intervals of sub-economic mineralisation which has not been included within the mineralisation domains.

The western zone of mineralisation dips 30° toward the northeast. The zone is 400 m in strike length and can be traced to 300 m in down-dip extent. Gold mineralisation can be found near surface, predominantly hosted within the S1 and S2 units, and forms wide continuous zones of mineralisation which typically persist from the start of the drill-hole until the S1/SLS contact. Mineralisation has a gradational grade distribution and as such, continuity has been well established between drill-holes.

Grade shells have been created using the 1 m composites using a broad 0.1 g/t cut-off for both zones which broadly uses the S1/S2 contact as the hangingwall and S1/SLS contact as the footwall. Locally post-mineralisation faulting does appear to displace the mineralised zones, potentially up to 10 m and this relationship was considered during the modelling process where warranted.

Kraku Pester

Unlike the Bigar Hill and Korkan deposits, gold mineralisation at Kraku Pester is observed to dominantly locate within the sediments and monzonite units. Elevated gold values are concentrated along the contact between the sediments and the monzonite. The upper and lower boundaries of the mineralisation are in the sediments and the monzonite respectively. Both the upper and lower boundaries are variable and gradational in character, and there is a high proportion of very low grades within the broad zone of interpreted mineralised intercepts.

In view of both the gradational character of the mineralisation boundaries and particular requirements of the selected grade estimation method, it was considered more appropriate to apply looser constraints for the interpretation of mineralisation, compared to Bigar Hill and Korkan, but still within an indicative cut-off grade of 0.1 g/t Au, applied to 1 m composites.

A single mineralised shell volume was defined for Kraku Pester mineralisation, straddling the sediments/monzonite interface, striking roughly north-south with a near surface dip to the west of approximately 20°, steepening down dip to 50°. Mineralisation extends about 600 m east-west and 705 m north-south, and from near-surface to a depth of 450 m.

14.3.3 Weathering Profiles

The interpretation of the weathered profiles for all four deposits was based on geological logging in conjunction with review of bottle roll data and sulphur assay values.

Beginning in Q4 2017, a re-logging program was commenced where by geologists record a visual estimation of the percentage of oxidation within 1 m intervals of core and RC chippings. All viable core was retrieved and re-logged whilst RC chippings was re-logged using chip tray samples or by using reference photographs if this was not available. The logged value allows a demarcation of the changeover points from oxide, to transitional and finally to fresh mineralisation. This dataset was given highest precedence during the building of domains due to it being quantitative and being based on the common sampling interval at (1 m) Timok.

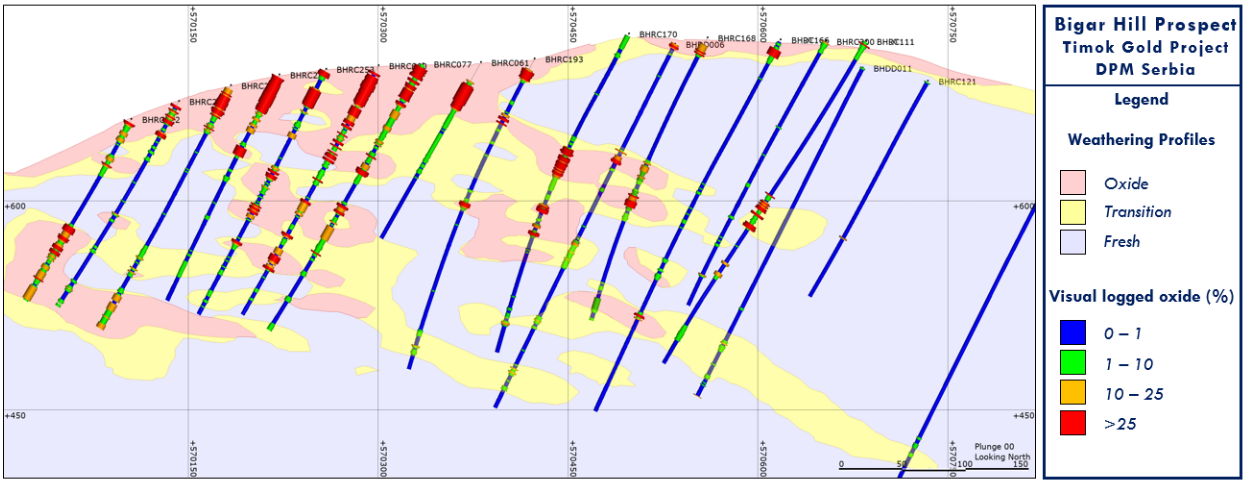


Figure 54: Weathering profiles and logged oxide% for a cross section in Bigar Hill. View towards north. 4898940mN

Source:Avala, 2018

Additionally, geologists visually assigned a categorical oxidation code based on the style of oxidation. The logged oxidation codes record a progressive five-step diminution of oxidation, from completely oxidised down to fresh rock, as shown in Table 34.

Table 34: Oxidation logging codes

Logging code	Description
SOX	Strongly oxidised
MOX	Moderately oxidised
POX	Partially oxidised
WOX	Weakly oxidised
FRS	Fresh

The assignment of categorical oxidation codes is somewhat subjective in nature and not always reflective of the underlying degree of oxidation of sulphides. This dataset was referred to during creation of weathering domains where logged percentage of oxidation data was not available, which is mostly on the periphery of the main prospects. Sulphur assays were also reviewed during the modelling process. Core assay data absent of sulphur grade is typically coincident with oxides, whilst low sulphide areas that also possess logged oxide values greater than 1%, are typically associated with transitional material.

The cyanide-gold leach bottle roll assay data was also referred to during the construction of the different weathering domains. Higher gold recoveries during the cyanide-gold leach bottle roll tests are mostly controlled by the oxidation degree of the arsenic and gold-rich pyrite. The usefulness of these data is limited by the fact that the composites are at 5 m intervals, which is in contrary to the logging data which is at 1m intervals. Spatially, data is irregular in spacing and data is not always available in the areas of interest. Future bottle roll testwork should be undertaken on shorter intervals (1m or 2m) with the selection of the intervals prioritised in mineralised areas.

Table 35: Oxide and transitional modelling criteria

Weathering domain	Logged oxide (%)	Bottle roll recovery (%)	Sulphur grade (%)	Oxide category
Oxide	>10%	>70%	<1%	SOX, MOX, WOX, POX
Transitional	>1%	>50%	<1%	MOX, WOX, POX

Oxide and transitional 3D models were validated by visual and statistical review of sulphur and visually logged oxide percentages.

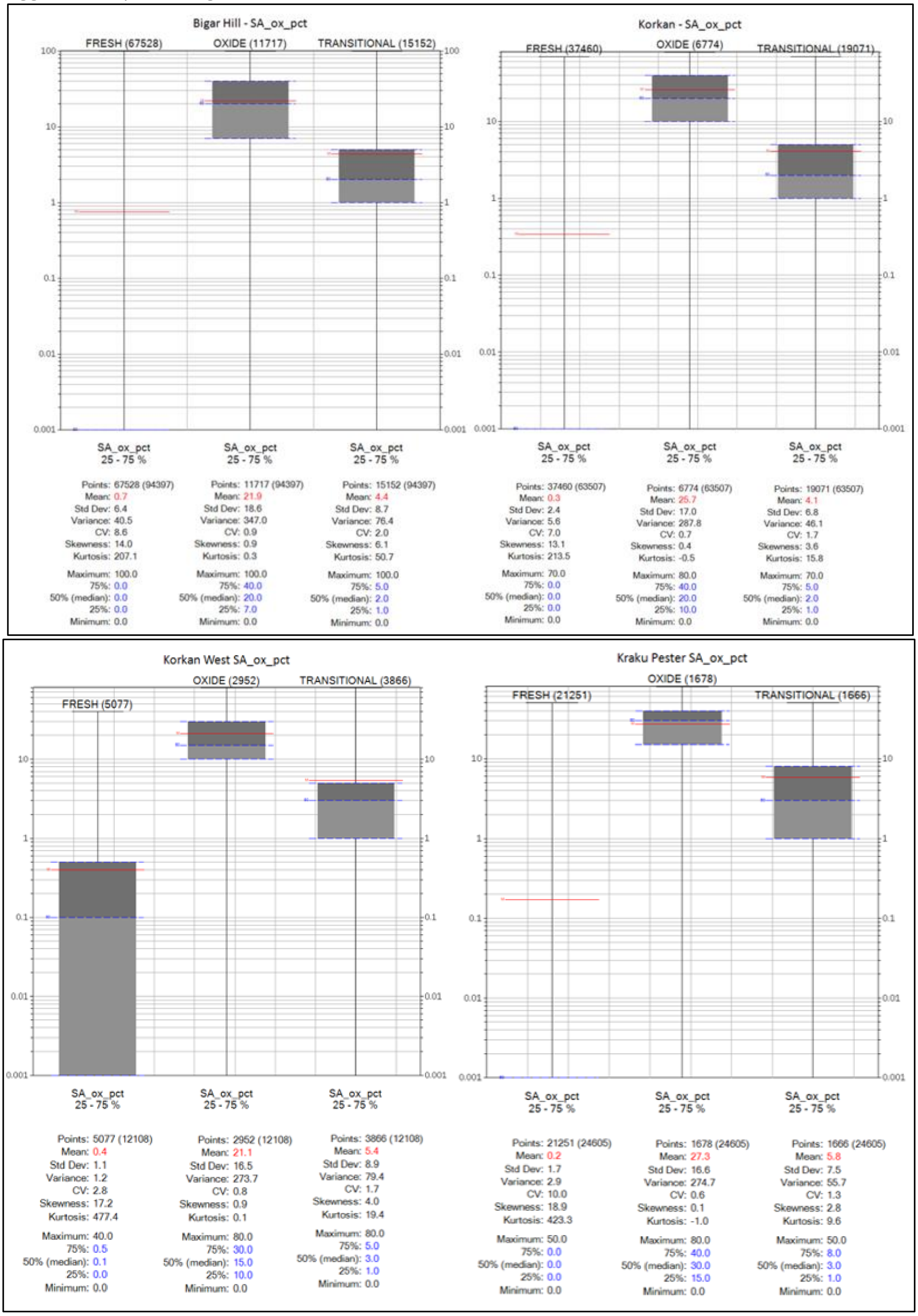


Figure 55: Summary statistics for Oxide % per deposit by weathering profile

Source: Avala, 2018

14.3.4 Topography

For each of the deposits, wireframes of the topographic surfaces were imported unmodified from single DWG-format files provided. The topography datasets are based on surveys described in Section 9 of this report.

14.4 Block Model Construction and Coding

Volume block models for each deposit were constructed using the coordinate limits shown in Table 36 and using parent cell configurations shown in Table 37. The parent cell geometry was selected on the basis of the dominant drill spacing across each deposit (40 m x 40 m), and parent cells were sub-celled along bounding surfaces to the minimum sub-cell dimensions shown to honour volumes.

Table 36: Model dimensions

Deposit	Direction	Origin	Limit	Range
Bigar Hill	Easting	569920	571580	1660
	Northing	4897720	4898880	1160
	RL	0	900	900
Korkan	Easting	570000	571780	1780
	Northing	4899400	4901000	1600
	RL	0	900	900
Korkan West	Easting	568540	570640	2100
	Northing	4898680	4900560	1880
	RL	0	900	900
Kraku Pester	Easting	569200	570600	1400
	Northing	4893500	4895000	1500
	RL	100	700	600

Table 37: Base model cell parameters

Deposit	Direction	Parent cell size (m)	Minimum sub-cell (m)	
			Mineral	Topo
Bigar Hill	Easting	20	5	5
	Northing	20	5	5
	RL	10	5	5
Korkan	Easting	20	5	5
	Northing	20	5	5
	RL	10	5	5
Korkan West	Easting	20	5	5
	Northing	20	5	5
	RL	10	5	5
Kraku Pester	Easting	20	5	5
	Northing	20	5	5
	RL	10	5	5

A sub-model of the geological units was constructed by filling within each unit wireframe solid and sequentially overlaying the individual models to produce a result that reflects the limestone-S1-S2-marl stratigraphy. At Bigar Hill, Korkan and Kraku Pester, the solid wireframes representing the andesite body was filled and stamped over the appropriate marl volumes. At all four deposits, the overburden sub-model was built by filling within the overburden solid and stamped over all other units. The units in the geological sub-model were distinguished by codes in the GEOL attribute field, as shown in Table 38 and illustrated in example sections in Figure 56 to Figure 59.

Table 38: Geology unit zone codes (GEOL field)

Zone	GEOL field code			
	Bigar Hill	Korkan	Korkan West	Kraku Pester
Overburden	100	100	100	100
Andesite Sill	200	200	-	200
Hornblende Diorite Porphyry	-	300	-	300
Skarn	-	-	-	400
Marl	500	500	500	500
Monzonite	-	-	-	600
Conglomerates (S2)	700	700	700	-
Sandstones and Conglomerates (S1)	800	800	800	-
Basal Breccia	900	900	-	-
Lower Cretaceous Limestone	-	1000	1000	-
Jurassic Limestone	1100	-	1100	1100
Metamorphic Phyllite	1200	1200	1200	1200

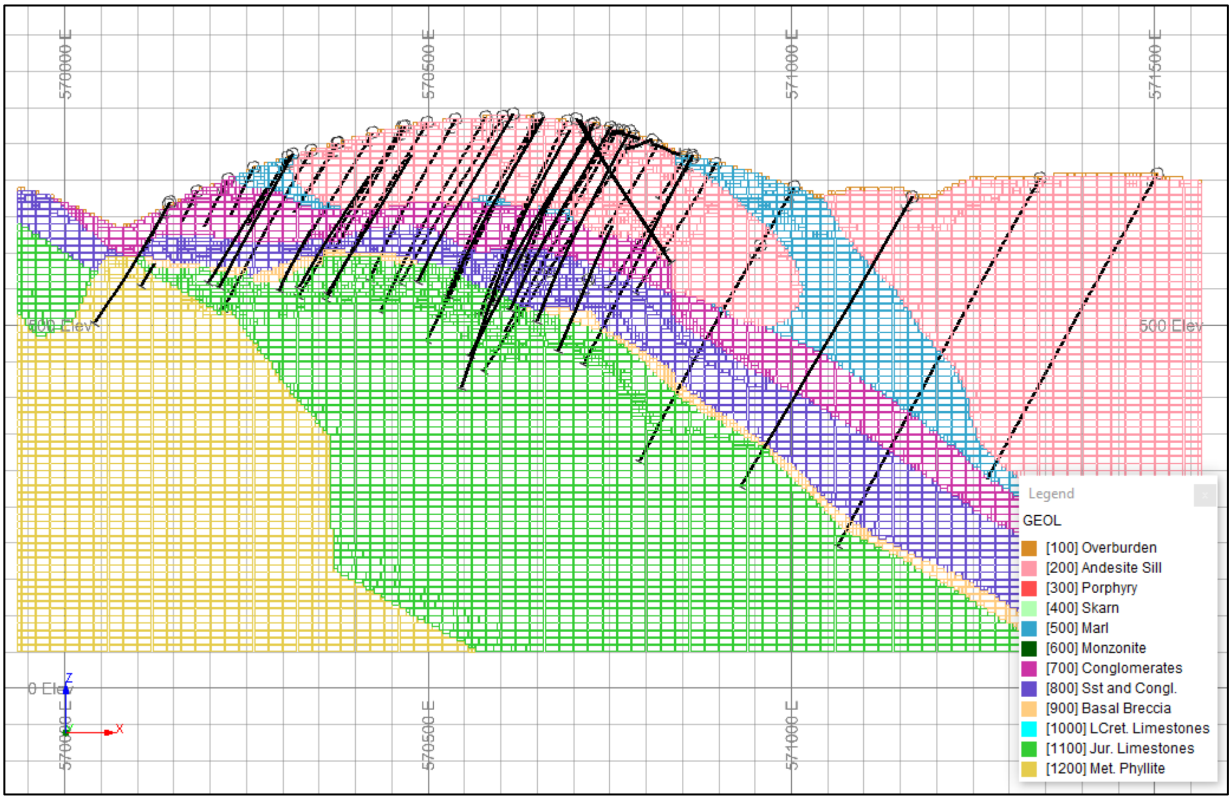


Figure 56: Bigar Hill key geological units – section 4898155. View towards north.

Source: CSA Global, 2018

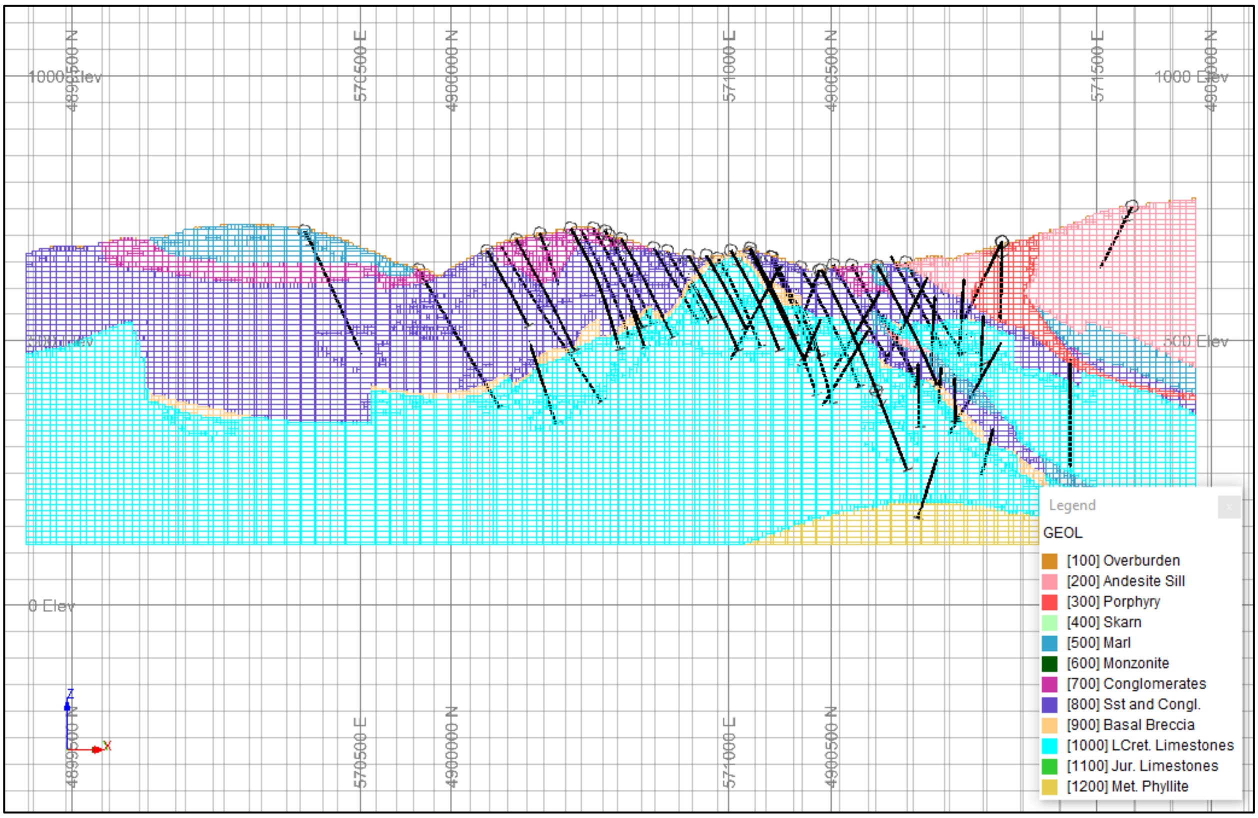


Figure 57: Korkan key geological units – oblique southeast-northwest section

Source: CSA Global, 2018

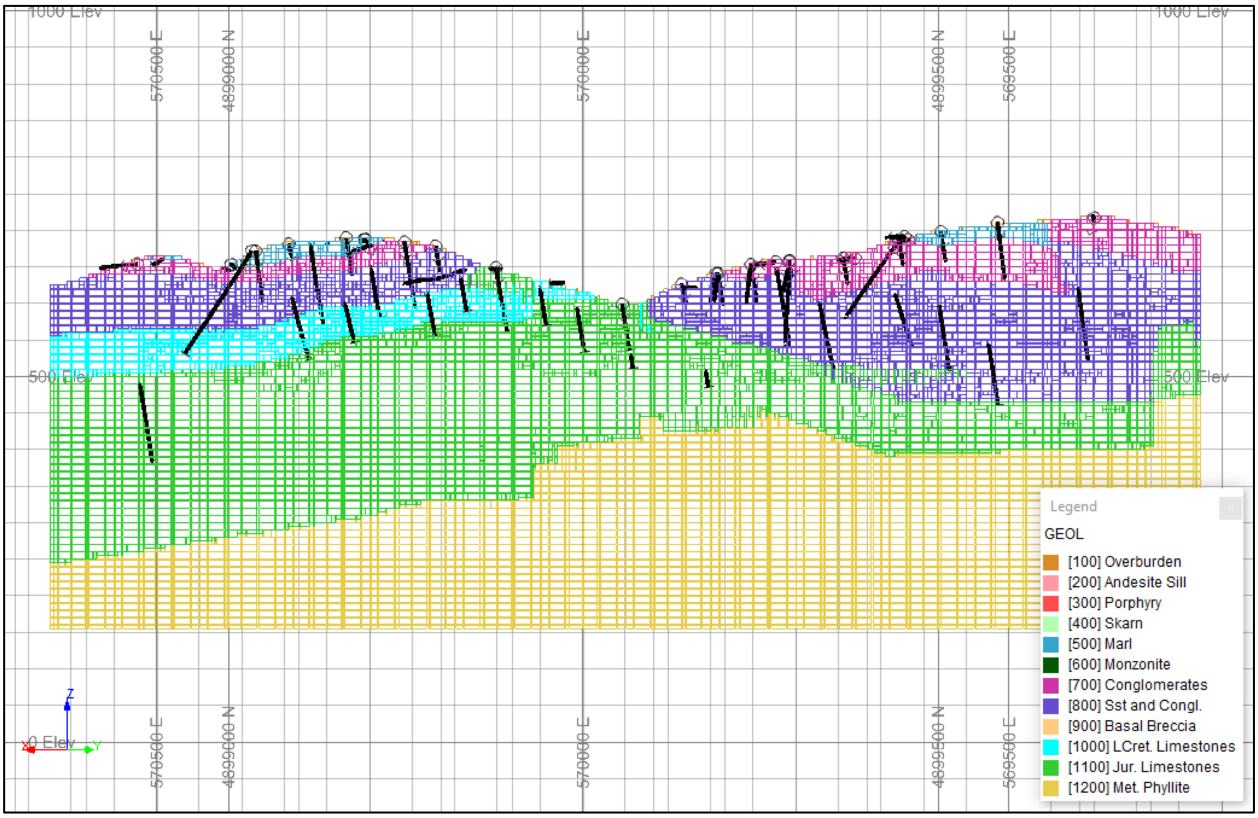


Figure 58: Korkan West key geological units – oblique southeast-northwest section

Source: CSA Global, 2018

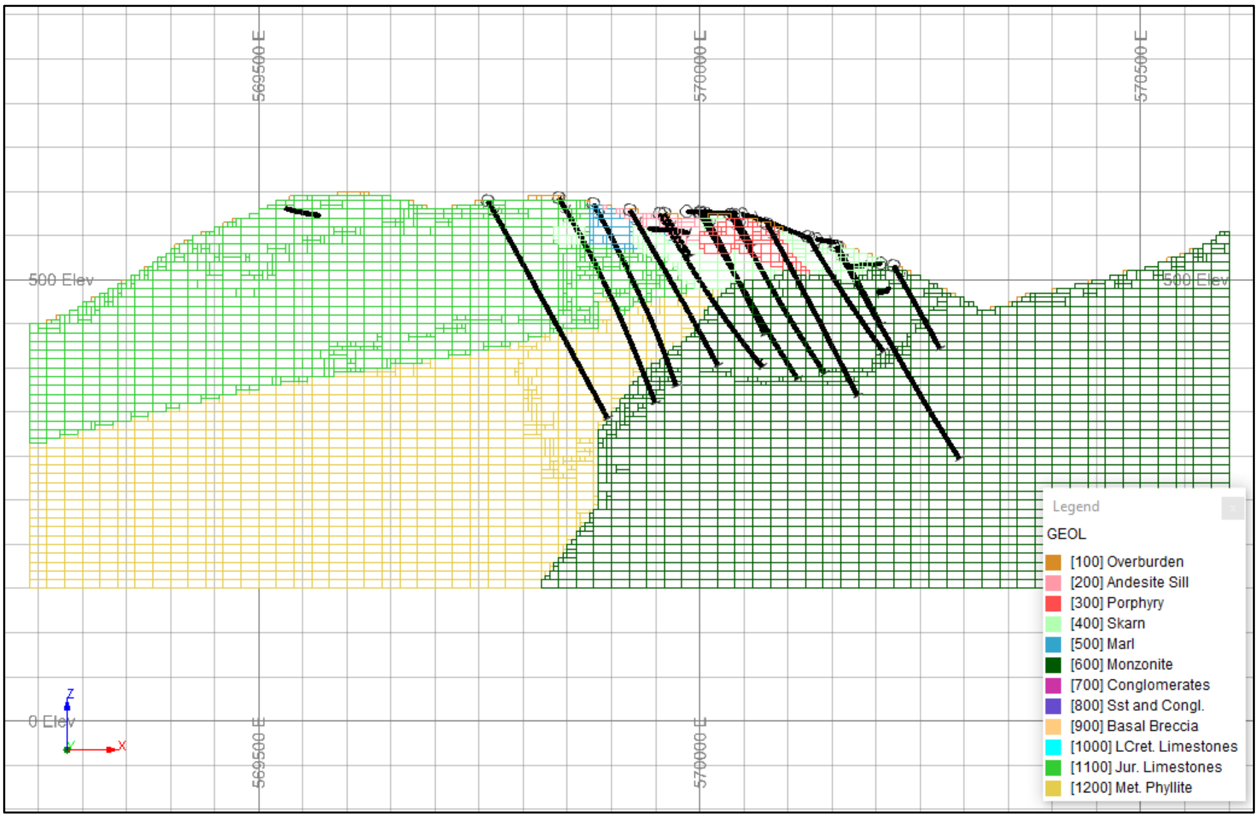


Figure 59: Kraku Pester key geological units – section 4894320N

Source: CSA Global, 2018

For the mineralised zone sub-model, each mineralised shell wireframe was filled with cells. A coding convention, using the attribute field MINZON, as shown in Table 39, was applied to distinguish the different mineralised shells. Any material not within any of the shells was assigned a MINZON code of 9999 and was excluded from the estimation of resources. Examples of the mineralisation sub-models for each of the Bigar Hill, Korkan, Korkan West and Kraku Pester deposits are shown in cross sections in Figure 60 to Figure 63.

Table 39: Mineralised shell codes (MINZON field)

Deposit	MINZON field code
Bigar Hill	10, 20, 30, 40
Korkan	10, 20, 30
Korkan West	10, 20
Kraku Pester	10
	9999 - Waste

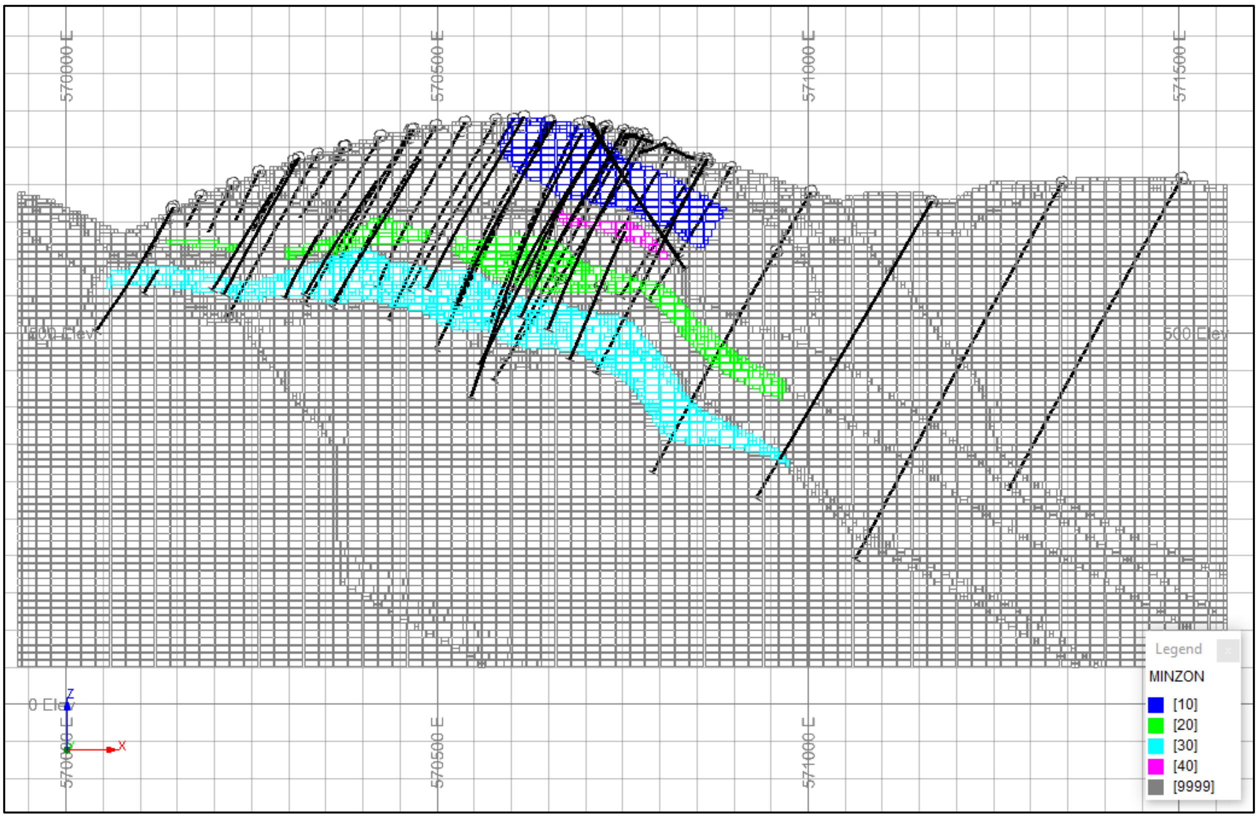


Figure 60: Bigar Hill mineralisation units – section 4898155N

Source: CSA Global, 2018

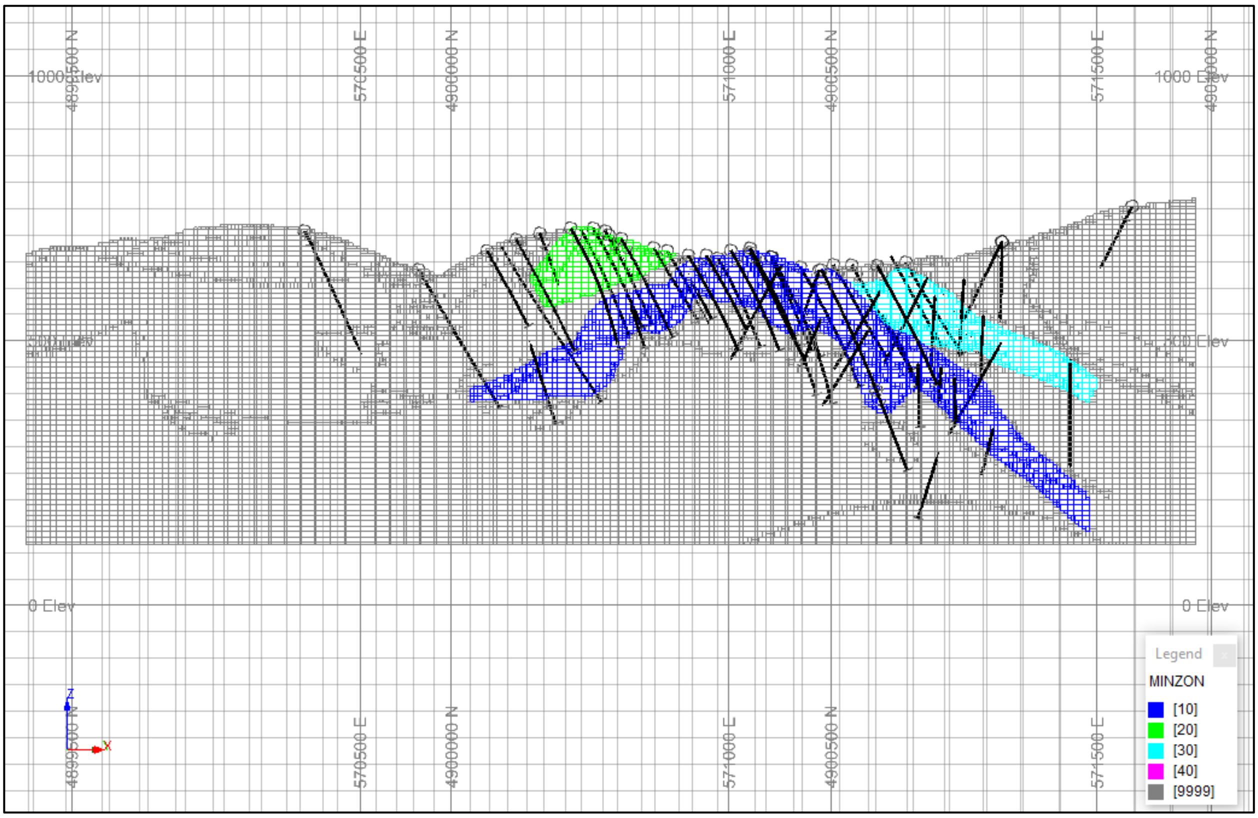


Figure 61: Korkan mineralisation units – oblique southeast-northwest section

Source: CSA Global, 2018

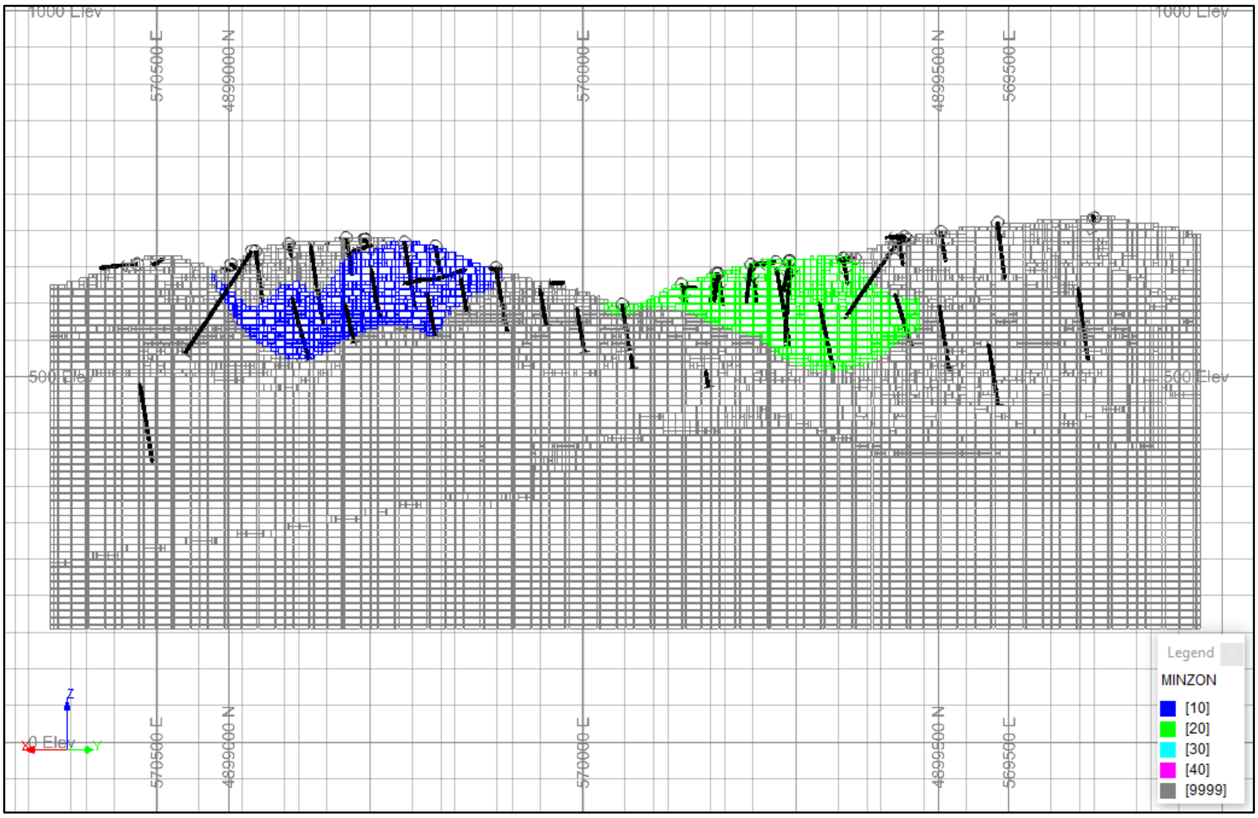


Figure 62: Korkan West mineralisation units – oblique southeast-northwest section

Source: CSA Global, 2018

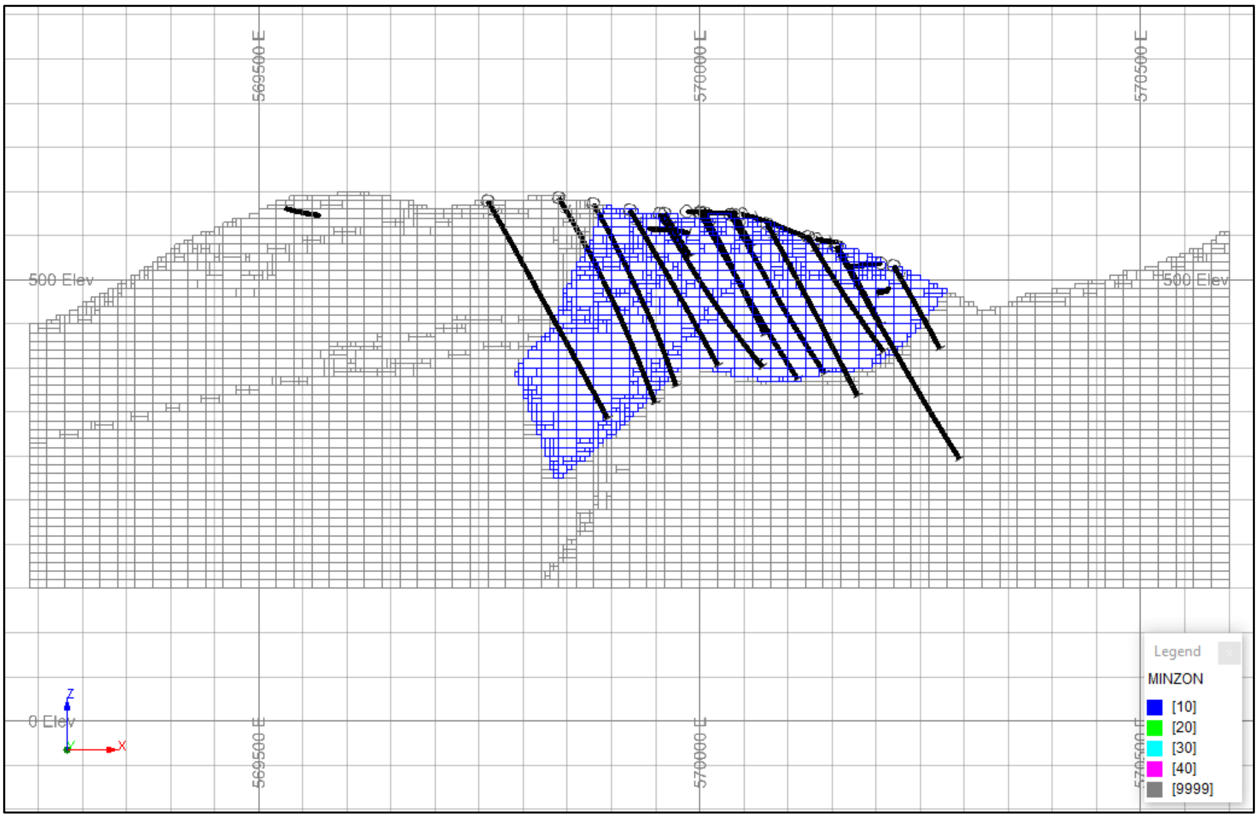


Figure 63: Kraku Pester mineralisation unit – section 4894320N

Source: CSA Global, 2018

At Bigar Hill, the fault structures were primarily used during modelling to constrain the lateral limits of the host stratigraphy. For this purpose, key bounding faults were extracted from the suite of interpreted faults, and cells were filled along the external surfaces, for subsequent lateral trimming of the model.

The interpreted fault structures at Korkan were not explicitly incorporated into the block model, although faulting is implicitly expressed in some cases where both the lithological and mineralisation wireframes have been interpreted as flexing sharply downwards.

Sub-models representing topography, and each of the completely weathered, partially weathered and fresh (not weathered) volumes, were created by building cells within the respective triangulated solids. The weathering sub-model was coded using the OXIDE field set with codes as shown in Table 40.

Table 40: Oxidation zone codes (OXIDE field)

Zone	OXIDE field code
Completely oxidised	1
Partially oxidised	2
Fresh/Sulphide	3

The sub-models for each of the mineralisation, geology, bounding faults, weathering, and topography (air) were combined to produce unified and coded models consisting of mineralisation zones set within the geological units, flagged by weathering code and trimmed along the topographic surface and the bounding faults. At Bigar Hill, the fault sub-model defined the southern, northern and, in part, the western limits of the stratigraphic package.

At Kraku Pester, the thrust fault structures were primarily used during modelling to constrain the lower surface of the limestone and lateral limits of the mineralisation. The remaining fault structures were not explicitly incorporated into the block model. For this purpose, the thrust fault was extracted from the suite of interpreted faults, and cells were filled along the external surfaces, to be used for subsequent flagging of the limestone and lateral trimming of the mineralisation model.

14.4.1 Dynamic Anisotropy

During model construction, preparations were made for a procedure, subsequently implemented during estimation, which enables a cell-by-cell adjustment of search ellipse orientations (implemented in Datamine Studio as “Dynamic Anisotropy”).

For all four deposits, search ellipse orientation adjustments were applied such that the estimation preferentially searches in the local plane of the stratigraphy. In this way, the observed association of the mineralisation trends with stratigraphy could be honoured.

The dip and dip direction of the major axis of anisotropy were defined by digitising strings in section perpendicular to the strike of the mineralisation. These strings were converted to points that contained the true dip (TRUEDIP) and dip direction (DIPDIRN) of the mineralisation and stratigraphy (fields SANGLE1_F and SANGLE2_F in the search parameter files).

The various model code and attribute fields are listed in Table 41.

Table 41: Coded model field descriptions

Coded	Field	Description
Pre-estimation	MINZON	Mineralised zone
	OXIDE	Weathering zone
	GEOL	Geological unit zone
	DIPDIRN	Cell local stratigraphic dip direction
	TRUEDIP	Cell local stratigraphic dip
Post-estimation	AU	Gold grade (g/t)
	DENSITY	Estimated/assigned bulk density
	RESCAT	Resource classification

14.5 Sample Coding

Coding of samples according to mineralisation, stratigraphy, and weathering zones followed a similar sequence of steps to the construction of the cell model.

Samples were coded with the relevant GEOL, MINZON and OXIDE field codes by selecting samples within the respective wireframe solids. The resulting coding is consistent with the cell model codes (Table 38 to Table 40).

14.6 Bulk Density

A suite of bulk density measurements for each deposit were coded according to the geological units, mineralisation domains and weathering zones. The total coded measurements on modelled geological units, per deposit, are Bigar Hill: 5,665; Korkan: 8,662; Korkan West: 2,526; and Kraku Pester: 1,665. Table 42 shows mean bulk density values classified by geological unit and weathering zone.

While there is an expected reduction in mean bulk density because of weathering, the decrease is relatively minor, being only of the order of a few percent in each case. The spread of mean bulk density values across the different geological units is low, and generally there is not a notable difference between mean bulk density values for mineralised and background samples (Table 43).

Table 42: Mean bulk densities (by geological unit and weathering zone)

Deposit	Geological unit	All		Weathered		Partially weathered		Fresh	
		Density	No. of samples	Density	No. of samples	Density	No. of samples	Density	No. of samples
Bigar Hill	Overburden	2.63	2	2.63	2	-	-	-	-
	Andesite Sill	2.67	1,567	2.59	16	2.60	56	2.67	1,495
	Marl	2.67	369	2.59	18	2.66	77	2.67	274
	Conglomerates (S2)	2.63	655	2.51	17	2.52	15	2.64	623
	Sandstones and Conglomerates (S1)	2.65	1,007	2.60	119	2.64	169	2.67	719
	Basal Breccia	2.67	236	2.64	16	2.65	29	2.68	191
	Jurassic Limestone	2.67	1,805	2.63	48	2.66	567	2.67	1,190
	Metamorphic Phyllite	2.71	24	-	-	-	-	2.71	24
Korkan	Overburden	2.42	4	2.34	3	2.67	1	-	-
	Andesite Sill	2.58	897	2.55	3	2.50	69	2.59	825
	Hornblende Diorite Porphyry	2.66	476	2.57	3	2.62	5	2.66	468
	Marl	2.67	469	2.55	15	2.62	67	2.68	387
	Conglomerates (S2)	2.61	391	2.53	37	2.57	56	2.63	298
	Sandstones and Conglomerates (S1)	2.64	2,493	2.61	151	2.63	561	2.65	1,781
	Basal Breccia	2.69	272	2.63	23	2.65	45	2.71	204
	Lower Cretaceous Limestone	2.68	3,621	2.66	82	2.67	1,185	2.68	2,354
	Metamorphic Phyllite	2.71	39	-	-	-	-	2.71	39

Deposit	Geological unit	All		Weathered		Partially weathered		Fresh	
		Density	No. of samples	Density	No. of samples	Density	No. of samples	Density	No. of samples
Korkan West	Overburden	2.61	2	2.61	2	-	-	-	-
	Marl	2.63	193	2.55	5	2.62	52	2.64	136
	Conglomerates (S2)	2.60	255	2.54	18	2.58	42	2.61	175
	Sandstones and Conglomerates (S1)	2.61	1,488	2.54	420	2.61	439	2.65	474
	Lower Cretaceous Limestone	2.65	123	2.52	2	2.63	29	2.66	92
	Jurassic Limestone	2.65	463	2.63	26	2.64	150	2.66	273
	Metamorphic Phyllite	2.68	2	-	-	-	-	2.68	2
Kraku Pester	Overburden	-	-	-	-	-	-	-	-
	Andesite Sill	2.57	14	2.66	1	2.50	1	2.57	12
	Hornblende Diorite Porphyry	2.64	83	2.82	1	2.66	4	2.64	78
	Skarn	2.69	194	2.67	6	2.65	24	2.69	164
	Marl	2.62	24	2.54	5	2.65	10	2.63	9
	Monzonite	2.68	1,015	-	-	-	-	2.68	1,015
	Jurassic Limestone	2.68	164	2.69	16	2.67	94	2.68	54
	Metamorphic Phyllite	2.69	171	-	-	2.67	1	2.69	170

Table 43: *Mean bulk densities (by geological unit and mineralised shell)*

Deposit	Geological unit	All		Mineralised		Waste	
		Density	No. of samples	Density	No. of samples	Density	No. of samples
Bigar Hill	Overburden	2.63	2	2.58	1	2.68	1
	Andesite Sill	2.67	1,567	2.66	260	2.67	1,307
	Marl	2.67	369	2.50	10	2.67	359
	Conglomerates (S2)	2.63	655	2.58	134	2.65	521
	Sandstones and Conglomerates (S1)	2.65	1,007	2.64	482	2.66	525
	Basal Breccia	2.67	236	2.67	130	2.67	106
	Jurassic Limestone	2.67	1,805	2.67	585	2.67	1,220
	Metamorphic Phyllite	2.71	24	-	-	2.71	24
Korkan	Overburden	2.42	4	-	-	2.42	4
	Andesite Sill	2.58	897	2.68	19	2.58	878
	Hornblende Diorite Porphyry	2.66	476	2.68	1	2.66	475
	Marl	2.67	469	2.70	85	2.66	384
	Conglomerates (S2)	2.61	391	2.59	79	2.62	312
	Sandstones and Conglomerates (S1)	2.64	2,493	2.65	689	2.64	1,804
	Basal Breccia	2.69	272	2.69	258	2.69	14
	Lower Cretaceous Limestone	2.68	3,621	2.67	1,118	2.68	2,503
	Metamorphic Phyllite	2.71	39	-	-	2.71	39
Korkan West	Overburden	2.61	2	2.56	1	2.65	1
	Marl	2.63	193	-	-	2.63	193
	Conglomerates (S2)	2.60	255	2.52	20	2.60	235
	Sandstones and Conglomerates (S1)	2.61	1,488	2.56	327	2.63	1,161
	Lower Cretaceous Limestone	2.65	123	2.61	11	2.66	112
	Jurassic Limestone	2.65	463	2.64	63	2.65	400
	Metamorphic Phyllite	2.68	2	-	-	2.68	2
Kraku Pester	Overburden	-	-	-	-	-	-
	Andesite Sill	2.57	14	2.66	1	2.56	13
	Hornblende Diorite Porphyry	2.64	83	2.63	32	2.65	51
	Skarn	2.69	194	2.67	78	2.70	116
	Marl	2.62	24			2.62	24
	Monzonite	2.68	1,015	2.68	542	2.68	473
	Jurassic Limestone	2.68	164	2.71	11	2.67	153
	Metamorphic Phyllite	2.69	171	2.66	54	2.70	117

14.7 Statistical Analysis

Statistical analyses were undertaken to describe the characteristics of gold grades within each of the mineralised shells and to assess the appropriateness of estimation domains based upon grade distribution. The analytical process involved boundary analysis, computation of naïve statistics, sample composite selection, computation of composite statistics, the generation and review of histograms and log probability charts, and spatial reviews of those composites with particularly high grades that might bias grade estimates.

14.7.1 Boundary Analysis

Boundaries are either classified as “hard” or “soft”. Where hard boundaries are abrupt, they generally represent a sharp geological contact such as the edge of a quartz vein on its host rocks and where the boundary marks the margin of metal grade. A soft boundary is a gradational one and represents a gradual reduction in grade (e.g. as one would find in the alteration zone of a copper porphyry system).

It is important to understand the nature of the boundaries between domains. If domain boundaries are gradational, then data from the adjacent domains should be used during estimation (soft boundary). If there are distinct grade boundaries, then estimation should be restricted to only use the data within that domain (hard boundary).

Contact analysis for Au g/t between the modelled mineralisation and waste were carried out, per deposit, to assess the nature of the domain boundaries by graphing the average grade with increasing distance from the domain boundary. The average grades can be calculated by incrementally expanding the wireframes or manually by coding the samples based on distance from the domain contact, as was done in this instance. The contact analysis result for the four deposits are shown in Figure 64 to Figure 67. Based on the results of the boundary analysis between mineralisation and waste, the boundary was interpreted to be hard, showing a sharp break between 0.2 g/t Au and 0.3 g/t Au, depending on the deposit.

Additional contact analysis was carried out to assess the nature of the domain boundaries within the mineralised volumes between the weathering profiles. Based on the results of the boundary analysis for these profiles, the boundaries were interpreted to be soft.

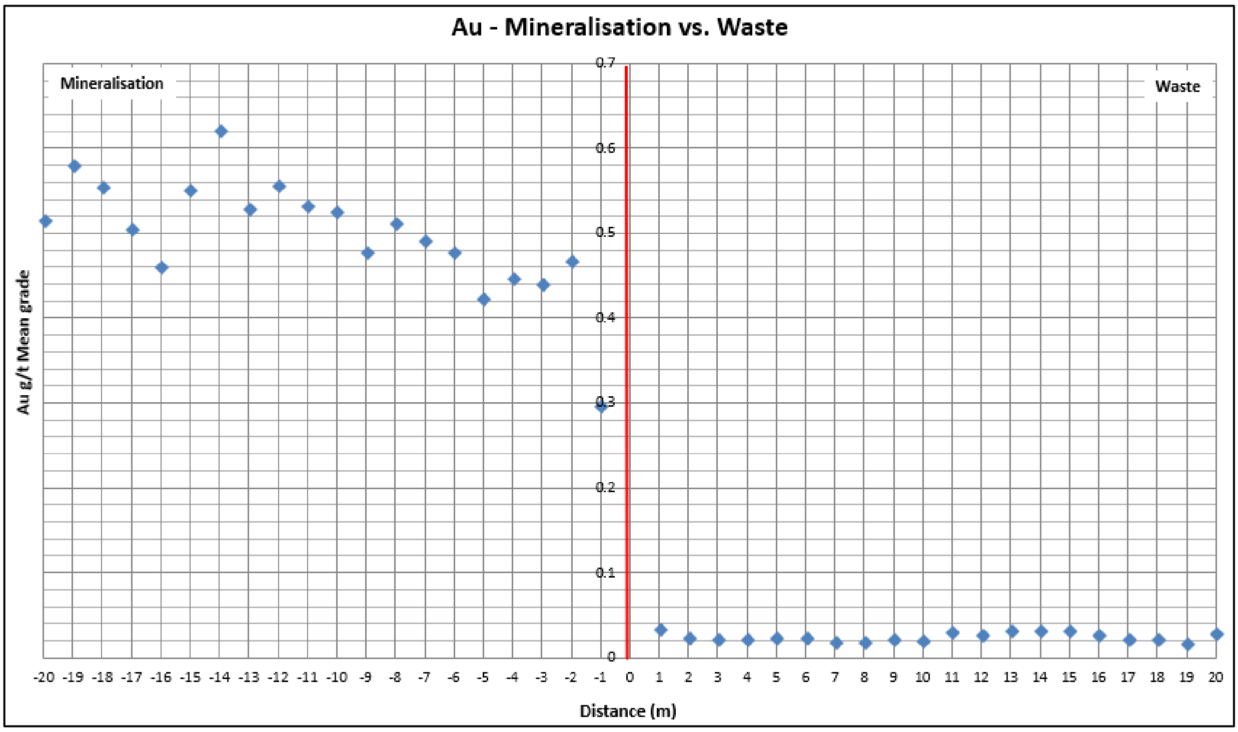


Figure 64: Bigar Hill – mineralised boundary test graph – Au g/t mineralisation vs. waste

Source: CSA Global, 2018

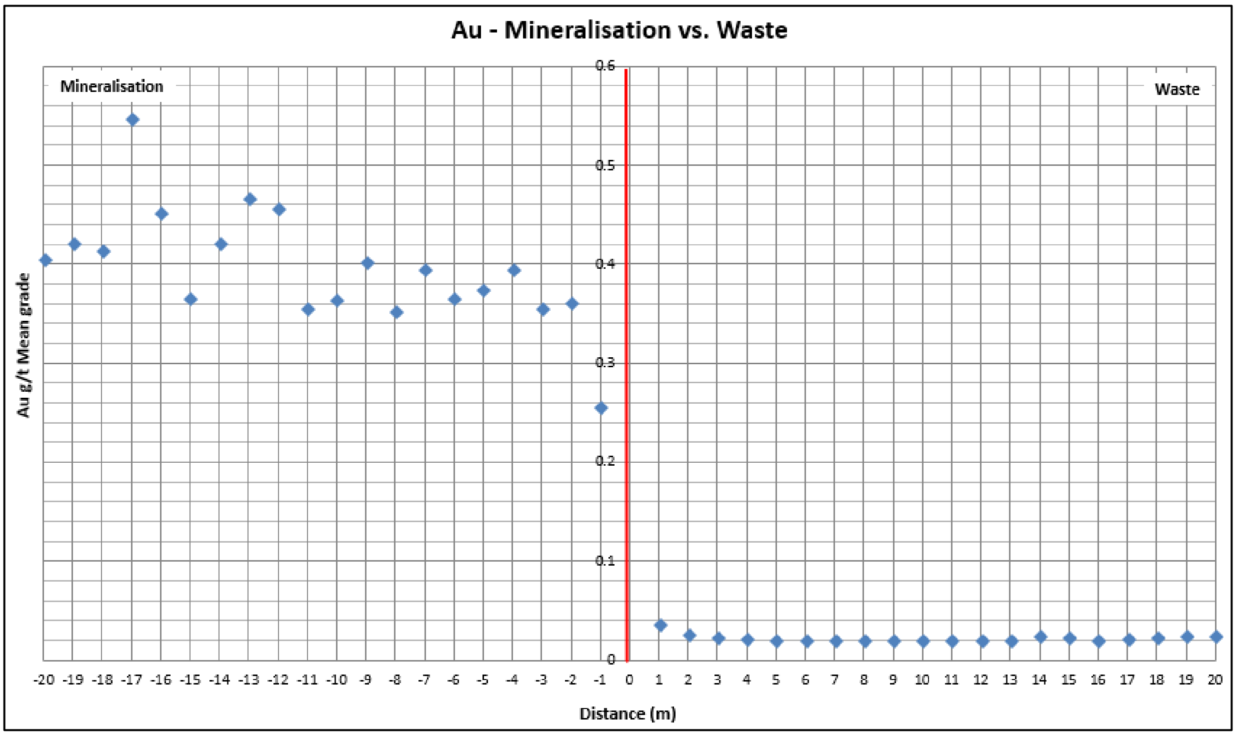


Figure 65: Korkan – mineralised boundary test graph – Au g/t mineralisation vs. waste

Source: CSA Global, 2018

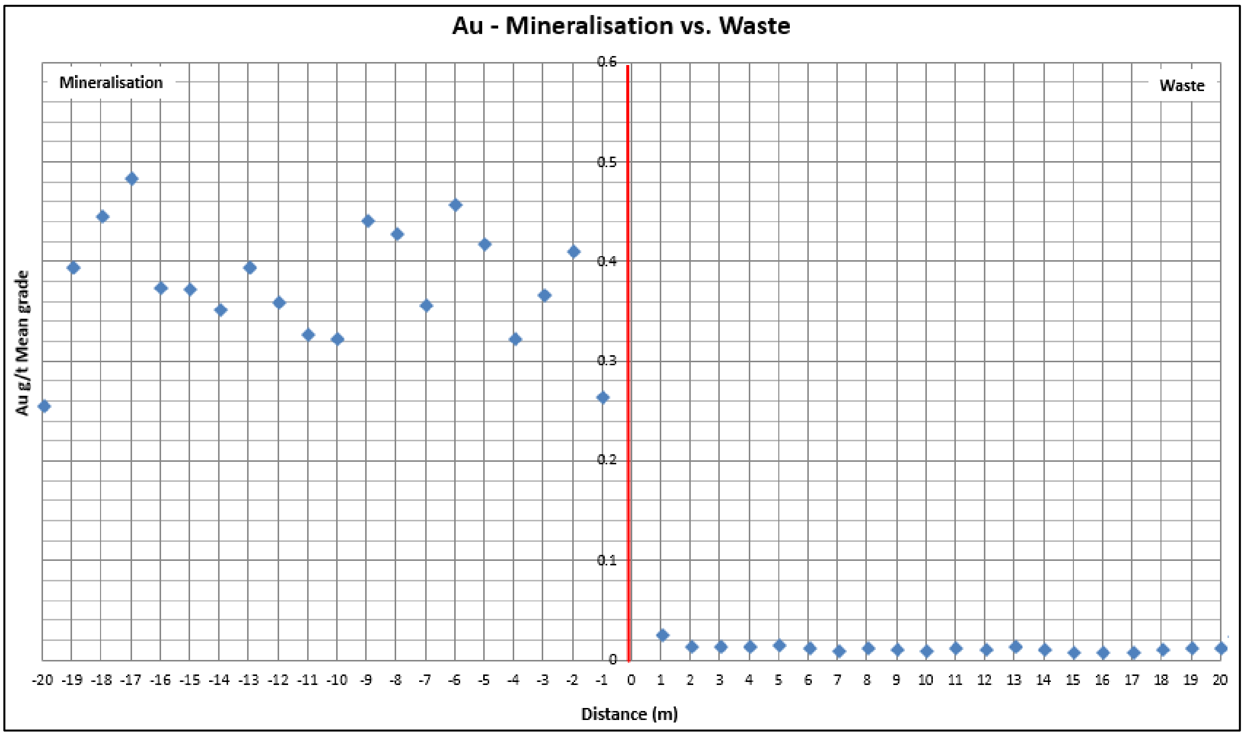


Figure 66: Korkan West - Mineralised boundary test graph – Au g/t mineralisation vs. waste

Source: CSA Global, 2018

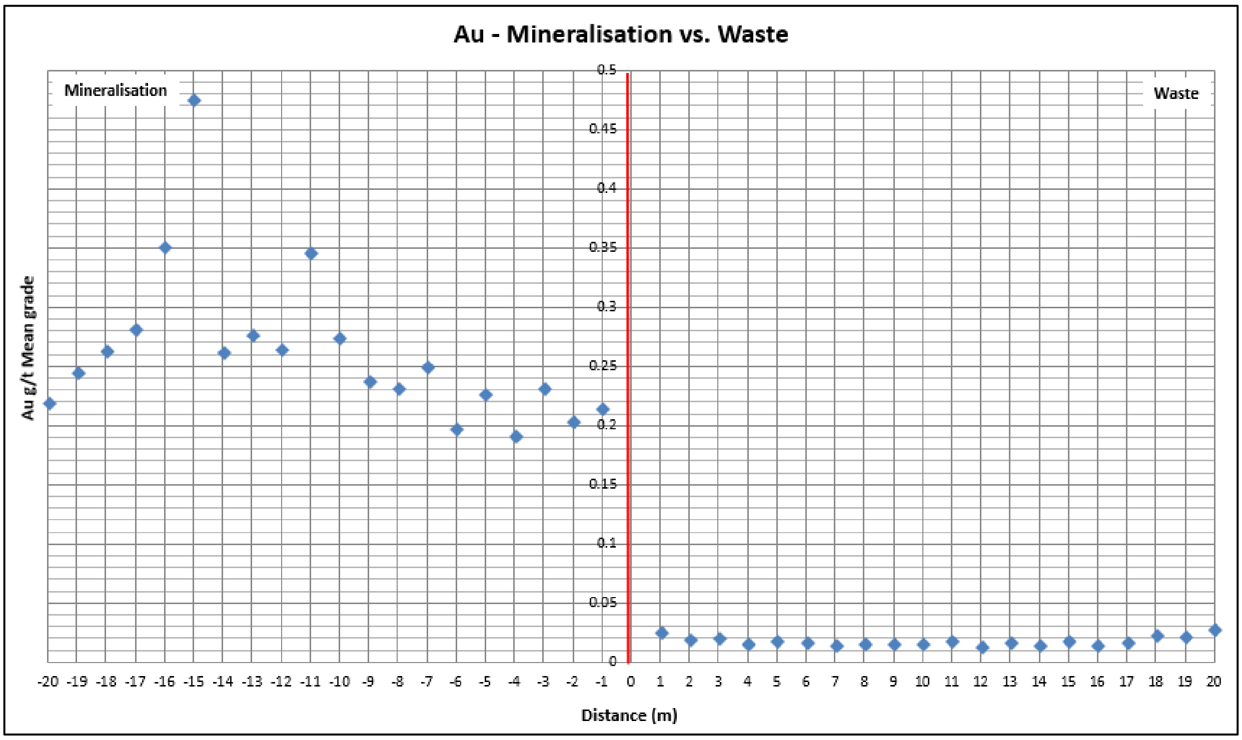


Figure 67: Kraku Pester – mineralised boundary test graph – Au g/t mineralisation vs. waste

Source: CSA Global, 2018

14.7.2 Naïve Statistics

The naïve statistics of the raw assays within the mineralised and waste (9999) domains (MINZON) per deposit are given in Table 44. Based on visual review and geostatistical analysis, each individual MINZON per deposit show different grade populations and was estimated with hard boundaries against one another.

Table 44: Naïve statistics per MINZON, by deposit

Deposit	MINZON	No. of samples	Minimum	Maximum	Mean	SD	CV
Bigar Hill	10	8,466	0.005	30.15	0.15	1.08	7.19
	20	15,723	0.005	43.40	0.75	1.50	2.00
	30	15,830	0.005	46.76	0.37	1.09	2.97
	40	898	0.005	25.62	0.34	1.41	4.17
	9999	64,346	0.005	11.81	0.02	0.16	6.91
Korkan	10	25,035	0.005	66.91	0.49	1.59	3.22
	20	6,305	0.005	27.42	0.21	0.70	3.38
	30	3,108	0.005	33.90	0.29	0.99	3.48
	9999	65,611	0.005	23.90	0.02	0.12	6.34
Korkan West	10	1,321	0.005	5.58	0.19	0.42	2.17
	20	1,698	0.005	12.13	0.47	0.95	2.01
	9999	11,786	0.005	7.06	0.02	0.10	6.35
Kraku Pester	10	16,685	0.005	21.15	0.31	0.79	2.58
	9999	11,855	0.005	15.90	0.03	0.34	10.09

SD – standard deviation; CV – coefficient of variation

14.7.3 Compositing

Sampling was undertaken at varying sampling lengths within the deposits. CSA Global reviewed all sample lengths within the modelled mineralisation envelopes. The dominant as well as the mean sample length within the mineralisation envelopes is 1 m, which was selected for compositing.

During the compositing process in Datamine StudioRM™, the zone code (ZONE) controlling the compositing was set to a combination of both the geological and mineralisation units, i.e. new composites were created each time the value of ZONE changed. In addition, the MODE parameter was set to 0. Setting MODE = 0 forces the composite length to equal the selected interval and part of samples may be excluded. The maximum composite length was defined by the INTERVAL parameter (1 m) and the minimum composite length by the MINCOMP parameter (0.5 m).

Following compositing, residuals (composites <0.5 m) were removed, since their removal did not materially affect the grade mean per MINZON. However, removing residuals will limit any potential bias in the sample support during kriging.

Comparisons of accumulated "metal" (grade*length) of raw and composited data (residuals removed) are shown in Table 45.

*Table 45: Comparative accumulated "metal" (grade*length) of raw and composited data (residuals removed)*

Deposit	MINZON	Raw metal accumulated	Composite metal accumulated	% difference
Bigar Hill	10	1,276	1,275	-0.1%
	20	11,825	11,677	-1.3%
	30	5,826	5,775	-0.9%
	40	307	307	0.0%
	9999	1,443	1,441	-0.2%
Korkan	10	12,399	12,354	-0.4%
	20	1,310	1,308	-0.1%
	30	887	887	0.0%
	9999	1,228	1,226	-0.1%
Korkan West	10	253	253	-0.1%
	20	806	803	-0.3%
	9999	191	190	-0.2%
Kraku Pester	10	5,116	5,116	0.0%
	9999	403	403	0.0%

Metal: Au g/t x LENGTH

Following statistical and visual review of grade distribution and continuity, selected mineralised geological units were combined, resulting in the creation of the estimation domains (ESTZON). These domains were used for the subdivision of data during the succeeding top-cutting, variography and grade estimation steps.

The various estimation domain codes and descriptions, per deposit, are listed in Table 46.

Table 46: Estimation domains, per deposit

Deposit	ESTZON	MINZON	Geological Unit (GEOL)
Bigar Hill	210	10	Andesite Sill (200)
	1620		Overburden + Marl (100, 500)
	220	20	Andesite Sill (200)
	720		Conglomerates (700)
	1640		Overburden + Marl (100, 500)
	2740		Sandstones and Conglomerates + Basal Breccia + Jurassic Limestone (800, 900, 1100)
	230	30	Andesite Sill (200)
	830		Sandstones and Conglomerates (800)
	930		Basal Breccia (900)
	1860		Overburden + Marl + Conglomerates (100, 500, 700)
	3360		Jurassic Limestone + Metamorphic Phyllite (1100, 1200)
	240	40	Andesite Sill (200)
	2280		Marl + Conglomerates (500, 700)
Korkan	210	10	Andesite Sill (200)
	510		Marl (500)
	910		Basal Breccia (900)
	1010		Lower Cretaceous Limestone (1000)
	2940		Overburden + Hornblende Diorite Porphyry + Conglomerates + Sandstones and Conglomerates (100, 300, 700, 800)
	720	20	Conglomerates (700)
	1640		Overburden + Marl (100, 500)
	3760		Sandstones and Conglomerates + Basal Breccia + Lower Cretaceous Limestone (800, 900, 1000)
	1030	30	Lower Cretaceous Limestone (1000)
	1690		Andesite Sill + Hornblende Diorite Porphyry (200, 300)
	2260		Marl + Conglomerates (500, 700)
	2760		Sandstones and Conglomerates + Basal Breccia (800, 900)

Deposit	ESTZON	MINZON	Geological Unit (GEOL)
Korkan West	2330	10	Overburden + Marl + Conglomerates (100, 500, 700)
	810		Sandstones and Conglomerates (800)
	1010		Lower Cretaceous Limestone (1000)
	1110		Jurassic Limestone (1100)
	1840	20	Overburden + Conglomerates (100, 700)
	820		Sandstones and Conglomerates (800)
	3140		Lower Cretaceous Limestone + Jurassic Limestone (1000, 1100)
Kraku Pester	10620	10	Overburden + Marl (100, 500)
	210		Andesite Sill (200)
	310		Hornblende Diorite Porphyry (300)
	410		Skarn (400)
	610		Monzonite (600)
	1110		Jurassic Limestone (1100)
	1210		Metamorphic Phyllite (1200)

14.7.4 Top-Cut Analysis

Grade-cutting (top-cutting) is generally applied to data used for grade estimation in order to reduce the local high grading effect of anomalous high-grade samples in the grade estimate. In cases where individual samples would unduly influence the values of surrounding model cells, without the support of other high-grade samples, top-cuts are applied. These top-cuts are quantified according to the statistical distribution of the sample population.

Cutting strategy was applied based on the following:

- Skewness of the data
- Probability plots
- Spatial position of extreme grades.

Histograms and probability plots were reviewed for Au g/t within each individual estimation domain, per deposit, to determine the top-cut. The log probability and log histogram plots for the uncut Au g/t within the global estimation domains, per deposit, are shown in Figure 68 to Figure 71. The high CV values indicate highly skewed distributions represented by a large grade range, or more than one population per mineralised shell. This is also consistent with expectations from the loosely-domained mineralised shells, based on notional 0.1 g/t Au cut-off. The uncut and top-cut statistics per estimation domain are shown in Table 47. Composites greater than the top-cut values were reset to the respective top-cut values.

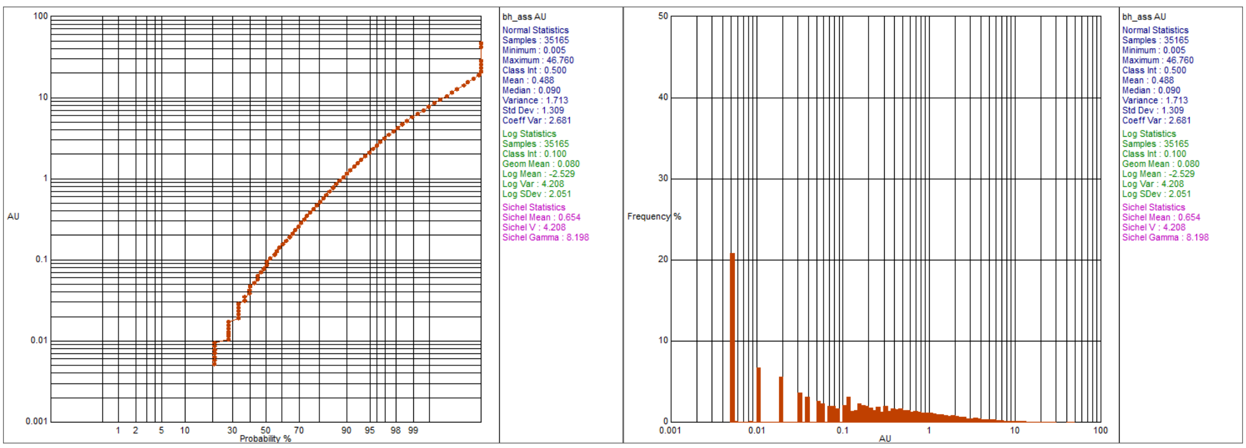


Figure 68: Bigar Hill – global estimation domains; log probability (left) and log histogram (right)

Source: CSA Global, 2018

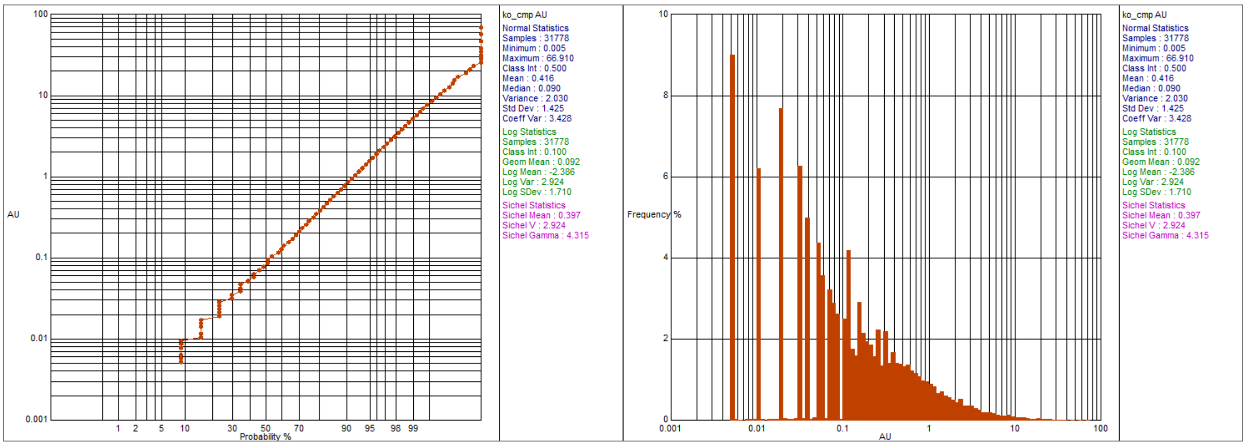


Figure 69: Korkan – global estimation domains; log probability (left) and log histogram (right)

Source: CSA Global, 2018

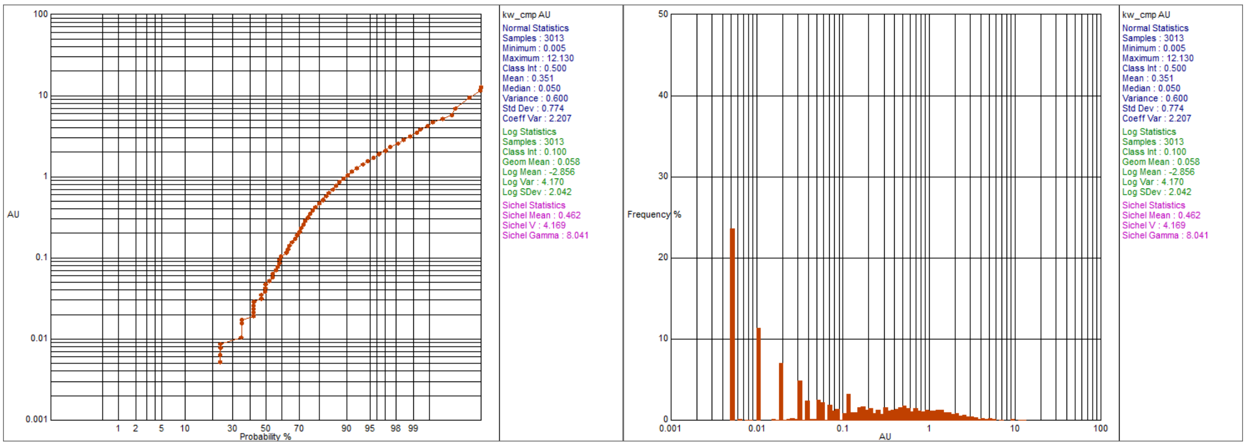


Figure 70: Korkan West – global estimation domains; log probability (left) and log histogram (right)

Source: CSA Global, 2018

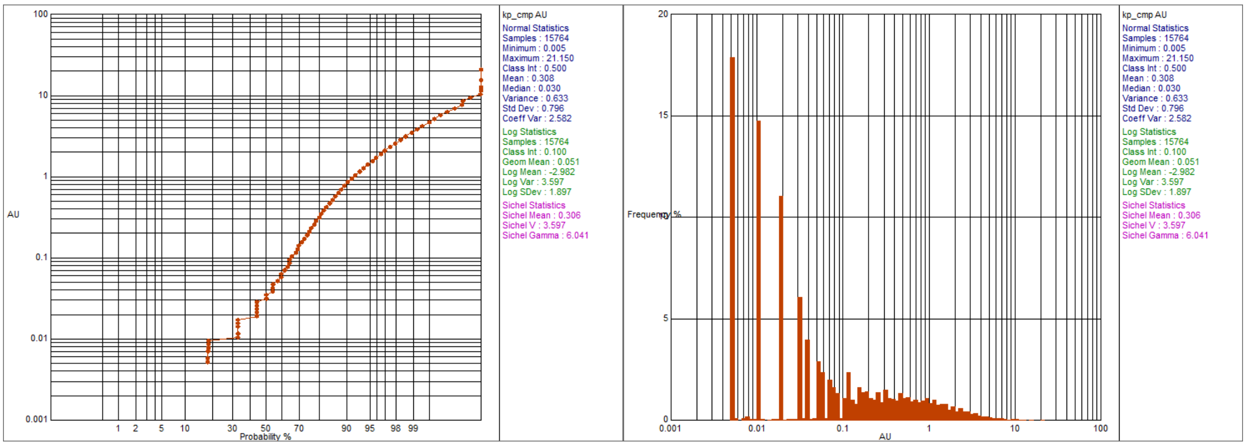


Figure 71: Kraku Pester – global estimation domains; log probability (left) and log histogram (right)

Source: CSA Global, 2018

Table 47: Estimation domains, per deposit, showing gold 1 m composite statistics and top-cuts applied

Deposit	ESTZON	No. of samples	Un-cut Au Mean (g/t)	Top-cut Au value (g/t)	Top-cut (no. of samples)	Top-cut Au Mean (g/t)
Bigar Hill	210	6,826	0.15	6.5	37	0.12
	1620	137	0.09	0.65	3	0.08
	220	179	0.16	-	-	0.16
	720	3,282	1.13	20	4	1.12
	1640	125	0.84	4	6	0.73
	2740	9,713	0.69	10	17	0.68
	230	251	0.14	0.9	3	0.13
	830	3,625	0.41	5	32	0.39
	930	2,532	0.59	6	28	0.55
	1860	179	0.26	1.4	3	0.25
	3360	7,601	0.30	5	51	0.26
	240	333	0.50	5	7	0.35
	2280	374	0.28	2	9	0.23
Korkan	210	155	0.21	1.5	1.5	0.18
	510	715	0.31	4	4	0.25
	910	2721	1.08	15	15	1.02
	1010	12,197	0.30	10	10	0.28
	2940	7,406	0.59	10	10	0.56
	720	1,092	0.29	3	3	0.25
	1640	64	0.12	0.3	0.3	0.10
	3760	4,362	0.20	5	5	0.18
	1030	1,141	0.19	2.5	2.5	0.18
	1690	62	0.41	-	-	0.41
	2260	114	0.15	1	1	0.10
	2760	1,737	0.37	5	5	0.32
Korkan West	2330	144	0.34	2	3	0.32
	810	626	0.22	2.6	4	0.21
	1010	189	0.08	0.7	2	0.08
	1110	356	0.15	-	-	0.15
	1840	180	0.70	-	-	0.70
	820	1,319	0.49	4	18	0.46
	3140	199	0.14	1	1	0.12
Kraku Pester	10620	206	0.27	1.2	4	0.23
	210	600	0.52	-	-	0.52
	310	1,474	0.78	8	9	0.76
	410	3,429	0.45	6	13	0.44
	610	7,785	0.21	4	24	0.20
	1110	568	0.07	-	-	0.07
	1210	1,702	0.09	3	2	0.09

Statistical observations, along with visualisation of mineralisation characteristics, were used to guide the selection of grade estimation technique. Ordinary kriging (OK) was considered for the mineralised domains. However, within broad mineralisation zones (defined at approximately 0.1 g/t gold and within geological boundaries), the grade architecture at the Timok deposits is gradational rather than mosaic, i.e. there is a transition between high grades and low grades, rather than extremely sharp contacts, where Multiple Indicator Kriging (MIK) may be suitable. As such, estimation of recoverable resources based on a selective mining unit (SMU) of 5 m x 5 m x 5 m was completed using Uniform Conditioning (UC). The selection of OK and UC necessitated the generation of variography.

14.8 Variography

Variography (spatial analysis) is carried out to understand how sample values relate to each other in space, and thus reflects the average spatial continuity for a local variable. The variogram is used to determine the weight to apply to each sample during kriging estimation and takes into consideration the average spatial characteristics of the underlying grade distribution. It can help to infer possible similarities between known samples and points that have not been sampled.

The variograms for Au g/t were modelled on top-cut 1 m composites within each estimation domains, per deposit. Nuggets were obtained from the downhole variograms, where the lag was set equal to the composite length of 1.0 m. Normal scores transform was used for modelling the variograms. The semi-variograms were well structured, with moderate to high nuggets and moderate to long ranges. The variograms were back-transformed prior to estimation and the variogram parameters are detailed in Table 48, with examples per deposit presented in Figure 72 to Figure 75.

Dynamic anisotropy was used during estimation to allow the rotation angles for variograms to be defined individually for each cell in the models, so that the variogram orientation is aligned with the axes of mineralisation. To preserve samples variances for use in UC, the actual nugget and sill values were used (i.e. not normalised).

Table 48: Variogram parameters by estimation domain, per deposit

Deposit	ESTZON	Isatis rotation (ZYX)	Nugget	Structure 1		Structure 2	
				Partial sill	Range	Partial sill	Range
Bigar Hill	210	90	0.13	0.24	50	0.01	150
		0			30		80
		-170			20		50
	1620	0	0.01	0.01	50	0.01	80
		0			50		80
		0			15		30
	220	90	0.01	0.03	55	0.01	80
		0			55		80
		-170			15		30
	720	90	0.66	2.60	80	0.85	160
		0			60		120
		-170			15		30
	1640	30	0.15	0.52	80	0.28	175
		0			60		120
		-160			15		30
	2740	90	0.28	0.88	60	0.30	165
		0			50		125
		-170			15		30
	230	90	0.01	0.01	40	0.01	80
		0			40		80
		-170			15		30
	830	90	0.14	0.33	85	0.16	150
		0			85		150
		-170			15		30
	930	90	0.20	0.57	65	0.22	150
		0			65		150
		-170			15		30
	1860	90	0.02	0.05	100	0.03	140
		0			100		140
		-180			15		30

Deposit	ESTZON	Isatis rotation (ZYX)	Nugget	Structure 1		Structure 2	
				Partial sill	Range	Partial sill	Range
	3360	90	0.09	0.25	40	0.04	90
		0			40		90
		-170			15		30
	240	90	0.25	0.53	40	0.11	80
		0			40		80
		-170			6.5		15
	2280	90	0.04	0.13	80	0.03	120
		0			70		110
		-170			15		30
Korkan	210	-160	0.03	0.05	100	0.04	160
		-30			95		125
		-180			10		20
	510	-160	0.11	0.18	75	0.03	180
		-40			50		100
		-180			15		30
	910	30	0.97	2.21	200	1.34	300
		-30			50		140
		-180			20		40
	1010	30	0.19	0.34	30	0.06	125
		-20			20		125
		-180			20		50
	2940	30	0.40	0.75	50	0.32	230
		-20			25		175
		-180			25		50
	720	40	0.05	0.08	100	0.07	180
		-20			100		180
		-180			10		35
	1640	-130	0.002	0.006	75	0.002	175
		0			150		220
		0			15		30
	3760	30	0.06	0.12	125	0.02	175
		-20			125		175
		0			25		35
	1030	-50	0.03	0.07	40	0.02	80
		-20			100		130
		0			25		50
	1690	-90	0.02	0.16	100	0.05	200
		-30			50		150
		0			20		30
	2260	-140	0.01	0.02	115	0.01	230
		-15			55		115
		0			35		50
	2760	-120	0.10	0.22	65	0.05	180
		-20			50		120
		0			35		50
Korkan West	2330	-65	0.05	0.09	100	0.08	160
		0			50		80
		0			20		30
	810	-40	0.04	0.11	110	0.05	180

Deposit	ESTZON	Isatis rotation (ZYX)	Nugget	Structure 1		Structure 2	
				Partial sill	Range	Partial sill	Range
		0			40		80
		-30			20		30
	1010	-40	0.01	0.01	140	0.01	175
		0			10		50
		-40			10		30
	1110	-40	0.02	0.02	105	0.02	140
		0			25		50
		-40			15		30
	1840	-30	0.13	0.37	50	0.37	100
		0			25		50
		0			10		20
	820	-30	0.12	0.16	100	0.35	175
		0			25		50
		-30			10		30
	3140	-30	0.01	0.02	55	0.01	120
		0			40		70
		-50			10		30
Kraku Pester	10620	0	0.02	0.04	80	0.02	185
		0			80		185
		0			10		25
	210	0	0.12	0.39	65	0.11	150
		10			65		150
		0			20		50
	310	-130	0.42	1.30	40	0.19	125
		-30			55		185
		-180			20		50
	410	10	0.18	0.47	40	0.07	100
		0			120		200
		0			25		50
	610	0	0.09	0.16	30	0.02	175
		-20			80		200
		0			20		50
	1110	10	0.01	0.01	30	0.001	80
		-20			100		150
		0			15		30
	1210	30	0.02	0.03	40	0.01	150
		-20			90		280
		0			20		50

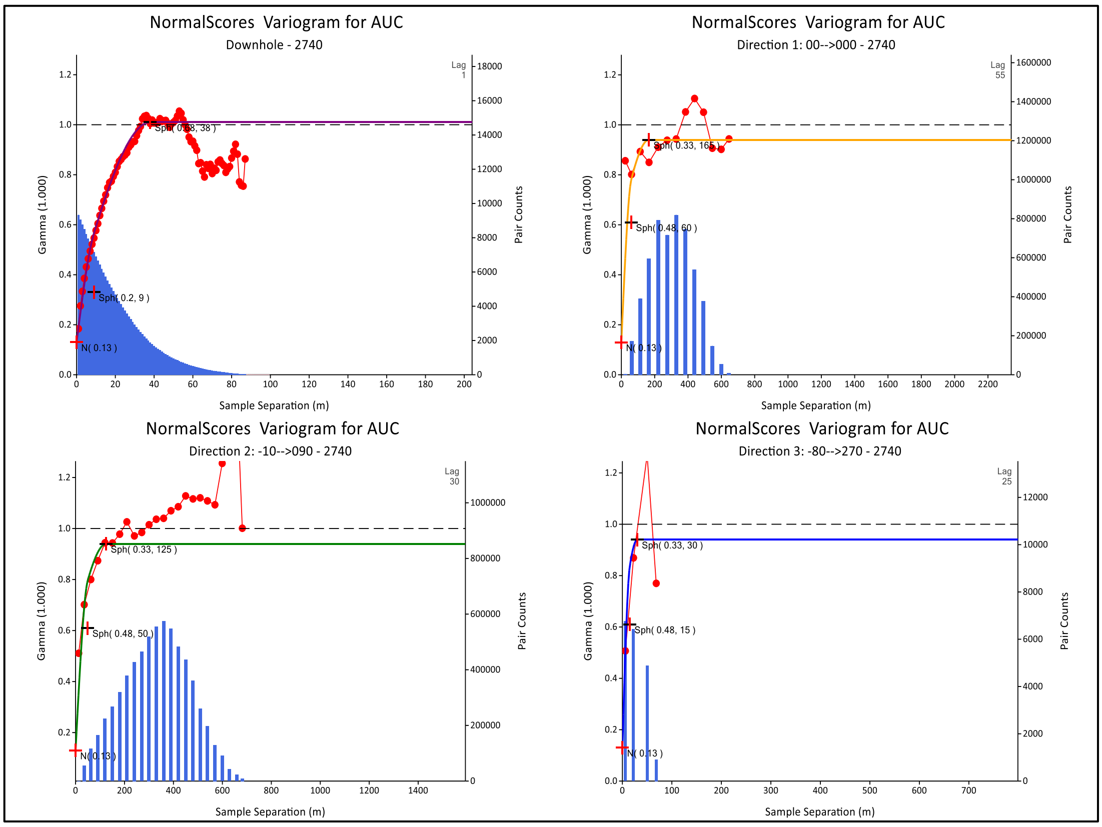


Figure 72: Bigar Hill – example variogram of gold grades (ESTZON2740 – MINZON30; GEOL800+900)

Source: CSA Global, 2018

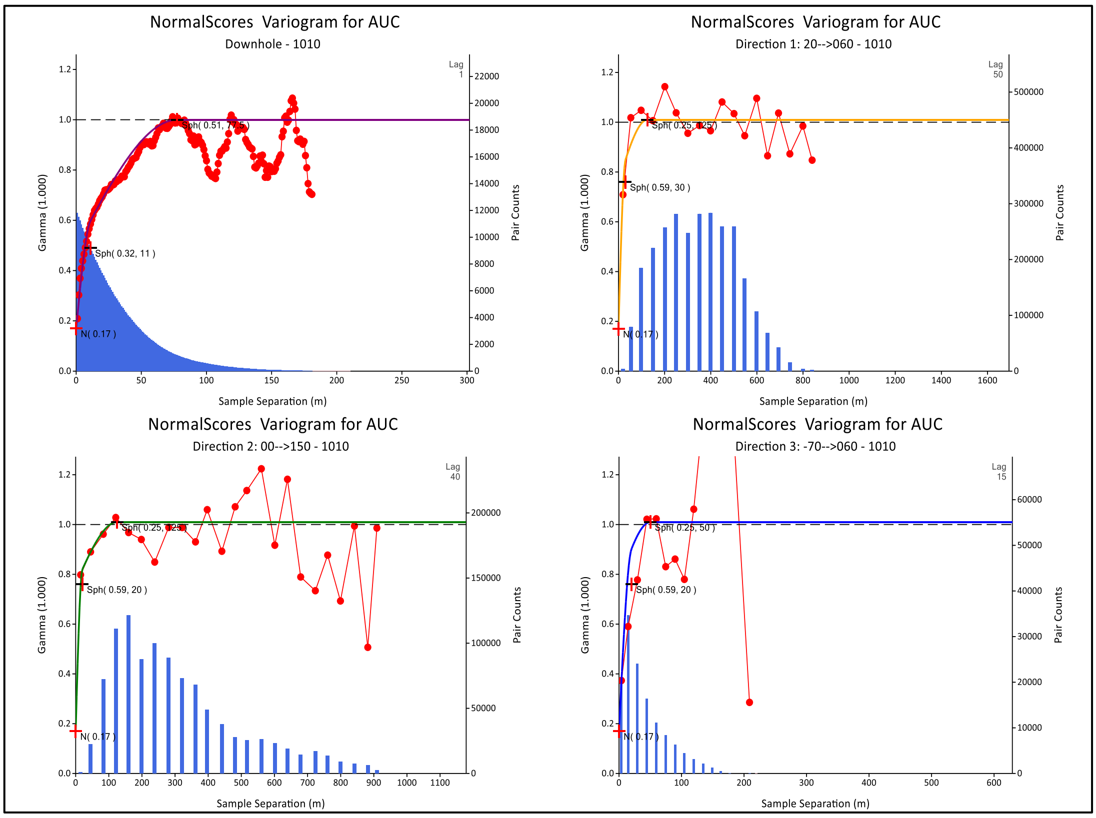


Figure 73: Korkan – example variogram of gold grades (ESTZON1010 – MINZON10; GEOL1000)

Source: CSA Global, 2018

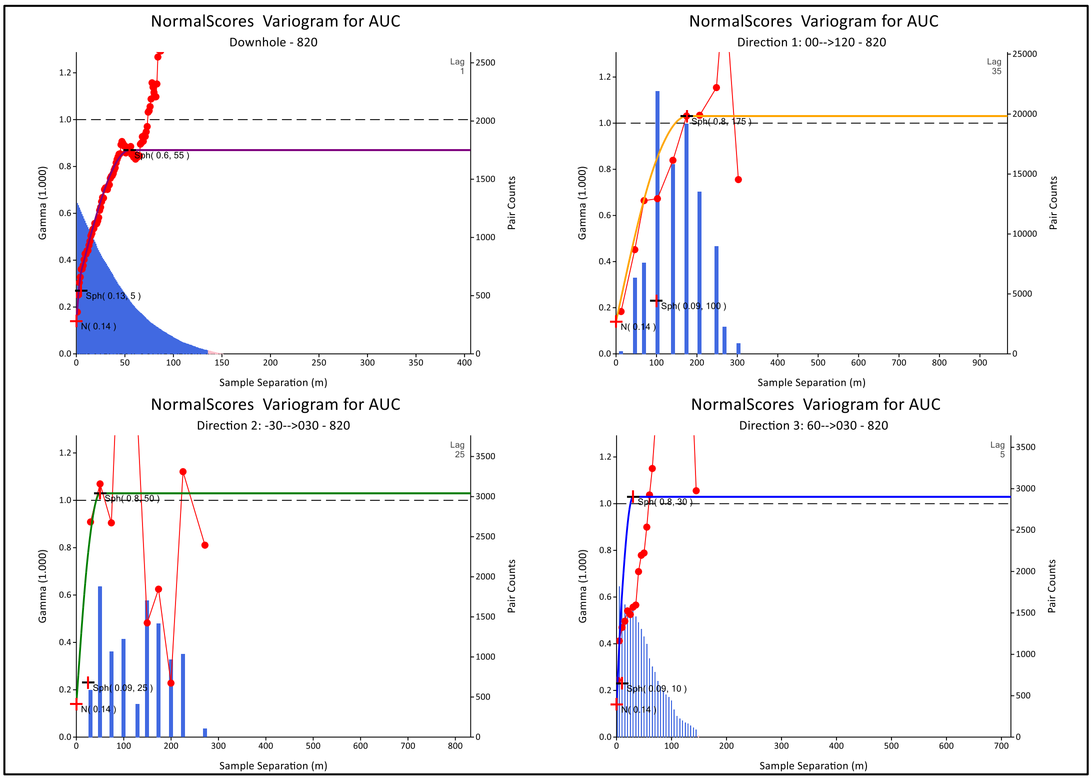


Figure 74: Korkan West – example variogram of gold grades (ESTZON820 – MINZON20; GEOL800)

Source: CSA Global, 2018

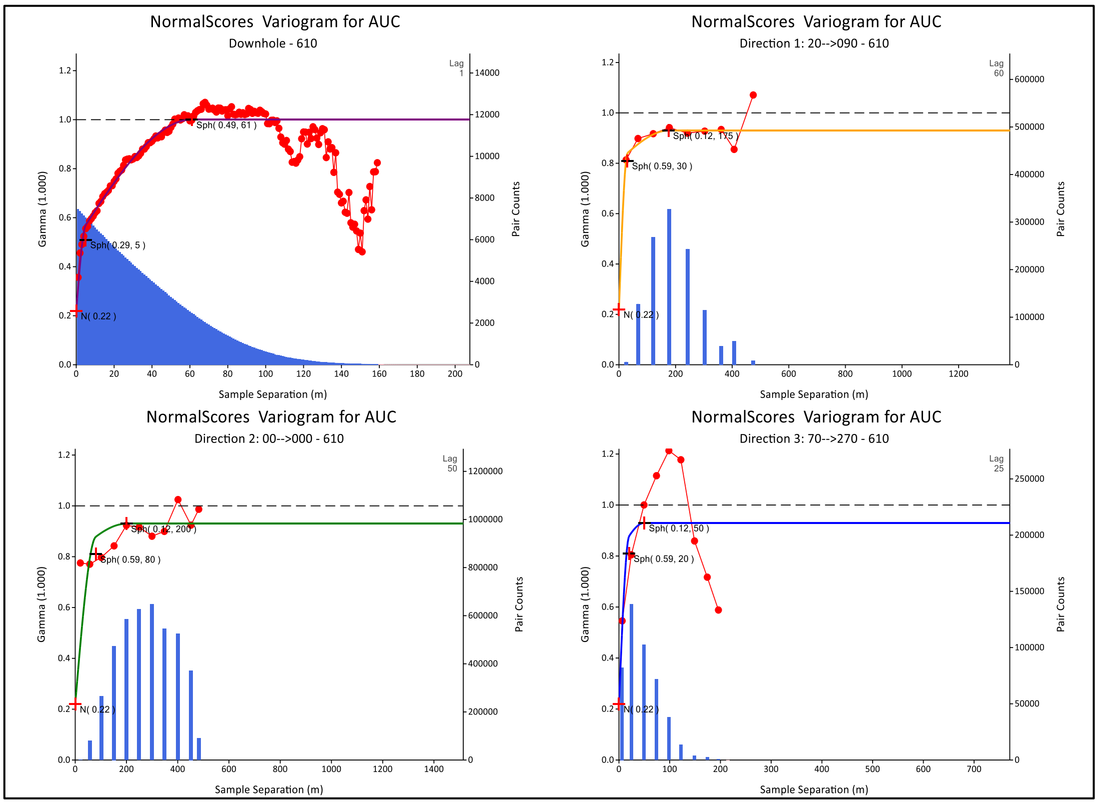


Figure 75: Kraku Pester – example variogram of gold grades (ESTZON610 – MINZON10; GEOL600)

Source: CSA Global, 2018

14.9 Grade Estimation

Estimation of recoverable resources based on a SMU of 5 m x 5 m x 5 m was completed using UC. UC was chosen at Timok for the following reasons:

- Widely spaced data meaning a linear estimate such as OK would likely result in an unreliable estimate of grades and tonnes above cut-off (through excessive smoothing).
- UC is used to estimate the grade-tonnages at an SMU level which is much smaller than the recommended block size using a linear method.
- Within broad mineralisation zones (defined at approximately 0.1 g/t Au and within geological boundaries), the grade architecture at Timok is gradational rather than mosaic, i.e. there is a transition between high grades and low grades, rather than extremely sharp contacts, where MIK may be suitable.
- In common with other recoverable resource estimation methods, the output of UC is a model whereby the grade-tonnage curve of SMUs in each panel is estimated. This results in a potentially unwieldy model that is difficult to use in the mine planning process (there is no single grade in the block, but rather a series of proportions and grades at several cut-offs). UC has a post processing step called Localised Uniform Conditioning (LUC) where the grade tonnage of the panel gets reconstituted in SMU sized blocks resulting in a block model with single grades. The location of the high and low grades in each panel is an estimate based on the spatial distribution of high- and low-grade samples within the panel, but exact locations of the SMUs remain unknown.

14.9.1 Kriging Neighbourhood Analysis

Kriging Neighbourhood Analysis (KNA) on the top-cut 1 m composites was used to optimise the parent cell sizes and to determine the optimal theoretical estimation and search parameters.

The following was reviewed for each of the variables per selected domain:

- Slope and Kriging Efficiency (KE) statistics for a well-informed block for different block sizes.
- On choosing a block size (20 m x 20 m x 10 m, X x Y x Z), optimum minimum and maximum samples were chosen. The maximum was set at the lowest number of samples from which consistently good slopes and KE could be derived. The minimum was defined as the lowest minimum from which moderate to good statistics could be derived.
- On choosing the minimum/maximum samples, search ellipse ranges were defined. The quality of the statistics was least sensitive to this parameter. The ranges chosen approximated the ranges of the second structure of the variogram.
- Negative weights were reviewed at each stage to ensure the parameters chosen were not leading to excessive negative weights.
- Discretisation was defined at 3 x 3 x 5 (X x Y x Z).
- Maximum number of samples allowed per each individual drill-hole, per estimate, was set to three.

The KNA results show that the search parameters and block size selected are suitable for use in the MRE and adequately take drill spacing, geology and practicality into account.

The number of composites used for the Au grade estimations per ESTZON, by deposit, are presented in Table 49. The modelled variogram parameters together with the selected estimation panel size and number of samples was used to determine the appropriate search ellipse for the primary search pass. These are also presented in Table 49. Search rotations are based on interpolated local dip and dip directions into each 20 m x 20 m x 10 m panel derived from sectional strings perpendicular to the strike of the mineralisation. The plots with examples of the selected estimation parameters, per deposit, are shown in Figure 76 to Figure 79.

Table 49: Grade estimation parameters derived from the KNA results

Deposit	ESTZON	Search volume 1 (SVOL1)			Search volume 2			Search volume 3		
		Ranges	Composites		Range	Composites		Range	Composites	
			Min.	Max.		Min.	Max.		Min.	Max.
Bigar Hill	210	75 x 40 x 15	8	24	SVOL1 x 2	8	24	SVOL1 x 4	6	20
	1620	40 x 40 x 15	8	21		8	21		6	18
	220	40 x 40 x 15	8	21		8	21		6	18
	720	80 x 60 x 15	8	24		8	24		6	20
	1640	87.5 x 60 x 15	8	21		8	21		6	18
	2740	82.5 x 62.5 x 15	8	24		8	24		6	20
	230	40 x 40 x 15	8	21		8	21		6	18
	830	75 x 75 x 15	8	24		8	24		6	20
	930	75 x 75 x 15	8	24		8	24		6	20
	1860	70 x 70 x 15	8	21		8	21		6	18
	3360	45 x 45 x 15	8	24		8	24		6	20
	240	40 x 40 x 15	8	24		8	24		6	20
	2280	60 x 55 x 15	8	24		8	24		6	20
Korkan	210	80 x 62.5 x 15	8	21	SVOL1 x 2	8	21	SVOL1 x 4	6	18
	510	90 x 50 x 15	8	24		8	24		6	20
	910	150 x 70 x 15	8	21		8	21		6	18
	1010	62.5 x 62.5 x 15	8	21		8	21		6	18
	2940	115 x 87.5 x 15	8	24		8	24		6	20
	720	90 x 90 x 15	8	21		8	21		6	18
	1640	87.5 x 110 x 15	8	20		8	20		6	18
	3760	87.5 x 87.5 x 15	8	21		8	21		6	18
	1030	40 x 65 x 15	8	24		8	24		6	20
	1690	100 x 75 x 15	8	24		8	24		6	20
	2260	115 x 57.5 x 15	8	24		8	24		6	20
	2760	90 x 60 x 15	8	24		8	24		6	20
Korkan West	2330	80 x 40 x 15	8	21	SVOL1 x 2	8	21	SVOL1 x 3	6	18
	810	90 x 40 x 15	8	21		8	21		6	18
	1010	87.5 x 25 x 15	8	24		8	24		6	20
	1110	70 x 25 x 15	8	24		8	24		6	20
	1840	50 x 25 x 15	8	21		8	21		6	18
	820	87.5 x 25 x 15	8	24		8	24		6	20
	3140	60 x 35 x 15	8	24		8	24		6	20
Kraku Pester	10620	60 x 60 x 10	8	21	SVOL1 x 2	8	21	SVOL1 x 3	6	18
	210	50 x 50 x 10	8	21		8	21		6	18
	310	40 x 60 x 10	8	24		8	24		6	20
	410	35 x 65 x 10	8	21		8	21		6	18
	610	60 x 65 x 10	8	24		8	24		6	20
	1110	25 x 50 x 10	8	24		8	24		6	20
	1210	50 x 95 x 10	8	21		8	21		6	18

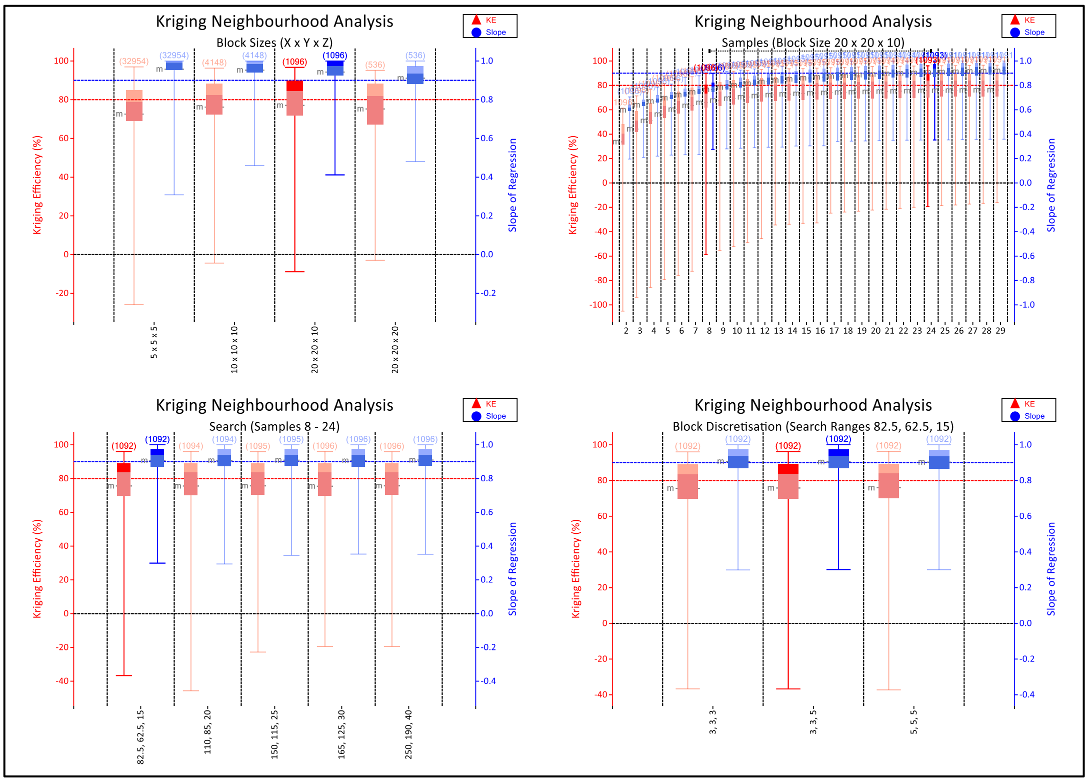


Figure 76: Bigar Hill – example KNA parameters modelled on ESTZON2740 (MINZON30; GEOL800+900)

From top left, clockwise: Block size, samples, discretisation and search results.

Source: CSA Global, 2018

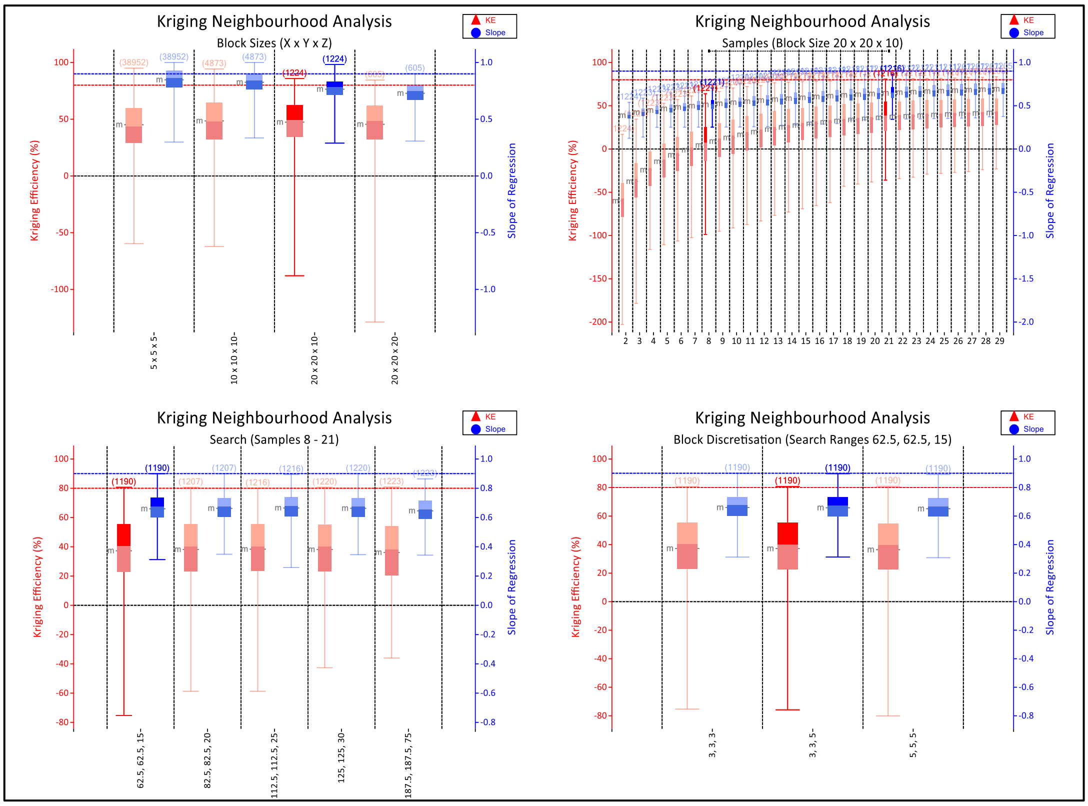


Figure 77: Korkan – example KNA parameters modelled on ESTZON1010 (MINZON10; GEOL1000)

From top left, clockwise: Block size, samples, discretisation and search results.

Source: CSA Global, 2018

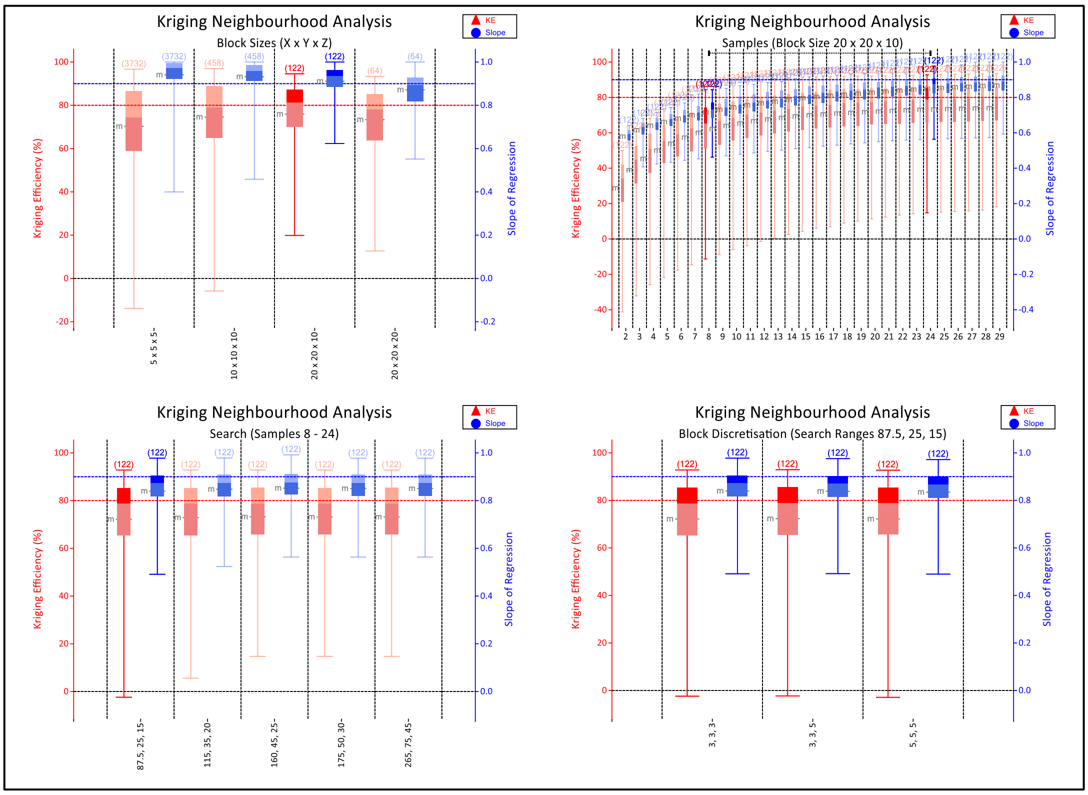


Figure 78: Korkan West – example KNA parameters modelled on ESTZON820 (MINZON20; GEOL800)

From top left, clockwise: Block size, samples, discretisation and search results.

Source: CSA Global, 2018

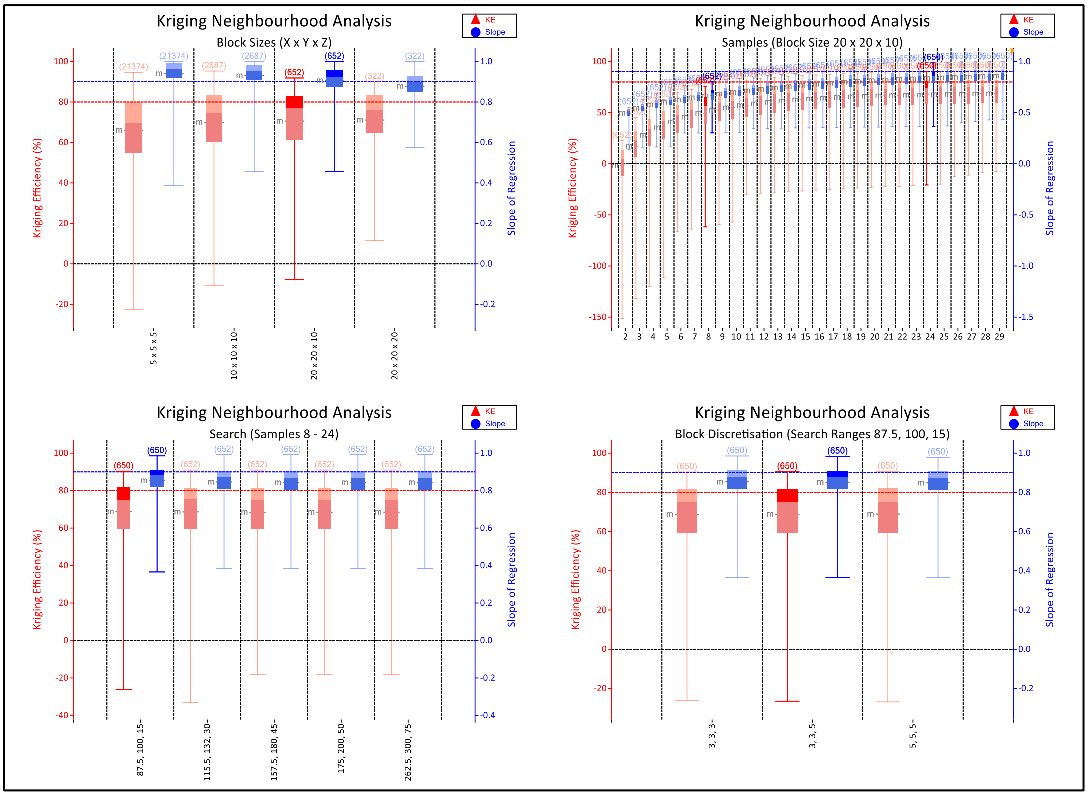


Figure 79: Kraku Pester – example KNA parameters modelled on ESTZON610 (MINZON10; GEOL600)

From top left, clockwise: Block size, samples, discretisation and search results.

Source: CSA Global, 2018

14.9.2 Estimation Procedures

Gold grade in the panel was estimated for each of the deposits using OK and hard boundaries between individual estimation domains.

A three-phased search pass was applied, and the orientation of the search ellipsoid was aligned to the modelled variography. This process involves the estimation being performed three times, where two expansion factors are used. During each individual estimation run this factor increases the size of the search ellipse used to select samples. This method ensures that blocks which are not estimated and populated with a grade value in the first run, are populated during one of the subsequent runs.

The mineralised areas were estimated using dynamic anisotropy. This process allows the rotation angles for the search ellipsoid to be defined individually for each cell in the models, so that the search ellipsoid is aligned with the axes of mineralisation. This therefore requires the rotation angles to be interpolated into the model cells, which in turn requires a set of angles as the input data file for interpolation. The dip and dip direction of the major axis of anisotropy were defined by digitising strings in section perpendicular to the strike of the mineralisation. These strings were converted to points that contained the true dip and dip direction of the mineralisation and stratigraphy (fields SANGLE1_F and SANGLE2_F in the search parameter files).

The rotations of the modelled variograms aligned with the dominant orientation of the mineralisation. Therefore, the variogram also used dynamic anisotropy.

Estimation of recoverable resources was completed using UC.

To provide a block model for use in mine planning, SMU sized blocks (5mN x 5mE x 5mRL) were Kriged and the resultant SMUs were ranked from 1 to 64 (highest to lowest grade), with the actual grades being discarded and only the ranking remaining. Grades were then read off the panel grade-tonnage curve for each SMU (from highest to lowest grade) and assigned based on the estimated ranking, through a process called LUC. The result is the assignment of single grades to SMU sized blocks so that the 64 SMUs in each panel achieve a grade-tonnage tabulation matching that of the panel estimated through UC.

The location of the high and low grades in each panel is an estimate based on the spatial distribution of high- and low-grade samples surrounding the panel, but exact locations of the SMUs are a statistical estimate.

Validation of the block model was completed by comparing input and output means. Several techniques were used for the validation. These included visual validation of block grades, global grade comparisons and swath plots.

14.9.3 Visual Validation

The block models were visually reviewed section by section and in 3D to ensure that the grade tenor of the input data was reflected in the block models (example shown in Figure 80 to Figure 83). Generally, the estimates compare well with the input data. The grades in the composites align with the corresponding grades in the block models.

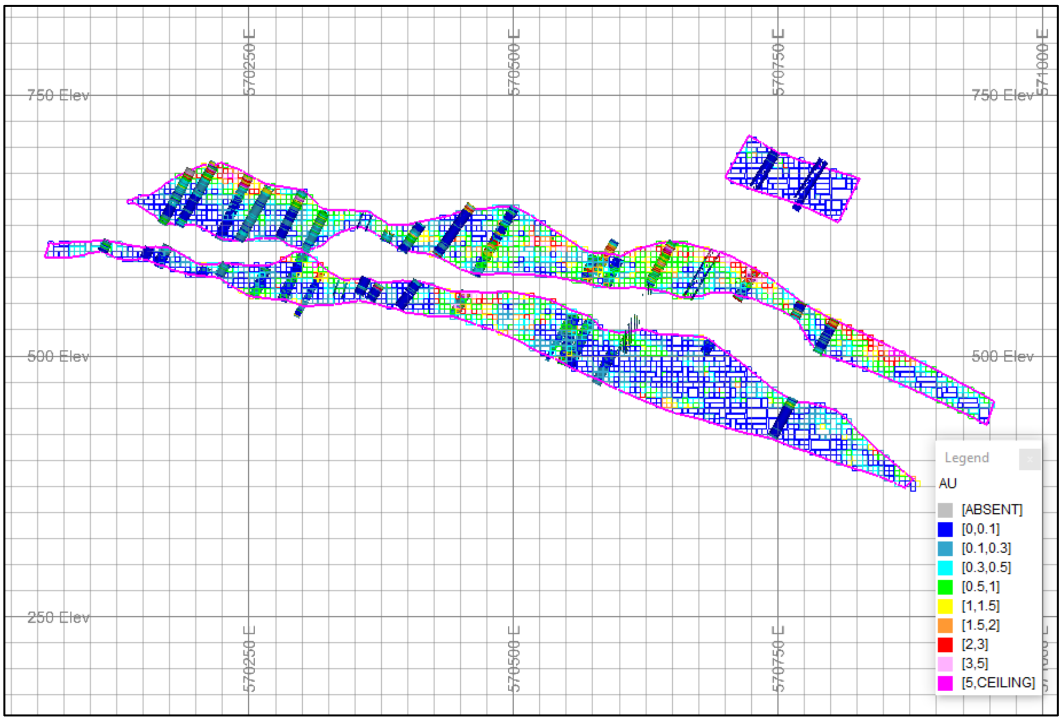


Figure 80: Bigar Hill – example cross section showing drill-hole composites and block gold grade

Source: CSA Global, 2018

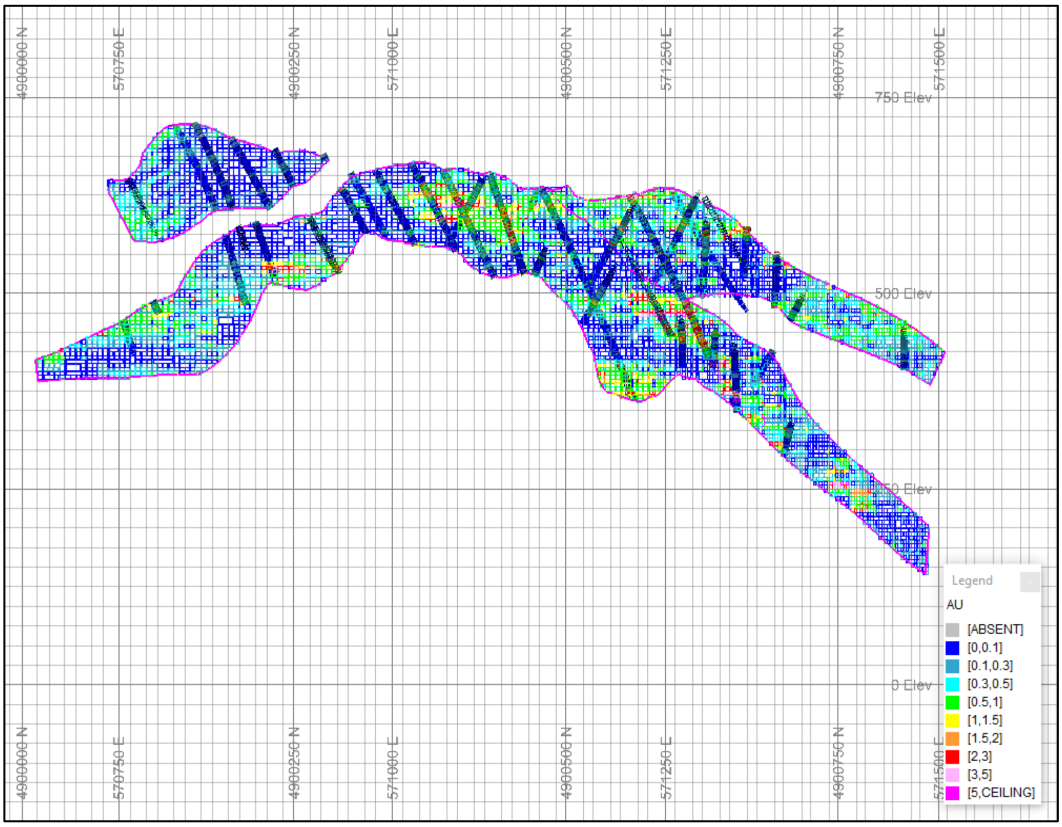


Figure 81: Korkan – example cross section showing drill-hole composites and block gold grade

Source: CSA Global, 2018

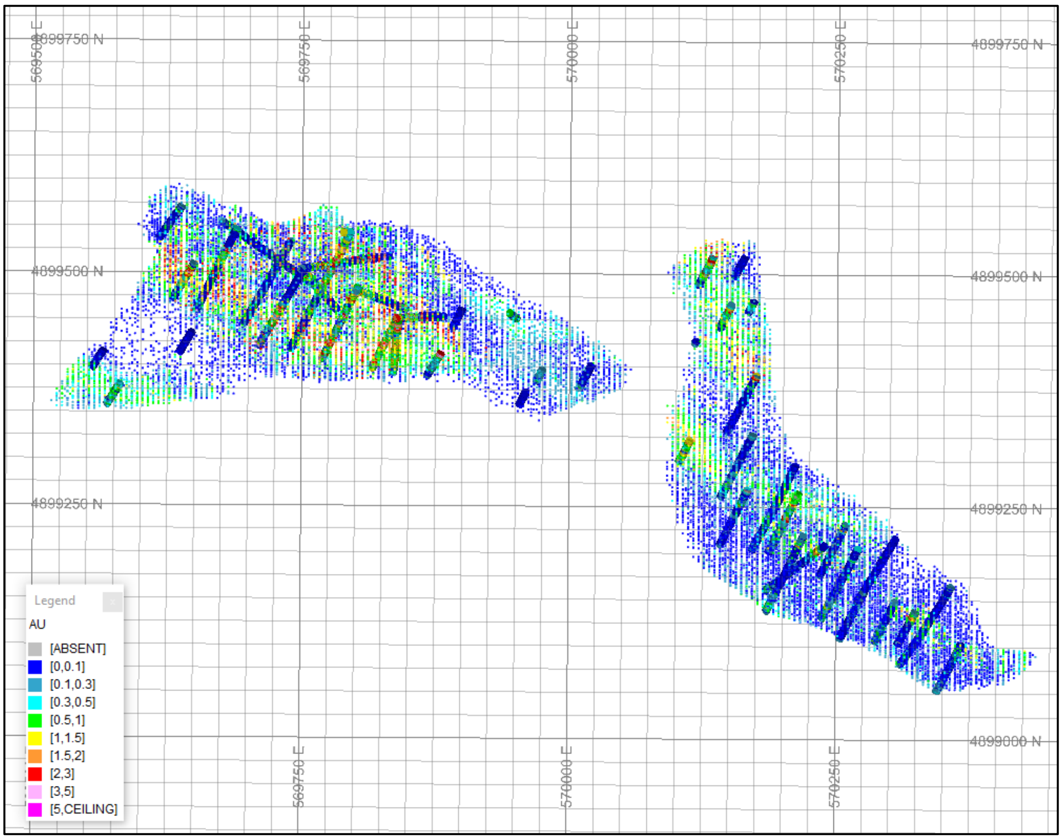


Figure 82: Korkan West – 3D view showing drill-hole composites and block gold grade

Source: CSA Global, 2018

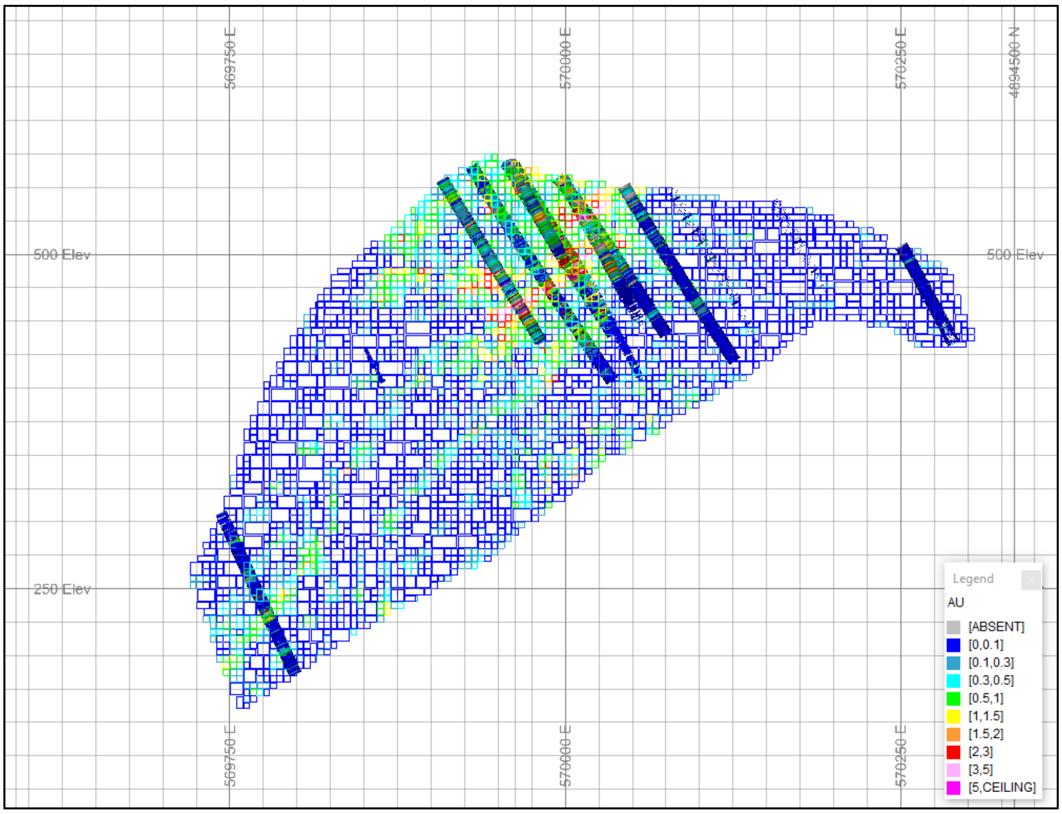


Figure 83: Kraku Pester – example cross section showing drill-hole composites and block gold grade

Source: CSA Global, 2018

14.9.4 Statistical Validation

De-clustering

Irregular sampling of a deposit, most commonly through infill drilling or drilling in multiple orientations, causes clustering. Clustering results in a disproportionate distribution grades (usually high grades from the infill drilling) in the dataset used for statistical analysis. Mixed populations in the histogram can create a bias when comparing the drill-hole sample distribution with the block model distribution (which is de-clustered) and distort the calculated mean grades and variance.

Different ways of de-clustering data each give different results. These include interactive filtering, polygonal de-clustering, nearest neighbour de-clustering and cell-weighted de-clustering.

The method used for geostatistical analysis and validation is cell-weighted de-clustering, since all samples are considered when determining the average. This method involves placing a grid of cells over the data. Each cell that contains at least one sample is assigned a weight of one. That weight of one is distributed evenly between the samples within each cell.

The OK grade estimation process is a very efficient way of data de-clustering, therefore de-clustering before grade estimation is not necessary. De-clustering of the input data does give a good indication of the global mean. It is used in the validation of the estimate (comparison of the means). De-clustering was applied to remove any bias due to drill spacing prior to validation. The de-clustering parameters are presented in Table 50.

Table 50: De-clustering parameters

Deposit	Cell size (m)			Anchor point		
	X	Y	Z	X	Y	Z
Bigar Hill	20	20	10	569920	4897720	0
Korkan	20	20	10	570000	4899400	0
Korkan West	20	20	10	568540	4898680	0
Kraku Pester	20	20	10	569200	4893500	100

Results

The global statistics of Au g/t, within the Indicated Mineral Resources, were reviewed, and the results are reported below in Table 51.

The mean grades in the estimated model block parent cells were compared to the raw, as well as the de-clustered, top-cut composite data.

Generally, the models validate well, showing 2% for Bigar Hill and Korkan, 1% difference for Korkan West, and 8% difference for Kraku Pester, between the de-clustered composites and the block estimates. These are well within expected parameters.

Table 51: Comparison of MRE models gold grade (Indicated Mineral Resources) with drill-hole composite grade, by deposit

Deposit		Variable	Count	Minimum	Maximum	Mean	SD	CV
Bigar Hill	Composites Naïve	AUC	35,157	0.01	20.00	**0.46**	1.09	2.34
	Composites De-clustered	AUC	35,157	0.01	20.00	**0.45**	1.06	2.33
	Model	AU	267,030	0.00	13.51	**0.46**	0.86	1.87
	Difference [(Composite De-clustered Grade – Model Grade)/Model Grade]					**+2%**		
Korkan	Composites Naïve	AUC	31,778	0.01	15.00	**0.39**	1.04	2.68
	Composites De-clustered	AUC	31,778	0.01	15.00	**0.37**	1.00	2.69
	Model	AU	299,597	0.00	12.72	**0.37**	0.74	2.03
	Difference [(Composite De-clustered Grade – Model Grade)/Model Grade]					**-2%**		
Korkan West	Composites Naïve	AUC	3,013	0.01	4.42	**0.33**	0.65	1.94
	Composites De-clustered	AUC	3,013	0.01	4.42	**0.31**	0.62	1.98
	Model	AU	29,604	0.00	4.04	**0.32**	0.53	1.69
	Difference [(Composite De-clustered Grade – Model Grade)/Model Grade]					**+1%**		
Kraku Pester	Composites Naïve	AUC	15,162	0.01	8.00	**0.31**	0.73	2.33
	Composites De-clustered	AUC	15,162	0.01	8.00	**0.29**	0.69	2.42
	Model	AU	85,151	0.00	6.34	**0.31**	0.54	1.73
	Difference [(Composite De-clustered Grade – Model Grade)/Model Grade]					**+8%**		

AUC – top-cut Au g/t; AU – LUC Au g/t; SD – standard deviation; CV – coefficient of variation

14.9.5 Swath Plots

Swath plots were created as part of the validation process, by comparing the model parent block grades (restricted to Indicated Mineral Resources) and input composites (de-clustered and top-cut) in spatial increments. These plots display northing, easting and elevation slices throughout the deposits, as shown in Figure 84 to Figure 87.

The plots show that the distribution of block grades honours the distribution of input composite grades. There is a minor degree of smoothing evident, which is to be expected from the estimation method used, with block grades showing lower overall variance. The general trend of the composite grades is reflected in the block models.

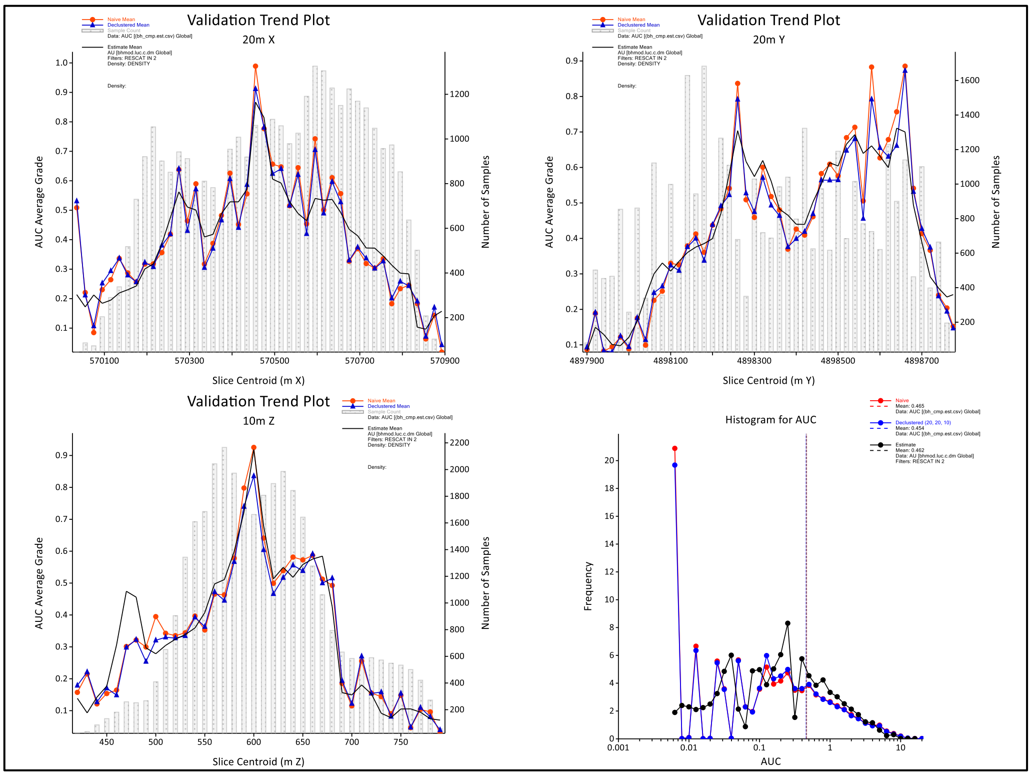


Figure 84: Bigar Hill – swath plot of grade trends by northing (Ym), easting (Xm) and depth (Zm) for Indicated Mineral Resources

Source: CSA Global, 2018

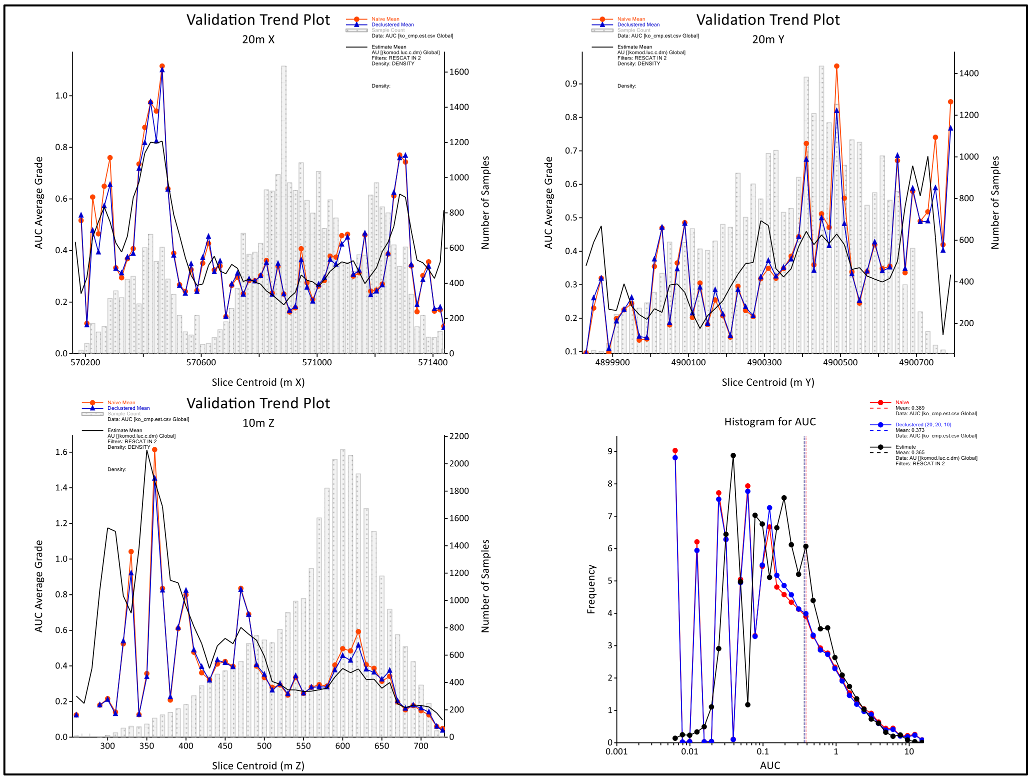


Figure 85: Korkan – swath plot of grade trends by northing (Ym), easting (Xm) and depth (Zm) for Indicated Mineral Resources

Source: CSA Global, 2018

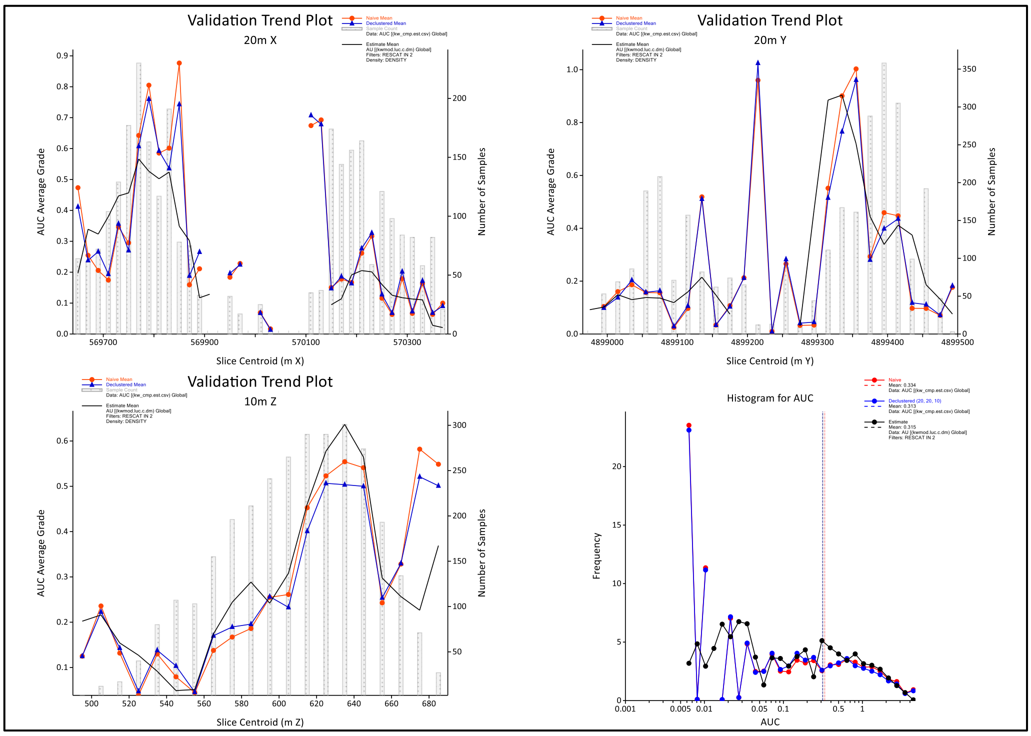


Figure 86: Korkan West – swath plot of grade trends by northing (Ym), easting (Xm) and depth (Zm) for Indicated Mineral Resources

Source: CSA Global, 2018

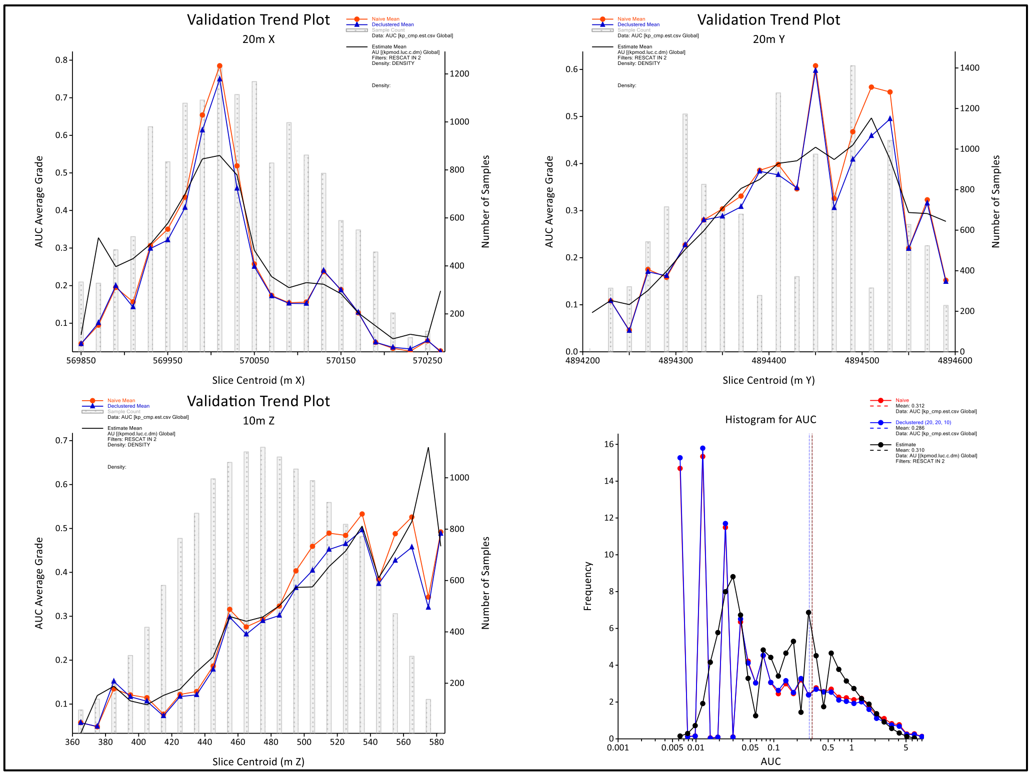


Figure 87: Kraku Pester – swath plot of grade trends by northing (Ym), easting (Xm) and depth (Zm) for Indicated Mineral Resources

Source: CSA Global, 2018

14.10 Bulk Density Estimation

Density values were estimated into 20 m x 20 m x 10 m parent cells, using a constraint in which only samples from a given stratigraphic unit were used to estimate the corresponding unit in the model. An inverse distance weighting squared estimator was applied, with search orientations conforming to local planes of the stratigraphy.

Density estimates were not domained by weathering zones, as only a small proportion of the mineralisation domains are located in weathered zones, and differences in densities were not considered sufficient to justify differentiation by weathering.

14.11 Resource Classification

The Timok Gold Project Mineral Resources have been classified using the CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council, and procedures for classifying the reported Mineral Resources were undertaken within the context of the Canadian Securities Administrators NI 43-101.

Resource classification procedures have been undertaken with consideration of the following criteria:

- Quality and reliability of raw data (sampling, assaying, surveying)
- Confidence in the geological interpretation
- Number, spacing and orientation of intercepts through mineralised zones
- Knowledge of grade continuities gained from observations and geostatistical analyses
- The likelihood of material meeting economic mining constraints over a range of reasonable future scenarios, and expectations of relatively low selectivity of mining.

The physical process of coding the appropriate parts of models as Indicated Mineral Resources was achieved by:

- Reviewing of drilling intersection data densities and grade continuities in two and three dimensions
- Highlighting of drill-holes according to drilling campaign, to assess the impact of the infill drilling program
- Considering estimation model ancillary data, such as number of composites used in the estimation, and search volume pass
- Review blocks estimated in search pass 1, with a slope of at least 0.75 and using at least 10 composites to estimate
- A drill spacing of at least 40 m x 40 m
- For each mineralised zone, drawing of horizontally-aligned polygons to constrain potential Indicated Mineral Resources
- Editing of these polygons in section against the drill-hole data.

A wireframe was created from these polygons to broadly delineate the blocks that match the criteria listed above. Blocks with an estimated gold grade but falling outside the Indicated Mineral Resources criteria were assumed to be of lower confidence and classified as Inferred Mineral Resources.

The drill spacing is sufficient to allow the geology and mineralisation zones to be modelled into coherent wireframes for each domain. Reasonable consistency is evident in the orientations, thickness and grades of the mineralised zone.

Validation of the drill-holes, particularly in relation to the exact collar locations and assay results, and the availability of QAQC information, has provided further confidence in the classification of Indicated Mineral Resources.

A summary of the classification codes applied in the models is shown in Table 52.

Table 52: RESCAT field and description

RESCAT	Description
2	Indicated Mineral Resource
3	Inferred Mineral Resource
4	Exploration Potential (not reported)
9	Unclassified – All waste material not estimated (outside modelled mineralisation solids)

Figure 88 to Figure 91 show the classified block models in section view, alongside the estimation composites.

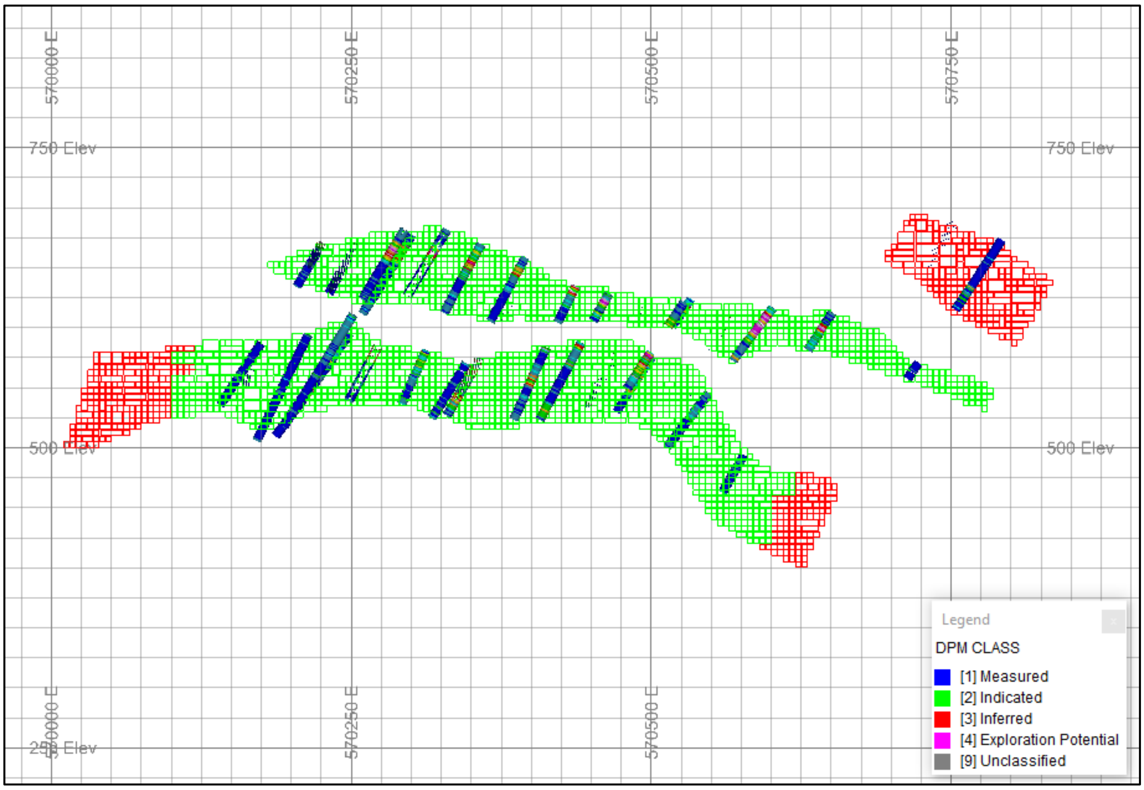


Figure 88: Bigar Hill – example cross section showing the classified Mineral Resource, with estimation composites

Source: CSA Global, 2018

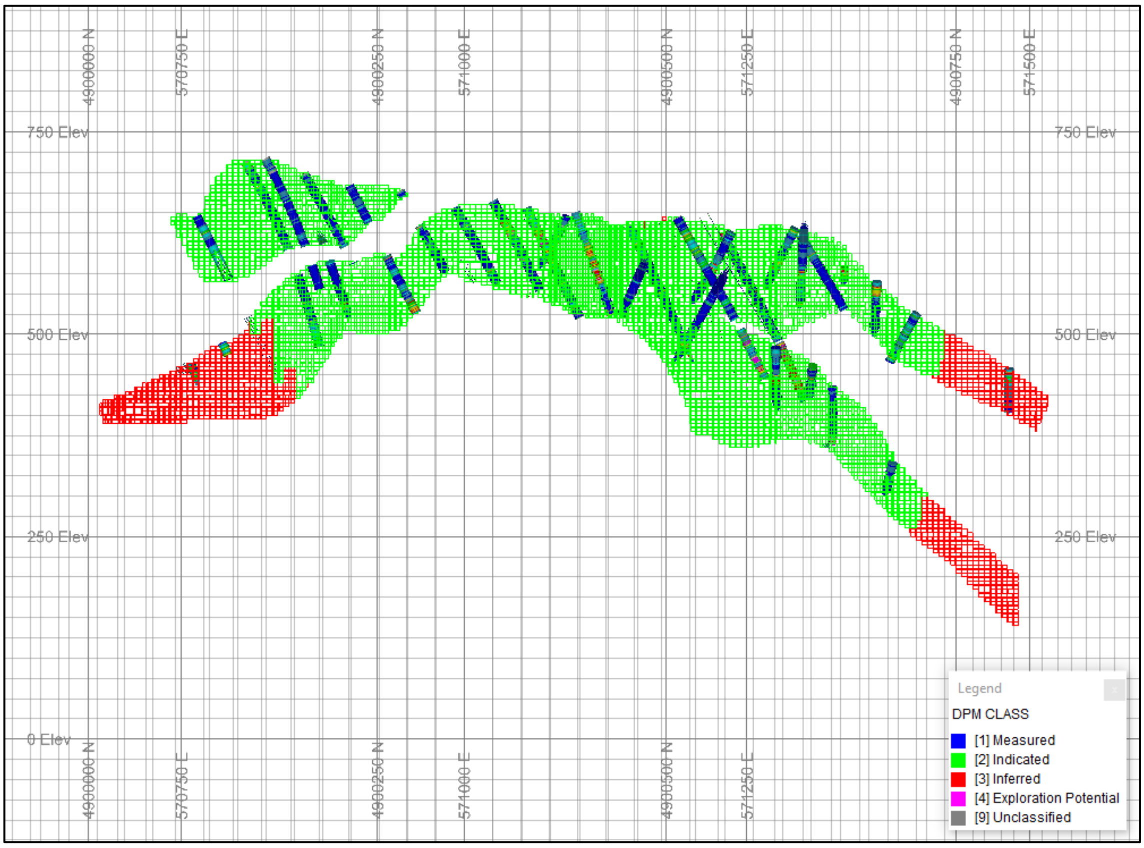


Figure 89: Korkan – example cross section showing the classified Mineral Resource, with estimation composites

Source: CSA Global, 2018

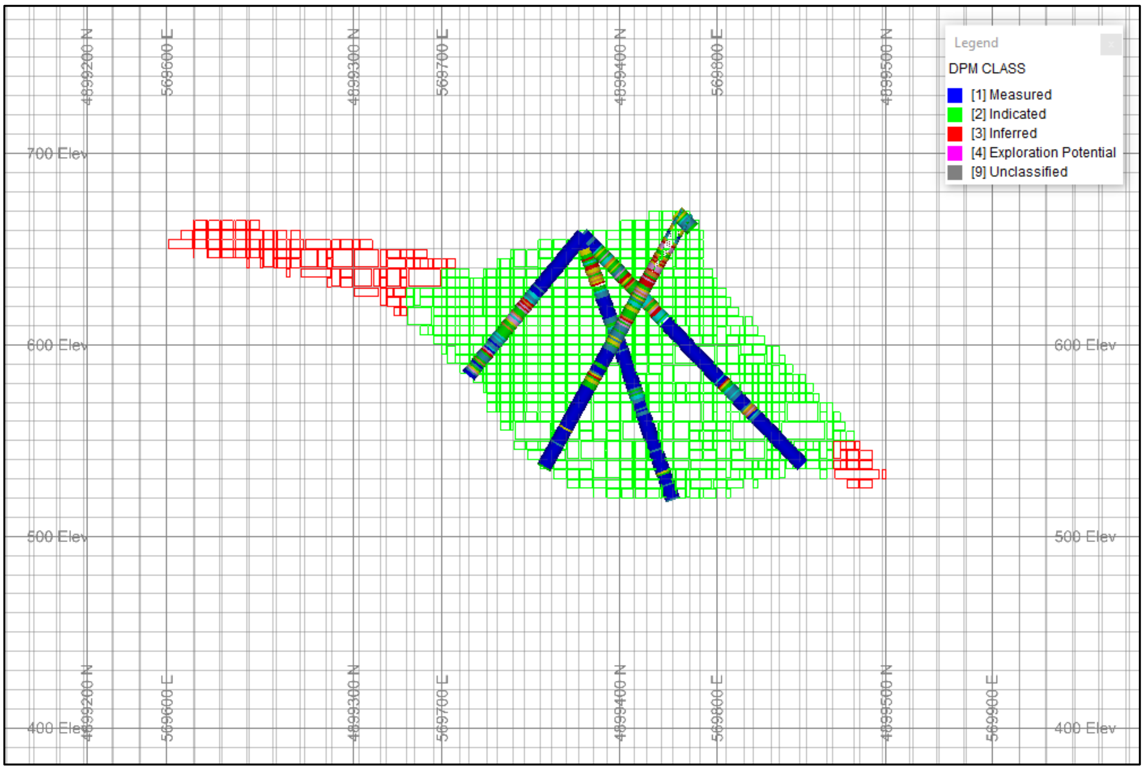


Figure 90: Korkan West – example cross section showing the classified Mineral Resource, with estimation composites

Source: CSA Global, 2018

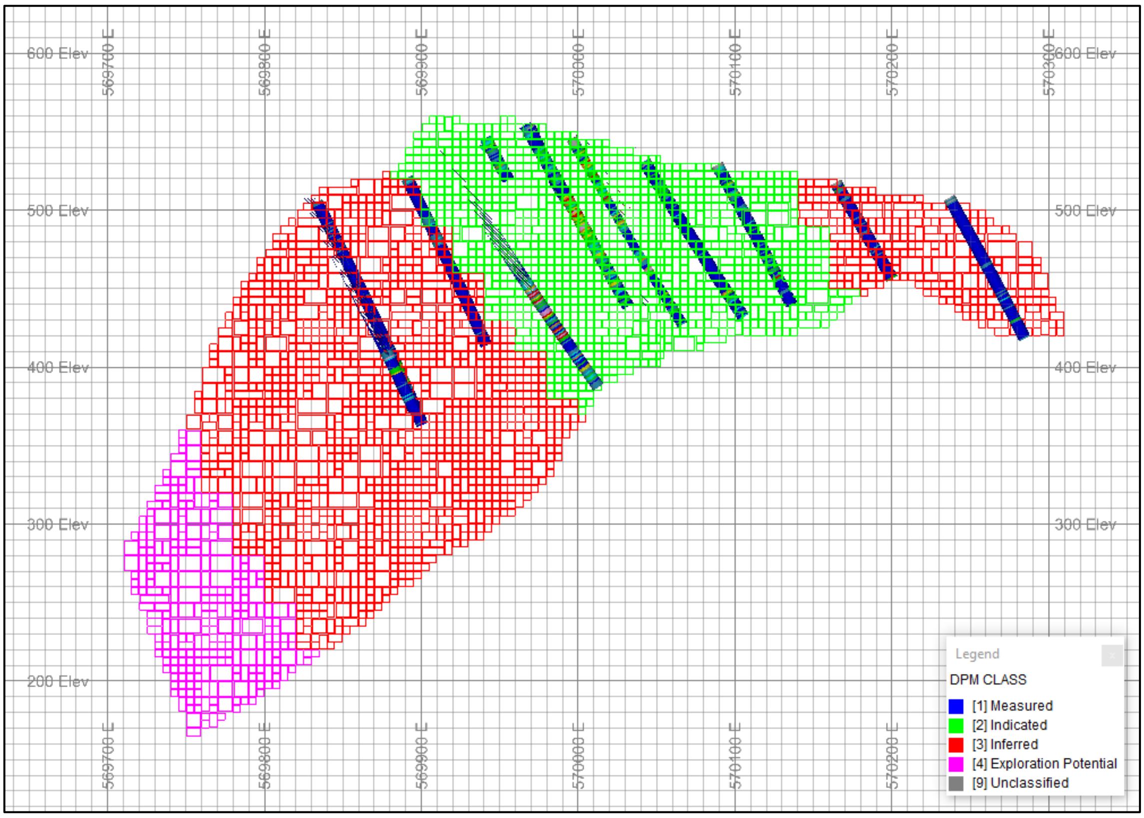


Figure 91: Kraku Pester – example cross section showing the classified Mineral Resource, with estimation composites

Source: CSA Global, 2018

14.12 Mineral Resource Reporting

The resources are constrained within pit shells based on the parameters presented in Table 53. Please note, the use of the word "ore" is used in Table 53 because it is terminology used in defining pit optimisation parameters. This is in no way intended to imply that any Mineral Resources have technical or economic feasibility. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Table 53: Parameters used in pit optimisations

Units				Bigar Hill	Korkan	Korkan West	Kraku Pester
Costs	Mining cost	Waste	$/t mined	2.39	2.58	2.39	2.45
		Ore (Oxide and Transitional)	$/t ore	2.39	2.58	2.39	2.45
		Ore (Sulphide)	$/t ore	3.09	3.28	3.09	3.15
		Incremental cost per 10 m bench	$/t mined	0.045 from 530 RL	0.045 from 560 RL	0.045 from 560 RL	0.045 from 480 RL
		Rehabilitation	$/t mined	0.09	0.09	0.09	0.09
		Ore haulage from Kraku Pester	$/t ore	-	-	-	3.5
	Processing and administration	Ore (Oxide and Transitional)	$/t ore	6.22			
		Ore (Sulphide)	$/t ore	12.81			
	Off-site costs	Ore (Oxide and Transitional)	$/tr oz	5			
		Total concentrate and smelter cost (Sulphide)	$/tr oz	200			
		Royalty	%	5			

Units				Bigar Hill	Korkan	Korkan West	Kraku Pester
Parameters	Mining parameters	Mining recovery	%	95.00			
		Dilution	%	0.00			
	Au processing recovery	Ore (Oxide)	%	91.3	91.5	72.8	72.8
		Ore (Transitional)	%	69.3	69.3	69.3	69.3
		Ore (Sulphide)	%	70	65	65	50
	Overall slope angle	Oxide Zone	°	45			
		Transitional and Sulphide	°	52.5			
Revenue		Price of gold	$/oz t	1,250(RF=1). Pit shell at 1,400			
		Payable for Oxide and Transitional	%	99			
		Payable for Sulphide	%	100.00			
Analysis		Discount rate	%	7.50			
		Grams in a troy ounce	g/oz t	31.1035			
		Processing rate	Mt/a	2.0			

The base mining cost of $2.39/t mined for Bigar Hill and Korkan West, $2.58/t mined for Korkan and $2.45/t for Kraku Pester have been estimated from the 2017 Timok Technical report (CSA Global, 2017). These have been updated to account for 2018 fuel price increase, the price inflation index and the explosive price increase. An incremental cost of $0.045/t per 10 m bench in depth has been applied as follows: 530 mRL for Bigar Hill, 560 mRL for Korkan and Korkan West, and 480 mRL for Kraku Pester. In addition, the mining cost for sulphide mineralised material has been increased in $0.7/t ore as grade control.

A mining recovery of 95% was used for this stage based on the 2017 study and an overall slope angle of 45° for oxide material and 52.5° for transitional and fresh material have been used for the optimisation.

Oxide and transitional mineralised material from the Timok Gold Project will be treated using conventional heap leaching technology. The process operating costs for oxide and transitional material have been generated from first principles for the heap leach process option and were estimated to be $4.27/t ore for all mineralised material types. Administration, grade control costs of $1.25/t ore and a re-handling cost of $0.70/t ore have been added to processing cost, resulting in a total processing cost of $6.22/t ore stacked on the heap.

Additionally, the sulphide mineralised material will be processed by flotation to produce a saleable gold-bearing concentrate. The process operating costs for sulphide mineralised material ($12.81/t ore) includes costs for primary crushing and stockpiling, grinding and classification, flotation, concentrate dewatering and handling, tailings disposal, reagents, water supply, storage and distribution and air supply and distribution.

The Au processing recovery value derived from the Korkan transitional column leach testwork was assigned to the Bigar Hill, Kraku Pester and Korkan West transitional material. This is based on the observation that the 5m composite bottle roll recoveries and transitional mineralization characteristics are consistent within each of the prospects. The Kraku Pester Au processing recovery value was derived from the Korkan West oxide column leach testwork, which was assigned based on comparable mineralization styles and review of the 5m composite bottle roll recoveries from this prospect.

A nominal production rate of 2 Mt/a has been assumed for treating all mineralised material types. The various mineralised material types (oxide/transitional/sulphide) are processed by different process technologies and metallurgical recoveries are dependent on the type of mineralisation. Only material classified as Indicated and Inferred Mineral Resources is considered to be processable. No Korkan East polymetallic mineralisation falls within the constraining conceptual pit shell. It is not clear if oxide and transitional material at Korkan East can be processed, and a different processing flowsheet would be required for the sulphide.

The price adopted for this study is $1,250/oz of gold as a pit shell with revenue factor = 1. However, the pit shells generated at $1,400/oz, with revenue factor = 1.2, has been selected as a constraining shell for Mineral Resource reporting. Note that only 99% of gold is payable.

A refining charge of $5/oz of gold for oxide and transitional mineralised material has been included in the optimisation as off-site parameters. Also, $200/oz of gold has been used in running the optimisations for fresh mineralised material and it includes the transport cost for concentrate, treatment charges, assays cost and penalties.

Additionally, a royalty of 5% has been applied.

Pit optimisations run in Whittle software resulted in varying cut-off grades, dependent on oxidation state, per deposit.

Table 54: Mineral Resource reporting cut-off grades

Deposit	Cut-off Grade Au g/t					
	Cut-off for oxide in Whittle	Cut-off for oxide rounded	Cut-off for transitional in Whittle	Cut-off for transitional rounded	Cut-off for fresh in Whittle	Cut-off for sulphide rounded
Bigar Hill	0.178	**0.20**	0.235	**0.25**	0.603	**0.60**
Korkan	0.178	**0.20**	0.235	**0.25**	0.65	**0.65**
Korkan West	0.223	**0.20**	0.235	**0.25**	0.65	**0.65**
Kraku Pester	0.351	**0.35**	0.369	**0.40**	1.065	**1.05**

The key changes between the previous MRE for the Timok Gold Project deposits (CSA Global, 2017) and this updated Mineral Resource is that it was informed by additional drilling since 2014, updated interpretations by DPM of the different weathering domains, which was not previously recognised, and has been reported at variable cut-offs, dependent on mineralised material type and deposit, commensurate with the differing costs parameters used to define the constrained pits. The updated Mineral Resource also includes a maiden MRE for the Korkan West prospect of the Timok Project, discovered by DPM in 2017. Previous Mineral Resources only reported oxide and transitional material, whereas fresh material forms part of the 2018 reported Mineral Resources. Due to the nature of these changes, it is not possible to make a very meaningful comparison to what was reported in 2017.

Mineral Resources are reported constrained within conceptual pit optimisation shells for each deposit, for the purposes of demonstrating “reasonable chances of eventual economic extraction”, required for Mineral Resource disclosure. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The open-pit shells have been determined via consideration of various cut-off grades for material types that were calculated based upon, among other things, the material type, haulage distance and recoveries derived from metallurgical testwork. The Mineral Resource statement for each deposit, and the cut-off grades for each material type, reported using these various cut-off grades, is presented in Table 55.

Table 55: Mineral Resource estimate – 2018: Timok Gold Project, Serbia, CSA Global

Mineral Resource estimates: Timok Gold Project, Serbia, as at 15 May 2018							
Deposit		**Indicated Mineral Resource**			**Inferred Mineral Resource**		
		Tonnage (Mt)	**Au**		**Tonnage (Mt)**	**Au**	
			(g/t)	**koz**		**(g/t)**	**koz**
Bigar Hill	Oxide	12.4	1.14	455	0.7	0.7	16
	Transitional	5.9	1.21	229	0.4	1.0	12
	Sulphide	11.1	1.72	615	0.1	1.6	7
	Subtotal	**29.4**	**1.38**	**1,299**	**1.2**	**0.9**	**34**
Korkan	Oxide	5.8	0.90	166	0.2	0.5	4
	Transitional	2.8	1.06	97	0.1	0.7	3
	Sulphide	3.3	1.91	205	0.0	1.1	0
	Subtotal	**11.9**	**1.22**	**468**	**0.4**	**0.6**	**7**
Korkan West	Oxide	2.9	1.03	98	1.0	0.8	24
	Transitional	0.3	0.85	8	0.2	0.8	6
	Sulphide	0.0	1.33	1	0.0	0.9	0
	Subtotal	**3.2**	**1.02**	**106**	**1.2**	**0.8**	**31**
Kraku Pester	Oxide	0.7	0.95	22	0.1	1.3	5
	Transitional	0.1	0.95	4	0.0	1.2	0
	Sulphide	1.5	2.01	95	0.0	1.8	0
	Subtotal	**2.3**	**1.61**	**122**	**0.1**	**1.3**	**6**
Subtotal – Oxide		**21.8**	**1.06**	**742**	**2.0**	**0.7**	**48**
Subtotal – Transitional		**9.2**	**1.15**	**338**	**0.7**	**0.9**	**22**
Subtotal – Sulphide		**15.9**	**1.79**	**916**	**0.2**	**1.5**	**8**
TOTAL		**46.9**	**1.32**	**1,996**	**2.9**	**0.8**	**78**

Notes:

1. *The effective date of the MRE is 15 May 2018.*
2. *Mineral Resources are reported in accordance with CIM guidelines.*
3. *A cut-off of 0.20 g/t Au for the Oxide material, 0.25 g/t Au for the Transitional material, and 0.60 g/t Au for the Sulphide material is applied at Bigar Hill.*
4. *A cut-off of 0.20 g/t Au for the Oxide material, 0.25 g/t Au for the Transitional material, and 0.65 g/t Au for the Sulphide material is applied at Korkan and Korkan West.*
5. *A cut-off of 0.35 g/t Au for the Oxide material, 0.40 g/t Au for the Transitional material, and 1.05 g/t Au for the Sulphide material is applied at Kraku Pester.*
6. *Figures have been rounded to the appropriate level of precision for the reporting of Mineral Resources.*
7. *Due to rounding, some columns or rows may not compute exactly as shown.*
8. *The Mineral Resources are stated as in situ dry tonnes. All figures are in metric tonnes.*
9. *The models are reported above surfaces based on conceptual US$1,400 gold price pit shells to support assumptions relating to reasonable prospects of eventual economic extraction.*
10. *Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

14.13 Previous Mineral Resource Estimates

Mineral Resource estimation for the Bigar Hill, Korkan and Kraku Pester deposits was previously completed in March 2017, as shown in Table 56 (CSA Global, 2017).

The key changes between the 2017 MRE for the Timok Gold Project deposits (CSA Global, 2017) and this updated Mineral Resource are:

- Additional drilling since 2014 informing the 2018 MRE
- Updated interpretations by DPM of the different weathering domains, which was not previously recognised
- Reported at variable cut-offs, dependent on mineralised material types and deposit (Table 54), commensurate with differing costs parameters used to define the constrained pits (Table 53)
- The updated Mineral Resource also includes a maiden MRE for the Korkan West prospect of the Timok Gold Project, discovered by DPM in 2017
- Due to the changes listed above, it is not possible to make a very meaningful comparison to what was reported in 2017.

Table 56: Mineral Resource estimates 2017: Timok Gold Project, Serbia, CSA Global

Mineral Resource Estimates: Timok Gold Project, Serbia, as at 31 March 2017 (CSA Global)						
Deposit	**Indicated Mineral Resource**			**Inferred Mineral Resource**		
	Tonnage (Mt)	**Au**		**Tonnage (Mt)**	**Au**	
		(g/t)	**M oz**		**(g/t)**	**M oz**
Bigar Hill	22.97	1.57	1.16	0.3	1.5	0
Korkan	6.71	1.55	0.33	0	0.8	0
Kraku Pester	5.06	1.40	0.23	0.2	1.2	0
Total	**34.74**	**1.54**	**1.72**	**0.4**	**1.4**	**0**

Notes:

1. *The effective date of the MRE is 31 March 2017.*
2. *CIM definitions were used for Mineral Resources.*
3. *A cut-off of 0.5 g/t Au is applied for Bigar Hill and Korkan.*
4. *A cut-off of 0.65 g/t Au is applied for Kraku Pester.*
5. *Figures have been rounded to the appropriate level of precision for the reporting of Resources.*
6. *Due to rounding, some columns or rows may not compute exactly as shown.*
7. *No Mineral Reserves have been estimated for the Bigar Hill, Korkan or Kraku Pester deposits.*
8. *Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

Table 57: Pit optimisation parameters used to constrain 2017 MRE

Units				**Bigar Hill**	**Korkan**	**Kraku Pester**
Costs	Mining cost	Waste	$/t mined	$2.36	$2.55	$2.42
		Ore	$/t ore	$3.06	$3.25	$3.12
		Rehabilitation	$/t mined	$0.09	$0.09	$0.09
		Ore haulage from Kraku Pester	$/t ore	n/a	n/a	$3.50
	Processing and admin	Mill processing costs	US$/t ore	12.29	12.29	12.29
	Off-site concentrate transport and smelter costs	Total concentrate and smelter cost	$/oz	$200.00		
		Royalty	%	5%		
Parameters	Mining parameters	Mining recovery	%	95.00%		
		Dilution	%	0.00%		
	Processing recovery	Au	%	85%	85%	80%
	Overall slope angle	Weathered zone	°	45		
		Partially weathered and fresh	°	52.5		
Revenue		Price of gold	$/oz	1,250(RF=1). Pit shell at 1400		
Analysis		Discount rate	%	7.50%		
		Grams in a troy ounce		31.1035		
		Processing rate	Mt/a	1.68		

15 Mineral Reserve Estimates

The Property reviewed in this Technical Report does not have defined Mineral Reserves with potential economic viability supported by either a current PEA, prefeasibility study or feasibility study.

As a result, none of the properties and/or projects reviewed in this Technical Report can be classified as "Advanced Projects" and therefore this section does not fall within the scope of this Technical Report.

16 Mining Methods

There are no Mineral Reserves defined over the Property, and the potential economic viability of this Mineral Resources is not supported by a current PEA, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under this section heading.

17 Recovery Methods

There are no Mineral Reserves defined over the Property, and the potential economic viability of this Mineral Resources is not supported by a current PEA, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under this section heading.

18 Project Infrastructure

There are no Mineral Reserves defined over the Property, and the potential economic viability of this Mineral Resources is not supported by a current PEA, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under this section heading.

19 Market Studies and Contracts

There are no Mineral Reserves defined over the Property, and the potential economic viability of this Mineral Resources is not supported by a current PEA, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under this section heading.

20 Environmental Studies, Permitting and Social or Community Impact

There are no Mineral Reserves defined over the Property, and the potential economic viability of this Mineral Resources is not supported by a current PEA, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under this section heading.

21 Capital and Operating Costs

There are no Mineral Reserves defined over the Property, and the potential economic viability of this Mineral Resources is not supported by a current PEA, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under this section heading.

22 Economic Analysis

There are no Mineral Reserves defined over the Property, and the potential economic viability of this Mineral Resources is not supported by a current PEA, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under this section heading.

23 Adjacent Properties

Whilst other companies are actively exploring in the area to develop potential projects, there are no adjacent properties that are considered material to the estimation of resources for the Project.

24 Other Relevant Data and Information

This Technical Report discloses an update to the MRE, as at 15 May 2018, from that disclosed in March 2017. The Technical Report filed on SEDAR in June 2014 by Avala contained summary information relating to a PEA completed at that time. CSA Global believes that the update to the economic parameters used in the generation of the pit used to constrain the Mineral Resource disclosed herein may result in a change to conclusions presented in the 2014 PEA, and therefore the 2014 PEA published by Avala should not be relied upon.

25 Interpretations and Conclusions

25.1 Geology and Resources

CSA Global has the following conclusions that are relevant to this study:

Avala Resources d.o.o., a wholly-owned subsidiary of DPM, has conducted exploration and drilling since 2006 at the Timok Gold Project, which now comprises four exploration licences in the region of Bor, Serbia.

The Bigar Hill, Korkan, Korkan West and Kraku Pester sediment-hosted gold deposits have been defined as a result of a systematic sequence of exploration activities from soil sampling, trenching, and mapping, through geophysical evaluation and structural and stratigraphic interpretation, RC and diamond core drilling, metallurgical testwork and, finally, estimation of resources.

CSA Global has reviewed procedures, visited site, viewed core, verified the locations of several drill-holes, conducted spot checks between hard copy data and digital data and reviewed QAQC results and had extensive discussions with site personnel as part of data verification work. CSA Global has found the site to be extremely well run, with excellent procedures, a good understanding of the deposit geology and an emphasis on data quality that has contributed to a high degree of confidence in the data used in the MRE.

Drilling at Bigar Hill and Korkan have served to confirm the structural setting, the stratigraphy, and the geometric, spatial and lithological relationships of the gold mineralisation. The controls on the mineralisation at a local (sample interval) level remain less well understood, and this translates into uncertainties regarding the estimates of gold at the mining scale. This local uncertainty is unlikely to be material under an open pit mining scenario, with a relatively low level of mining selectivity. The level of uncertainty will likely increase under circumstances where cut-off grades are raised and where more selective mining regimes are applied.

The MRE has been updated on the basis of revised oxidation profiles informed by bottle roll testwork and revised metallurgical parameters based on this work.

Most of the resources defined at the Timok Gold Project are Indicated Mineral Resources supported by good geological knowledge, drill coverage, robust standard operating procedures and data quality, and have been classified under the guidelines of the CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council, and procedures for classifying the reported Mineral Resources were undertaken within the context of the Canadian Securities Administrators NI 43-101.

The resource model was constrained using a pit shell generated in Whittle and using current costs and other economic parameters to satisfy the criteria for a resource to have “reasonable prospects for eventual economic extraction”. This has resulted in a decrease in resources at the Timok Gold Project.

There are no Mineral Reserves defined over the Property, and the potential economic viability of this Mineral Resources is not supported by a PEA, a prefeasibility study or a feasibility study. Therefore, the Property is not considered an Advanced Property and as such, there is no information to disclose under Advanced Property section headings.

25.2 Mineral Processing and Metallurgical Testing

25.2.1 Oxide / Transitional Ore

Results of the coarse bottle roll leach tests indicated gold leach extractions ranging from 53% for the Korkan transitional ore to 94% for the Bigar Hill oxide ore, after 14 days of leaching, and at a crush size of

100% -16 mm. Leach curves indicated that gold leaching was still ongoing after 14 days of leaching when the tests were terminated.

Column leach tests carried out at the optimal crush size of 80% -12.5 mm exhibited fast leach kinetics except for the Korkan transitional ore, where leaching was still ongoing of 63 days when the tests were terminated. Lime consumption is moderate and cyanide consumption is low for all ore types.

The projected gold recovery, reagent consumption, leach time and crush size based on the column leach testwork results are summarised in Table 15.

Size-by-size analysis of the column leach test feed and tails samples shows gold evenly distributed among the size classes, roughly following the mass splits. Some of the metallurgical samples showed low gold recovery in the coarse size fractions; +19.0 mm.

There was generally good correlation between gold extraction obtained from the coarse bottle roll leach and column leach tests apart from the Korkan transitional ore which was still leaching in both tests.

Results of the testing program indicate that oxide and transitional ore samples from the Timok Gold Project are amenable to heap leach processing. Leach rates are relatively fast with high gold recovery for the Korkan and Korkan West oxide ore, and moderate gold recovery for the Korkan transitional, and Korkan West oxide ore zones.

Size-by-size analysis would tend to indicate that some of the ores could benefit from a finer crush size.

25.2.2 Fresh Ore

Testwork demonstrates that the fresh ore types are amenable to bulk sulphide flotation to produce a gold bearing sulphide concentrate. Based on testing the following predictions on gold and sulphur recoveries to the cleaner concentrate are:

- Final concentrate gold recovery of 70%, 65% and 50% for Bigar Hill, Korkan and Kraku Pester ore types, respectively.
- Similarly, final concentrate sulphur recoveries of 90%, 80% and 70% for Bigar Hill, Korkan and Kraku Pester ore types, respectively.

26 Recommendations

26.1 Geology and Resources

CSA Global agrees with the recommendation previously set out in the 2014 Technical Report that several high priority exploration targets that lie within 5 km of the proposed plant site be followed-up exploration (e.g. the Au-Ag porphyry-style mineralisation at Coka Rakita, sediment- hosted gold mineralisation at Bigar East and the Korkan East-style mineralisation at Valja Saka).

Relating to QAQC procedures, CSA Global recommends ongoing vigilance to ensure that standards and blanks are correctly identified and labelled.

When drilling is taking place, it is recommended that a site visit be arranged to inspect drilling and sampling practices as they are occurring.

On any future site visit, the drill sites at Korkan, Korkan West and Kraku Pester be inspected.

It is recommended that sampling of core continue in 1 m increments but should break to honour geological boundaries to enable enhanced analysis and effective modelling of the contact, if sharp.

Higher gold recoveries during the cyanide-gold leach bottle roll tests are mostly controlled by the oxidation degree of the arsenic and gold-rich pyrite. The usefulness of these data is limited by the fact that the composites are at 5 m intervals, which is in contrary to the logging data which is at 1m intervals. Spatially, data is irregular and is not always available in the areas of interest. Future bottle roll testwork should be undertaken on shorter intervals (1m or 2m) with the selection of the intervals prioritised in mineralised areas.

DPM currently has the following plans for 2019 exploration activities within the Potoj Čuka Tisnica exploration license that hosts the Timok Gold Project.

Timok Gold Project 2019 Exploration Work Program		
Area	**Quantity**	**Cost (USD)**
Infill Soil Geochemical Sampling	500	10,000
Trench and Channel Sampling	1,000	40,000
Exploration Diamond Drilling	3,000	450,000
Metallurgical Diamond Drilling	2,000	300,000
License Application Fees		20,000
Total		**820,000**

26.2 Mineral Processing and Metallurgical Testing

Please note, the use of the word “ore” is used in this section summarising Mineral Processing and Metallurgical Testing recommendations and is only used to describe specific metallurgical terminology. Mineralised material has been used wherever possible. This is in no way intended to imply that a particular sample could be treated economically and does not represent economic viability.

26.2.1 Oxide/Transitional Ore

All the metallurgical testwork carried out for the oxide/transitional ore zones was undertaken on composite samples from Bigar Hill oxide (MET18-BH-01), Korkan oxide (MET18-KO-01), Korkan West oxide (MET18-KW-01), and Korkan transitional (Met18-KO-02).

Further testing should include:

- Additional coarse bottle roll and column leach tests on transitional ore samples from Bigar Hill, Korkan, Korkan West and Kraku Pester deposits
- Size-by-size analyses on column head and tails samples
- Additional variability column leach tests on samples from Bigar Hill oxide
- Detoxification tests on tailings from Bigar Hill column leach tests.

26.2.2 Sulphide Ore

All the metallurgical testwork carried out for the sulphide ore zone was undertaken on composite samples from Bigar Hill (MET-BH-01), Korkan (MET-KO-01) and Kraku Pester (MET-PE-01) with the exception of some comminution characterisation and beneficiation by size testing.

This was due to the fundamentally investigative nature of this testwork, but further development of the Project will require testing of a variety of ore types from within the respective pit envelopes.

Further testing should include:

- Additional evaluation of high intensity attrition scrubbing
- Flotation optimisation testwork; including locked cycle tests
- Downstream testing including settling and filtration on for the flotation concentrate and tailings slurries
- Final thickened tailings consolidation, geotechnical and geochemical properties.

Recommendations from the characterisation work completed in 2016 by DST are as follows:

- All gold chlorination tests were preceded by sulphuric acid leaching. Chlorination tests should be conducted without acid leaching to verify the removal of this step on the gold recovery. If the gold recovery remains stable, the withdrawal of acid leaching will simplify the process and reduce the capital cost.
- The chlorination of the oxidized and acid-leaching sulphide concentrate provided a gold recovery of 61.6%. Gold is possibly finely disseminated in sulphides. Generally, an ultra-fine grinding of the sulphide concentrate should improve the gold recovery. Equipment for ultra-fine grinding is available (ISA mill), but their capacity is rather limited. Ultra-fine grinding of the sulphide concentrate is feasible because its tonnage represents 4.25% of the feed. Ultra-fine grinding tests of the sulphide concentrate should be performed to verify whether gold recovery will increase.

26.3 Scoping Study

The results of the mineral resource estimate and metallurgical studies are currently being incorporated into a scoping study which will focus on the initial economics of the oxide and transitional material to be constrained in a separate open pit shell, as well as the high level potential for subsequent development of the sulphide resource.

Depending on the results of the scoping study, CSA Global recommends the PEA completed in 2014 be updated to reflect the changes in the updated MRE. The scoping study includes the following components.

- Assess the potential for an economic oxide/heap leach project as well as a broader project including oxide, transition and sulphide mineralisation
- Open cut optimization and mine planning;
- Development of PEA-level opex and capex estimates;
- Preliminary pit designs and conceptual schedules to support the mining plan;
- Metallurgical assessment and conceptual processing options and costs;
- Geotechnical review and advice on future programs; and
- Assessment of environmental and social license requirements required.

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28 Glossary of Technical Terms and Abbreviations

Abbreviation	Description
°	degrees
°C	degrees Celsius
%	percent
$/a	dollars per annum
$/t	dollars per tonne
$/tr oz	dollars per troy ounce
µm	microns
3D	Three-dimensional model or data
AA	Atomic absorption
AAS	Atomic absorption spectroscopy
ABCD	Alpine-Balkan-Carpathian-Dinaride metallogenic-geodynamic province
Ag	silver
AMC	AMC Consultants (UK) Ltd
AMEC	AMEC Australia Pty Ltd
ARD	acid rock drainage
As	arsenic
Au	gold
Avala	Avala Resources d.o.o., a wholly owned subsidiary of Avala Resources Ltd
azimuth	Drill hole azimuth deviation (from north)
bcm	bank cubic metres
BH	Bigar Hill
binary	Digital file containing characteristics readable by computer only
BMMB	Banatitic Magmatic and Metallogenic Belt
Ca	calcium
CIC	carbon-in-circuit
CIL	carbon-in-leach
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
cm	centimetre(s)
CN	cyanide
collar	Geographical coordinates of the collar of a drill hole or a working portal
compositing	In sampling and resource estimation, process designed to carry all samples to certain equal length
core sampling	In exploration, a sampling method of obtaining ore or rock samples from a drill hole core for further assay
CRM	certified reference material
CSA Global	CSA Global (UK) Ltd
CSV	Digital computer file containing comma-separated text data
Cu	Copper
cut-off grade	The threshold value in exploration and geological resources estimation above which mineralised material is selectively processed or estimated
CV	coefficients-of-variation (In statistics, the normalised variation value in a sample population)

Abbreviation	Description
DA	Dynamic anisotropy
Datamine StudioRM™	Software product for resource estimation and the mining industry
DD	diamond drill
declustering	In geostatistics, a procedure allowing bounded grouping of samples within the octant sectors of a search ellipse
digital terrain model (DTM)	Three-dimensional wireframe surface model, for example, topography (DTM)
DIP	Angle of drilling of a drill hole
dmt	Dry metric tonne
D-SIMS	dynamic secondary ions mass spectrometry
DPM	Dundee Precious Metals Inc.
DST	Dundee Sustainable Technologies
DumpSolver	DumpSolver Pty Ltd
E (X)	easting
Elaborat	Survey or report (Serbian)
EPCM	engineering, procurement and construction management
EUR	Euro
FA	Fire Assay
Fe	iron
flagging	Coding of cells of the digital model
FROM	Beginning of intersection
FYRM	Former Yugoslav Republic of Macedonia
g	gram(s)
g/L	grams per litre
g/m³	grams per cubic metre
g/t	grams per tonne
geochemical sampling	In exploration, the main method of sampling for determination of presence of mineralisation. A geochemical sample usually unites fragments of rock chipped with a hammer from drill hole core at a specific interval
geometric mean	The antilog of the mean value of the logarithms of individual values. For a logarithmic distribution, the geometric mean is equal to the median. For a logarithmic distribution, the geometric mean is equal to the median
GPS	global positioning system
h	hour(s)
ha	hectares
HARD	half absolute relative difference
histogram	Diagrammatic representation of data distribution by calculating frequency of occurrence
HQ3	size of diamond drill rod/bit/core
ICP-AES	inductively coupled plasma and atomic emission spectrometry
ICP-MS	inductively coupled plasma and mass spectrometry
IRR	internal rate of return
ISO	International Standards Organisation
JLS	Jurassic Limestone
K	potassium
kg	kilogram(s)

Abbreviation	Description
kg/t	kilogram(s) per tonne
km	kilometres
km²	square kilometres
KLS	Cretaceous Limestone
Kriging	Method of interpolating grade using variogram parameters associated with the samples' spatial distribution. Kriging estimates grades in untested areas (blocks) such that the variogram parameters are used for optimum weighting of known grades. Kriging weights known grades such that variation of the estimation is minimised, and the standard deviation is equal to zero (based on the model)
KE	kriging efficiency
KNA	kriging neighbourhood analysis
KO	Korkan
KP	Kraku Pester
KW	Korkan West
kV	kilovolt
kW	kilowatts
L	litre
L/m²/hr	litres per square metre per hour
lag	The chosen spacing for constructing a variogram
lognormal	Relates to the distribution of a variable value, where the logarithm of this variable is a normal distribution
LOM	life-of-mine
LUC	localised uniform conditioning
M	million(s)
m	metres
m³/h	cubic metres per hour
m³/s	cubic metres per second
m³/t	cubic metres per tonne
Ma	million years
macro	A set of Datamine StudioRM™ commands written as a computer program for reading and handling data
Macromet	Macromet Pty Ltd
masl	metres above sea level
mean	Arithmetic mean
median	Sample occupying the middle position in a database
Mg	magnesium
MIK	multiple indicator kriging
ml	millilitre(s)
ML	Mining Licence
mm	millimetre(s)
Mm³	million cubic metres
Mo	molybdenum
ModBond	Modified Bond ball mill work index
MoM&E	Ministry of Mining and Energy
MoNRM&SP	Ministry of Natural Resources, Mining and Spatial Planning
MRE	Mineral Resource estimate

Abbreviation	Description
Mt	million tonnes
Mt/a	million tonnes per annum
MW	megawatt
N (Y)	northing
Na	sodium
Ni	nickel
NI 43-101	National Instrument 43-101 Standards of Disclosure for Mineral Projects
NPV	net present value
NQ	size of diamond drill rod/bit/core
NQ2	size of diamond drill rod/bit/core
nugget effect	Measure of the variability during repeat analysis of a sample due to a measurement error or the presence of natural, small-scale variability. Although the variogram value at 0 spacing should be equal to zero, these factors may affect the values of samples taken at a very short distance from each other such that their values may vary. A vertical jump from the zero value at the origin of a variogram with very small spacing is called the nugget effect.
OCC	open cycle cleaner
OK	ordinary kriging
omni	In all directions
PCU	particle collection unit
PEA	Preliminary Economic Assessment
percentile	In statistics, one one-hundredth of the data. It is generally used to break a database down into equal hundredths
population	In geostatistics, a population formed from grades having identical or similar geostatistical characteristics. Ideally, one given population is characterised by a linear distribution
POX	pressure oxidation
ppb	parts per billion
ppm	parts per million
probability curve	Diagram showing cumulative frequency as a function of interval size on a logarithmic scale
Project	Timok Gold Project
PSD	particle size distribution
psi	pounds per square inch
PVC	poly vinyl chloride
QA	quality assurance
QAQC	quality assurance, quality control
QC	quality control
QEMSEM	Quantitative Evaluation of Minerals by scanning electron microscopy
Q-Q	quantile-quantile
quantile	In statistics, a discrete value of a variable for the purposes of comparing two populations after they have been sorted in ascending order.
quantile plot	Diagrammatic representation of the distribution of two variables. It is one of the control tools, e.g., when comparing grades of a model with sampling data. It is one of the control tools, e.g., for comparing model grades with sampling data
RAB	rotary air blast
range	Same as Influence Zone; as the spacing between pairs increases, the value of corresponding variogram as a whole also increases. However, the value of the mean square difference between pairs of values does not change from the defined spacing value, and the variogram reaches its

Abbreviation	Description
	plateau. The horizontal spacing at which a variogram reaches its plateau is called the range. Above this spacing there is no correlation between samples.
RC	reverse circulation
reserves	Mineable geological resources
resources	Geological resources (both mineable and unmineable)
RF	revenue factor
RKB	Ridanj-Krepoljin Belt
RL	Reconnaissance Licence
RL (Z)	Elevation of the collar of a drill hole, a trench or a pit bench above the sea level
RMS	root mean squared
ROM	run of mine
RQD	rock quality designation
RSD	Republic of Serbia Dinars
RSHMS	Republic of Serbia Hydrometeorological Service
S	sulphur
SAG	semi-autogenous grinding
sample	Specimen with analytically determined grade values for the components being studied
scatter plot	Diagrammatic representation of measurement pairs about an orthogonal axis
SD	standard deviation
SEA	Strategic Environmental Assessment
SEDAR	System for Electronic Document Analysis and Retrieval
SFR	Staged Flotation Reactor
SG	specific gravity
Si	silica
SI	International System of Units
sill	Variation value at which a variogram reaches a plateau
SMU	selective mining unit
SPI	SAG power index
SQL	Structured Query Language
standard deviation	Statistical value of data dispersion around the mean value
string	Series of 3D points connected in series by straight lines
t	tonne(s)
TGP	Timok Gold Project
TMC	Timok Magmatic Complex
TMF	tailings management facility
t/m³	tonnes per cubic metre
t/a	tonnes per annum
TO	end of intersection
TS	total sulphur
UC	uniform conditioning
UFG	ultra-fine grinding
US$	United States of America dollars
UTM	Universal Transverse Mercator
variation	In statistics, the measure of dispersion around the mean value of a data set

Abbreviation	Description
variogram	Graph showing variability of an element by increasing spacing between samples
variography	The process of constructing a variogram
WGS	World Geodetic System
wireframe model	3D surface defined by triangles
wmt	wet metric tonne
w:o	waste to ore ratio
Woodgrove	Woodgrove Technologies Inc.
X	Coordinate of the longitude of a drill hole, a trench collar, or a pit bench
XRF	X-ray fluorescence
Y	coordinate of the latitude of a drill hole, a trench collar, or a pit bench
Z	coordinate of the elevation of a drill hole, a trench collar, or a pit bench

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