ASX ANNOUNCEMENT

19 NOVEMBER 2019

ABOUT ADRIATIC METALS (ASX:ADT)

Adriatic Metals Plc is focused on the development of the 100% owned, high-grade zinc polymetallic Vareš Project in Bosnia & Herzegovina.

Shares on Issue: 172.6 million

Options: 17.1 million

DIRECTORS

Mr Peter Bilbe
NON-EXECUTIVE CHAIRMAN

Mr Paul Cronin
MANAGING DIRECTOR & CEO

Mr Michael Rawlinson
NON-EXECUTIVE DIRECTOR

Mr Julian Barnes
NON-EXECUTIVE DIRECTOR

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NON-EXECUTIVE DIRECTOR

Ms Sandra Bates
NON-EXECUTIVE DIRECTOR

Mr John Richards
NON-EXECUTIVE DIRECTOR

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SCOPING STUDY DEMONSTRATES POTENTIAL AT VAREŠ PROJECT

Adriatic Metals PLC (ASX:ADT & FSE:3FN) ('Adriatic' or the 'Company') is pleased to report the results of a Scoping Study on its 100% owned Vareš Project in Bosnia and Herzegovina.

CAUTIONARY STATEMENT

The Scoping Study referred to in this announcement has been undertaken to determine the potential viability of an underground mine at Rupice and an open-pit mine at Veovača with a conventional milling and flotation circuit to produce multiple metal concentrates.

The Scoping Study is a preliminary technical and economic study of the potential viability of those projects based on low level technical and economic assessments (+/- 40% accuracy) that are not sufficient to support the estimation of Ore Reserves. Further evaluation work and appropriate studies are required before Adriatic will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case.

The JORC-compliant Mineral Resource estimate announced on 23 July 2019 forms the basis for the Scoping Study that is the subject of this announcement. Over the life of mine considered in the Scoping Study, 83% of the processed Mineral Resource originates from Indicated Mineral Resources and 17% from Inferred Mineral Resources; 87% of the processed Mineral Resource during the payback period would be from Indicated Mineral Resources. The viability of the development scenario envisaged in the Scoping Study therefore does not depend on Inferred Mineral Resources.

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The Inferred Mineral Resources are not the determining factors in project viability.

This Scoping Study is based on the material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While Adriatic considers that all the material assumptions are based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by this study will be achieved.

To achieve the range of outcomes indicated, additional funding in the order of US$180 million will likely be required. Investors should note that there is no certainty that Adriatic will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Adriatic's existing shares. It is also possible that Adriatic could pursue other 'value realisation' strategies such as a sale or partial sale of its interest in the Project.

This announcement contains forward-looking statements. Adriatic has concluded it has a reasonable basis for providing these forward-looking statements and believes it has reasonable basis to expect it will be able to fund development of the project. However, a number of factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of this study.

The project development schedule assumes the completion of a PFS by early 2020 and a FS by Q4 2020. Development approvals and investment permits will all be sought from the relevant Bosnian authorities in early 2020. Delays in any one of these key activities could results in a delay to the commencement of construction (planned for Q2-2021). This could lead on to a delay to first production which is planned for Q2-2022. The Company's stakeholder and community engagement programs will reduce the risk of project delays.

To achieve the range of outcomes indicated in the Vareš Project Scoping Study, funding of in the range of US$180 million will likely be required in capital expenditure to construct the mine, grinding mill, project infrastructure and processing plant. It is anticipated that the finance will be sourced through a combination of equity and debt instruments from existing shareholders, new equity investment and debt providers from Australia and overseas.

In October 2019, the Company completed an A$25 million placement of ordinary shares, with strong institutional investor participation. The Board considers that the Company has sufficient cash on hand to undertake the next stage of planned work programs, including the completion of a DFS, continued metallurgical testing and the commencement of other technical studies.

CONCEPTUAL OPERATIONAL AND FINANCIAL OUTCOMES

The following table should be read in conjunction with the details in following sections of this release as well as the material assumption included in Appendix 1.

All figures provided below and in this release are estimates or approximations based on Adriatic's operational knowledge, familiarity of the scoping study team with deposits of similar size and complexity, in analogous settings and discussions with suppliers, and may be subject to future modification during Pre-Feasibility and Definitive Feasibility stages.

This Scoping Study assesses the potential viability of running an underground mining operation at Rupice followed by an open pit operation at Veovača, with all mined material being centrally processed on the site of the derelict processing plant at Veovača, which will be cleared for construction of a new processing plant.

Rupice will be accessed by twin parallel 4.5m x 4.5m declines of approximately 410m in length from the north of the deposit and utilise long hole stoping to recover on average 715,000t per annum for 10 years. Veovača will then be mined at an annual average rate of 679,000 t per annum for 7 years.

The flotation plant at Veovača, processing material from both Rupice and Veovača will be designed to produce 3 concentrates, being lead/copper, zinc and barite.

Table 1 – Key Operational and Financial Outcomes

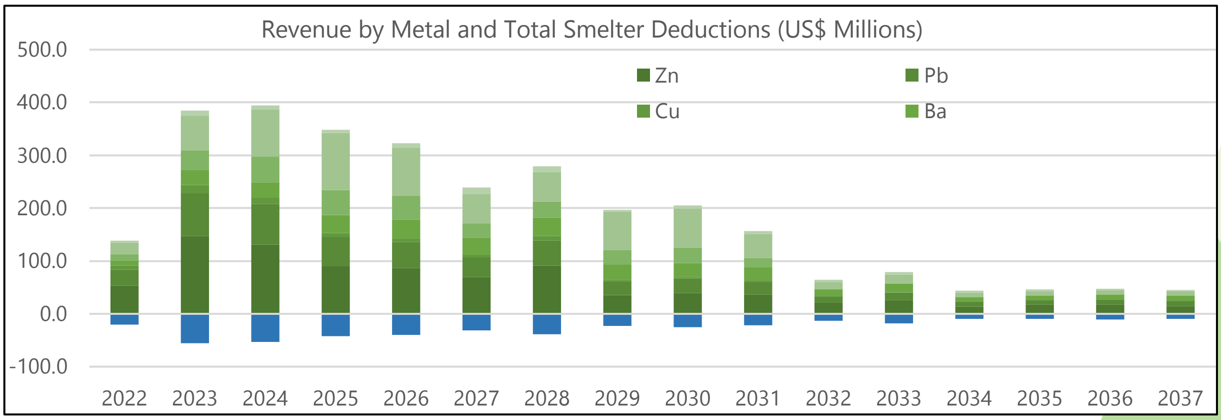
Constraint / Target	Unit	Rupice	Veovača	Combined
Cut Off Grade	% ZnEq	5%	0.6%	
Total Minable Inventory Production	mt	7.2	4.8	11.9
Total Waste Production	mt	1.6	11.6	13.2
Total Mined	Mt	8.7	16.3	25.1
Mill Throughput	Ktpa			800
Payable Metal Production Targets				
Silver	Koz			43,132
Gold	Koz			223
Zinc	Kt			355
Lead	Kt			260
Copper	Kt			12

Antimony	Kt			15
Barite	Kt			2,254
Staff Employed	Persons	350	138	350 (Peak)
EPCM & Infrastructure	US$m			61
Mine Capex	US$m			18
Plant Capex	US$m			58.
Contingency – 30%				41
Total Capex	US$m			**178**
Mine Operating Costs (LOM Average)	US$ / tonne milled	40.46	15.6	30.5
Processing & On Mine Costs	US$ / tonne milled			20.4
Mined Material Transportation Costs	US$ / tonne milled			2.8
Sustaining Capital	US$ / tonne milled			1.4
Environmental Provisions	US$ / tonne milled			1.5
Total Operating Costs	**US$ / tonne milled**			**56.7**
Post Tax Net Present Value @ 8% Discount	US$m			916.6
Post Tax Internal Rate of Return	%			107.4%
Payback from Project Start	Months			21
Payback from Processing Start	Months			8

Table 2 – Metal Price Assumptions

Metal	Silver (US$/oz)	Gold (US$/oz)	Zinc (US$/t)	Lead (US$/t)	Copper (US$/t)	Barite CIF (US$/t)	Antimony (US$/t)
Price Assumption	17.2	1,440	2,500	2,000	6,500	155	6,500

Figure 1 –Revenue by Metal and Total Smelter Deductions by Year



Commenting on the Scoping Study, Adriatic's Managing Director and CEO commented: *"This Scoping Study is the result of months of work by CSA Global and the team at Adriatic, evaluating several possible options in sufficient detail to define a project path that maximises economics, minimises environmental and social impacts, and offers a lasting legacy to the people in our local Vareš community who are looking for a generational transformation to the local town and its inhabitants. Whilst we are pleased with the outcomes of this study, we will continue to expand our resource and increase our footprint in this exciting, and yet under-explored region of Europe."*

GEOLOGY & EXPLORATION

Rupice at the western end of the Vareš mineralised trend and Veovača, in the central part, are both hosted within a west northwest-striking antiformal thrust-bound belt of Triassic rocks surrounded by Jurassic carbonates. Ladinian (Middle Triassic) alkaline pillow basalts occur in a zone between the deposits, apparently stratigraphically underlying the host rocks to the mineralisation.

Mineralisation at Rupice and Veovača shows more similarities than differences and both deposits are clearly part of the same mineral system where polymetallic sulphide mineralisation has replaced favourable host rocks within a mixed siliciclastic and carbonate sedimentary succession.

MINERAL RESOURCES

For details of the Mineral Resource Estimates used in the Study, please refer to Adriatic release dated 23 July 2019.

The process to estimate the Mineral Resources included in the conceptual underground mine design for the Rupice deposit in this Scoping Study has been detailed in the previous report:

1. The Mineable Shape Optimiser (MSO) stope optimisation for the Mineral Resource has been undertaken on the Indicated and Inferred Mineral Resources only. Geological Potential material has been excluded;
2. The grades and tonnes of the Mineral Resource model have been modified by a mining recovery and mining dilution based on the MSO stope optimisation and modifying factors assumed in the mine planning and scheduling process;
3. The Datamine™ MSO suite of optimisation software was used to perform the stope shape optimisations. Datamine™ MSO is an accepted industry stope optimisation tool. A range of conceptual sensitivities testing cut-off grades were applied to determine the Base Case mine extraction sequence.

Table 3 summarises the Mineral Resource Statement for the Rupice deposit based on the work detailed above.

Table 3 - Rupice Underground Mineral Resource as at 31st October 2019

Constraint / Target	Unit	Measured	Indicated	Inferred	Total Mineral Resource
Tonnes	Mt	-	6.3	0.9	**7.2**
Mineral Resource Grades					
Zn	%	-	6.27%	3.52%	**5.92%**
Pb	%	-	4.01%	2.25%	**3.79%**
Cu	%	-	0.65%	0.42%	**0.62%**
$BaSO_4$	%	-	36.5%	27.1%	**35.3%**

Au	g/t	-	2.1	1.3	**2.0**
Ag	g/t	-	221.1	125.6	**209.1**
Sb	%	-	0.23%	0.19%	**0.23%**
Mineral Resource Content					
Zn	kt	-	392.2	31.7	**423.9**
Pb	kt	-	250.9	20.2	**271.1**
Cu	kt	-	40.8	3.8	**44.6**
$BaSO_4$	kt	-	2,281.8	244.1	**2,525.8**
Au	koz	-	421.5	37.6	**459.1**
Ag	koz	-	44,457.7	3,632.7	**48,090.4**
Sb	kt	-	14.6	1.7	**16.3**

Notes:

1. The estimated Mineral Resources included in the Rupice Deposit pit are defined within a mine design guided by Mineable Shape Optimisation (MSO) optimisation process at 5% Zn_{eqv} cut-off.
2. The MSO stope optimisations was performed on Indicated and Inferred Mineral Resource materials only
3. Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained content
4. Tonnage and grade measurements are in metric units, mineral content is based on metric and imperial units
5. Minimum economic cut-off grade of 5% Zn_{eqv} applied to stopes
6. Minimum economic cut-off grade of 2% $Zn_{in\text{-}situ}$ applied to LHRF access crosscuts
7. No Geological Potential, deposit or mineralised waste contributes value to MSO or OP optimisation
8. Estimated Mineral Resources for the Rupice underground are modified to include feed-loss (2 %), and dilution (5 %) with no elemental grade contribution and a Mine Call Factor of 98%.
9. Extraction ratio of 100% applied to stopes based on geotechnical recommendations.
10. Crown pillar excluded from Mineral Inventory.

The process to estimate the Mineral Resources included in the pit-shell for the Veovača deposit has been detailed in previous reports:

1. The conceptual open pit optimisation for the Mineral Resource has been undertaken on the Indicated and Inferred Mineral Resources only. Geological Potential material has been excluded;
2. The grades and tonnes of the Mineral Resource model have been modified by an assumed mining recovery (87.9%) and mining dilution (13.3%);
3. The Whittle™ suite of optimisation software was used to perform the pit optimisations. Whittle™ is an accepted industry open pit optimisation tool. A range of conceptual sensitivities testing cut-off grade and process throughput were applied to determine the Base Case.

Table 4 summarises the Mineral Inventory Statement for the Veovača deposit based on the work detailed above.

Table 4 - Veovača Open Pit Mineral Resource as at 31st October 2019

Constraint / Target	Unit	Measured	Indicated	Inferred	Total Mineral Resource
Tonnes	Mt	-	3.6	1.2	**4.8**
Mineral Resource Grades					
Zn	%	-	1.61%	1.15%	**1.50%**
Pb	%	-	1.05%	0.52%	**0.92%**
Cu	%	-	0.07%	0.06%	**0.07%**
$BaSO_4$	%	-	16.5%	6.2%	**14.0%**
Au	g/t	-	0.1	0.1	**0.1**
Ag	g/t	-	54.1	19.1	**45.5**
Sb	%	-	0.10%	0.08%	**0.10%**
Mineral Resource Content					
Zn	kt	-	57.8	13.3	**71.1**
Pb	kt	-	37.6	6.0	**43.6**
Cu	kt	-	2.5	0.7	**3.1**
$BaSO_4$	kt	-	592.0	71.7	**663.7**
Au	koz	-	10.0	2.8	**12.8**
Ag	koz	-	6,248.3	712.0	**6,960.2**
Sb	kt	-	3.7	1.0	**4.6**

Notes:

1. The estimated Mineral Resources included in the Veovača Deposit pit are defined within a mine design guided by Lerchs-Grossman ("LG") pit shells.
2. The LG shell generation was performed on Indicated and Inferred Mineral Resource materials only.
3. Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained content.
4. Tonnage and grade measurements are in metric units, mineral content is based on metric and imperial units.
5. Minimum economic cut-off grade of 0.6% Zn applied.
6. No Geological Potential, deposit or mineralised waste contributes value to the pit optimisation.
7. Estimated Mineral Resources for the Veovača open pit are modified to include mining recovery (95 %) and dilution (5 %) with no elemental grade contribution.

Table 5 summarises the Mineral Resource Statement for the combined Rupice and Veovača deposits based on the work detailed above.

Table 5 - Combined Mineral Inventory as at 31st October 2019

Constraint / Target	Unit	Measured	Indicated	Inferred	Total Mineral Resource
Tonnes	Mt	-	9.8	2.1	**11.9**
Mineral Resource Grades					
Zn	%	-	4.57%	2.19%	**4.16%**
Pb	%	-	2.93%	1.28%	**2.64%**
Cu	%	-	0.44%	0.22%	**0.40%**
$BaSO_4$	%	-	29.2%	15.3%	**26.8%**
Au	g/t	-	1.4	0.6	**1.2**
Ag	g/t	-	160.1	65.6	**143.8**
Sb	%	-	0.19%	0.13%	**0.18%**
Mineral Resource Content					
Zn	kt	-	450.0	45.0	**495.0**
Pb	kt	-	288.5	26.2	**314.8**
Cu	kt	-	43.2	4.5	**47.7**
$BaSO_4$	kt	-	2,873.8	315.8	**3,189.6**
Au	koz	-	431.5	40.4	**471.9**
Ag	koz	-	50,706.0	4,344.6	**55,050.7**
Sb	kt	-	18.3	2.6	**21.0**

Notes:

1. The OP and MSO optimisations was performed on Indicated and Inferred Mineral Resource materials only.
2. Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained content
3. Tonnage and grade measurements are in metric units, mineral content is based on metric and imperial units
4. No Geological Potential, deposit or mineralised waste contributes value to MSO or OP optimisation
5. Modifying factors for the OP and UG optimisations as per detailed notes in Mineral Resource Tabulations above.

CONCEPTUAL MINING APPROACH

Geo-Mechanical Assumptions and Parameters

The Rupice and Veovača deposits are located approximately 15 km apart and are hence considered to be independent and uninfluenced by each other for conceptual design and planning purposes. The deposits are however part of the same regional extensions that resulted in emplacement of the polymetallic minerals and hence have similar lithostratigraphic settings and geological structural definitions. The planned extraction depths and mining methods for the deposits is listed in Table 6. The data that informs geotechnical parameters, design constraints and suggested stope sizing and pit wall geometries have been sourced from work undertaken by Joe Burke, of Avoca Geotech Ltd in 2019. The geotechnical designs proposed meet a PFS level of accuracy for the Rupice deposit and concept level of accuracy for Veovača.

Table 6 - Mining depth range and mining methods

Project	Depth range (mbs)	Mining methods
Veovača	75-200	Open pit
Rupice	110-300	Longitudinal and transverse open stopes

Rock strengths determined from laboratory tests for Rupice and Veovača are listed in Table 8, with a description of the Domain in Table 7. Mean strengths were used for conceptual design purposes.

Table 7 - Geotechnical domains based on lithology

Symbol	Domain	Rock Type
MRR	Massive Red Rock	Weakly bedded, massive, competent silicified dolomite with calcite veins
LRR	Laminated Red Rock	Soft, unsilicified laminated siltstone, patchy alteration
ORE	Massive sulphides	Weakly bedded, massive, competent silicified dolomite
SD	Dolomite Shale	Shales and dolomites – laminated, brecciated, sheared. Some intervals are massive, some broken
SL	Shale and limestone	Interchanged Shale (dark grey) and limestone (light grey)
SSD	Siliceous Shale Dolomite	Silicified shales and dolomites
SST	Turbulent Sandstone	fine quartz grained, close-spaced, often bedding mostly in footwall horizon

Table 8 - Rock properties used for design purposes

Domain	UCS (MPa)	Density	Q'	GSI	E (GPa)	v	Tensile (MPa)	Co (kPa)	Friction	mi
MMR	31.88	2659	0-20	26-62	5.5	0.20	4.42	500	37.7	7
LRR	12.11	2730	0.06-23.23	24-75	3.6	0.21	1.94	392	31.5	6
ORE	72.48	4371	0.1-68.10	-	-	-	8.61	797	33.6	6
SD	30.41	2770	0.23-52.50	31.50-67.10	5.1	0.25	4.23	397	32.5	7
SL	22.42	2712	0.45-100	33-84	7.1	0.28	3.21	554	37.9	-
SSD	48.91	2763	19.67-35.42	61-77	4.8	0.24	6.48	1125	35.0	4
SST/SP	22.32	2756	0-71	40-78	4.8	0.24	3.49	927	40.7	17

At Rupice, bolting has been proposed in the Hangingwall to pin the beddings together using 2m long fully grouted rock bolts at 1.25m spacings, a layer (50mm) of fibre reinforced shotcrete has been allowed where bedding is broken or undercut (turnouts, crosscuts).

The Footwall rocks are mainly a turbulent sandstone (SST) and although well bedded and foliated are silicified and less faulted than the other strata. In general, they will be in fair ground and permanent excavations and access drives will be sited in this horizon. Ground stabilisation will likely consist of 2m long fully grouted rock bolts at 1.35m spacings with the application of a 50mm layer of fibre reinforced shotcrete where the bedding is broken (turnouts, crosscuts).

A surface sealant such as shotcrete or thin skin liners will likely be required in addition to bolting when intersecting faulted zones. Provision for additional support measures is anticipated when intersecting crosscutting faults.

The mineralised zone is in fair to good ground and is massive with tight jointing. A systematic bolting pattern to create self-supporting arches using 2m long friction bolts at 1.5m spacings is recommended with a 50mm application of fibre reinforced shotcrete on contacts and jointed ground.

In the narrower (<15m) section of the deposit a cut and fill mining method is anticipated. Where the mineralised zone width is 10m or less it is likely that a single primary drift (5m wide) will be driven on strike and slashed to the required width on retreat. Where the deposit is between 10 and 15m wide a drift and fill method is anticipated with the primary 5m drift being backfilled prior to commencing a parallel drift. The cut and fill methods anticipated allow the hangingwall to be supported as only small spans are exposed at any one time. A less costly backfill (cemented rock fill and/or waste rock) is likely to be used when only a working platform is required.

A Transverse Open Stoping with Backfill (TOS) method is anticipated where the deposit width is greater than 15m and dips steeper than 50 degrees. The method may consist of developing three levels at 20m intervals below a sill pillar and starting at the lower level progressively mine upwards. The sill pillar can be recovered by up hole drilling under cured paste backfill. Variations in stope widths can be easily accommodated and the poor hanging wall contact can be supported with backfill or pre-supported from the top level before large spans develop.

Stope sizes have been theoretically tested using empirical methods for a 20m wide, 15m high and 30m thick stope.

At Veovača the slope engineering design for the Veovača open pit is at a concept level of accuracy and requires further studies to improve the level to DFS and/or operational levels. The design parameters adopted for Veovača are:

- North slope overall angles of 45^0 for a depth of 200 mbs
- South slope overall angles of 40^0 for a depth of 75m
- Bench heights of 12m with a batter angle of 75^0 except in fine grained sandstone/sandy shale where 60^0 is required
- North slope berms between 6-10m
- South slope berms between 7-19.5m
- Haulage ramps to be supported with stressed cables

Rupice Conceptual Underground Mine

It is proposed that primary access to the underground workings will be via two parallel declines developed from surface and will be suitable for rubber-tyred equipment. Following the anticipated excavation of a box cut, the declines are anticipated to be developed with dimensions of 5m high X 5m wide and a maximum gradient of 14.3% (1 in 7) with a minimum radius of 25m in the bends for efficient haulage. The decline ramps have conceptually been positioned to minimize development required to access the initial high-grade stoping area and to provide the shortest distances to the centre of mass of each of the major stoping areas. The decline cross-section area proposed has been selected to allow for future haulage using diesel trucks up to 50 tonne capacity. The two main declines to surface are anticipated to allow for dedicated traffic in each direction with minimal disruption to the hauling operations.

Conceptually, internal ramps will be developed off the main decline at appropriate positions to allow for access to the sub-level development. The proposed ramp dimensions will be 5m high X 5m wide with a maximum gradient of 14.3% (1 in 7) and a minimum curve radius of 25m for the spiral which would allow trucks from loading points on each sub-level to enter the ramp and then the main decline for transport to surface.

Secondary development is anticipated to consist of sub-level ramps that are driven to connect with the footwall drive on each sub-level with a minimum of 15m stand-off from the deposit. Both the secondary ramp and the footwall drives are proposed to have dimensions of 5m high X 5m wide.

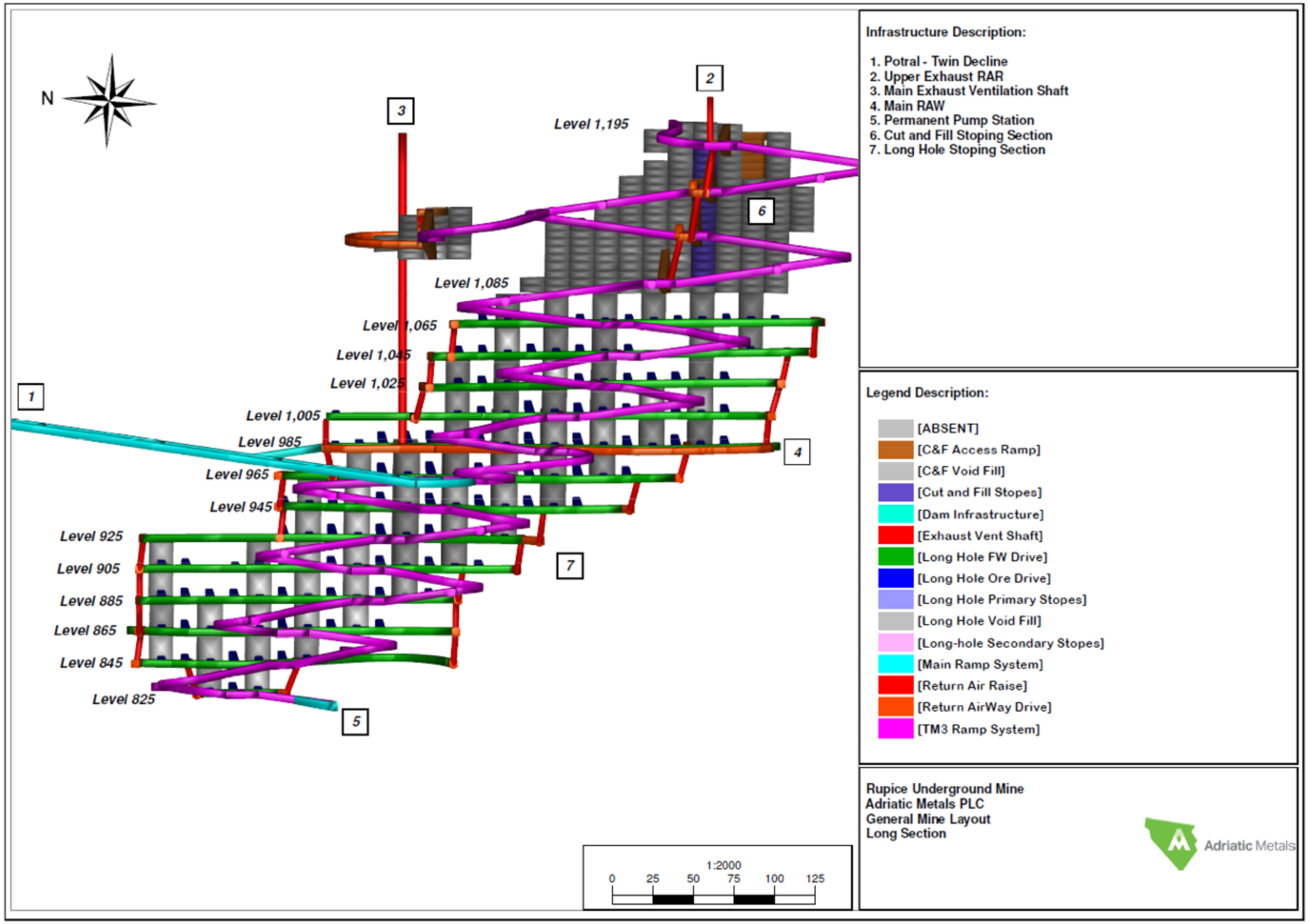
The sub-levels will conceptually be spaced at 20m vertical intervals. Horizontal cross-cut drives, at 5m high X 5m wide, are proposed to be developed at right angles to the strike of the deposit and draw-points spaced 15m apart will likely traverse the deposit. Conceptually, once the drive is in its final position, a slot will likely be developed using a long-hole production drilling rig to create a free face for subsequent ring blasting (3 metre spaced rings) by retreat extraction. It is proposed that loading of the blasted material be at the intersection point of the crosscut and the footwall drive and hauled via the internal ramp and decline to surface, tipped at the temporary reload stockpile and reloaded onto on-highway trucks for haulage to the Veovača processing plant.

Once the proposed cross-cuts have been driven to their final position, a slot is proposed to be developed using a long-hole production drilling rig to create a free breaking face for subsequent ring blasting (3 metre rings).

Figure 2 illustrates the proposed declines, ramps, levels and stopes at Rupice. The conceptual mine design comprises largely of main declines (light blue), trackless ramps (magenta) and the sub-levels (green). The proposed long hole stoping areas are located below the 1,085 level and the cut and fill stopes are above the 1,085 level. The anticipated main ventilation infrastructure includes raise-bored shafts that are shown in the diagram below. The intake air will conceptually travel down the declines and into the mine via the internal ramps and onto the levels where it will leave the mine via the return air raises shown in red.

Adriatic Metals

Figure 2 – Mine Design



Datamine's Enhanced Production Scheduler (EPS) scheduling software was used for the development of the proposed underground mine scheduling for the Rupice resource.

Scheduling rates are based on the anticipated activities required and the estimated cycle times for each activity in the mining cycle. Proposed general sequencing followed geotechnical considerations for primary and secondary extraction, "bottom-up" general mining direction and delays in stope void filling.

This underground mine operating model assumes the following underground working calendar and shift arrangements:

- Working days per year – 360.
- Working shifts per day – 2.
- Underground shift duration, hours – 11.
- Effective hours per shift – 7.8 hrs

The scheduling rates used in the development of the proposed underground production schedule are summarised in Table 9 below. The rates have been estimated based on anticipated available shift time, cross-sectional dimensions, planned advance per blast and mining activity cycle time estimates.

Table 9- Key scheduling instantaneous single end rates

Schedule item	Unit	Single End Rate	Crew Rate	No of Crews[1]
Main Decline	lin[2] m/month	120	240	1
Primary access and Secondary Accesses	lin m/month	120	240	2
Horizontal feed drives	lin m/month	120	240	2
Stope loading rate (Cut and Fill)	t/month	10,500	10,500	1
Stope loading rate (LHRF)	t/month	18,500	18,500	3
Long-hole drilling	drill m/month	8,150	8,150	2
Vertical raises	lin m/month	45	-	-
Cementitious Paste-fill (Cut and Fill Section)	m^3/d	1,000	1,000	1
Cementitious Paste-fill (LHRF Section)	m^3/d	1,000	1,000	1

Note 1: Crews per Shift. Note 2: lin = linear

The long-hole drilling metres are estimated from the stope loading activity and based on proposed production targets. A derived activity has been used to estimate the required fill volumes and is dependent on preceding stoping completion before allowing the current stope to begin depletion.

The mine proposes a mechanised sub-level blast-hole retreat method for stoping and trackless equipment for transport. The proposed mining cycle consists of the following key production areas:

1. Trackless mechanised development (drilling, blasting, supporting, loading and hauling).
2. Mechanised long-hole stoping (drilling, blasting, supporting, loading, hauling and backfilling).

The conceptual drilling activity is separated into short shot-hole, long-shot-hole and support drilling. Different mechanised drilling machines are proposed for each of these activities. Support drilling would be performed by up to three support drilling rigs capable of drilling long holes for installation of cable bolts. Short hole drilling would be performed by double boom drill-rigs (jumbos). Primary support of resin rebar and friction bolts may be performed using the jumbos. Long hole drilling is anticipated to be performed by a top hammer long-hole drilling machine capable of drilling up to 32m long holes, 64mm – 89mm in diameter.

It is expected that the blasting activities will be supported by charge-up crews and utility vehicles modified for the purposes of transporting explosives, blasting accessories and charging of the blast holes. The modified utility vehicles would be loaded at the surface magazines where emulsion will be sensitised and loaded into the special purpose explosives kettle located on the charge-up vehicle. It is planned that water-resistant emulsion explosives would be used in conjunction with cast boosters as a primer and shock tube detonators. Blasting would be initiated at fixed intervals at the end of the shift from a central control room once shift clearance procedures are complete.

The loading of blasted feed material and waste as well as the backfilling of the stopes will conceptually be achieved using a single type of load haul dump unit (LHD) model and size in order to minimise the inventory of equipment spares. Mucking of waste development, drive development and stoping materials would utilise a 10-tonne class LHD.

Backfilling of waste (when available) into the open stopes would utilise the same class 10 tonne LHD.

Transport of feed material and waste to surface is proposed to be achieved by the loading of broken rock into 33 tonne class diesel haul trucks and hauling via the main transport drives, ramps and declines to surface. The proposed cross-sectional dimensions of primary and secondary development has the potential for a 50-tonne class truck to be used at the intersection of the orebody drive and strike drive so that LHDs can load blasted rock into haul trucks for transport to surface.

The proposed ancillary equipment fleet at Rupice Project will consist of various utility vehicles for the transport of equipment, consumables and stores in and out of the underground mine. In addition to the utility vehicle fleet, an underground motor grader, integrated tool handler and light vehicles (LDV) are proposed. The estimated mechanised mining machinery is summarised in Table 10 below.

Table 10 - Estimated mechanised mining machinery

Equipment type	Average Requirement	Peak Requirement
Drill Rig - Short hole	4	6
Drill Rig - Long hole	2	2
Drill Rig - Support	2	3
LHD	5	8
Truck	7	9
Charging Vehicles	3	4
Support Vehicle	11	16
LDV	5	5
TOTAL	**39**	**53**

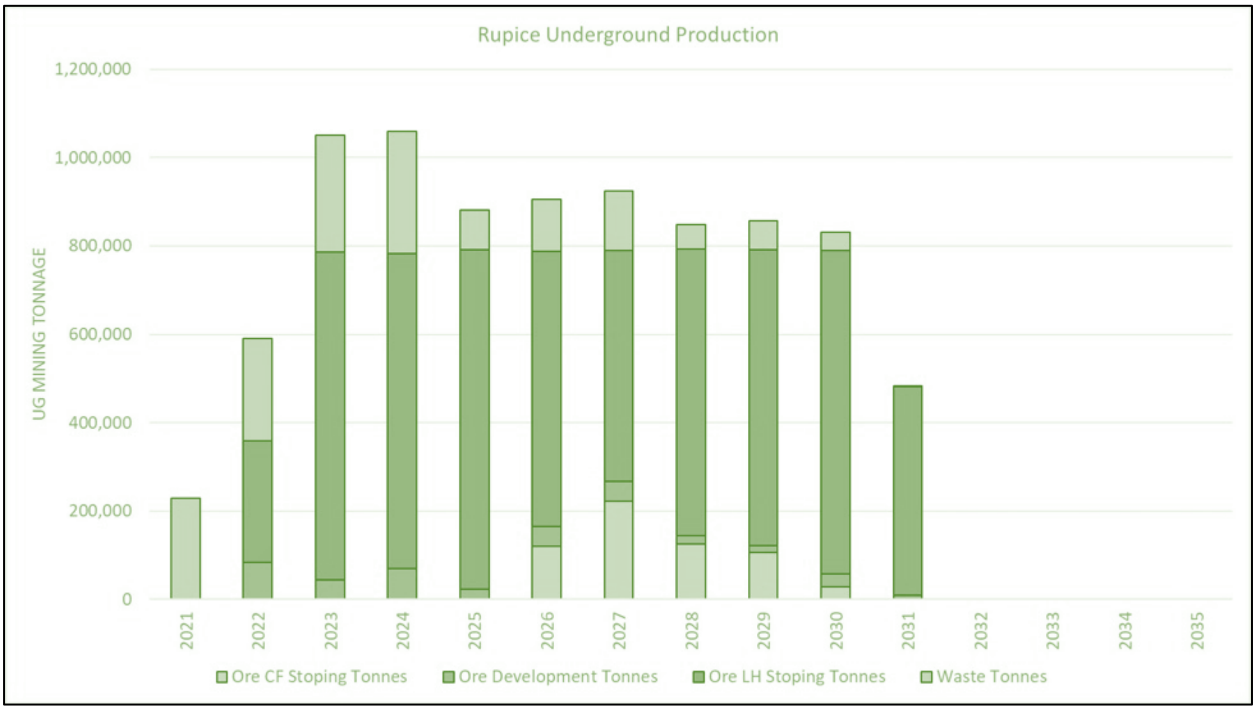
The mining schedule has assumed that the underground mining operations will work 24/7 and 360 days in a year. The proposed shift arrangement will be based on 2 x 11 hr shifts with a 3rd shift on leave rotation. The operators will have an effective face time of approximately 7.8 hours per shift. The processing plant would operate on a similar shift arrangement to the mining operations. Management, administration and technical services would operate on a 11-shift fortnight with leave allowance being covered by junior or supporting roles.

Table 11 - Rupice Estimated Labour Requirements

Rupice UG Labour Requirements	Peak Requirement
Operators	174
Engineering	113
Mine Services	36
Rotational Personnel	27
Total Rupice Complement	350

The conceptual mine production schedule is illustrated in Figure 3; it has been assumed that mobilisation of the mining fleet and construction of the mining infrastructure will begin in Q1 of 2021 and the construction of the processing plant commencing in Q1 of 2021. Box-cut construction of the portal is assumed during 3 months of Q2 of 2021 with start of underground development assumed in Q3 of 2021.

Figure 3 – Rupice Conceptual Underground Production Schedule



Veovača Open Pit Mine

Mining by conventional open pit methods including drill and blast followed by load and haul is proposed to be employed. Drilling and blasting is anticipated to be performed on 6 m benches and similarly for the loading of the blasted material. Where possible in the near surface weathered zone, free diggable material could be mined without requiring drilling and blasting. Ripping by bulldozers may also be employed in transitional areas to reduce the quantity of drilling and blasting required.

The envisaged scale of mining at the Veovača Deposit is relatively small scale with a peak total material movement of approximately 4.5 Mtpa. The annual processing plant feed requirement is approximately 800 ktpa.

The conceptual mining fleet would consist of 90 tonne hydraulic backhoe excavators and 30 tonne capacity off highway articulated dump trucks (ADT). The estimated fleet size 2 x 90 tonne class excavators and 20 x 30 tonne class trucks will be the peak requirement. It is not anticipated that the fleet size will increase significantly due to topography and the reference elevation. The primary mining fleet of trucks and excavators would be supported by standard open-cut drilling and auxiliary equipment.

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

Apart from any free dig or ripping, rock fragmentation is proposed as being accomplished utilising drilling and blasting. Drill rigs capable of drilling 89 mm to 152 mm vertical and inclined holes would be used. The rigs would be supported by a stemming tractor loader backhoe (TLB), explosive delivery vehicle and several light vehicles for carrying personnel and explosive accessories.

The proposed bench height and rock type suits drill-rigs capable of drilling 89 mm to 152 mm diameter blast holes. Burden, spacing and sub-drill designs will be dependent on the varying material types of the deposit. A bench height of 12 m has been selected to ensure selective mining of the feed material. The bench height for blasting would be 12 m and loaded on two flitches of 6 m.

As part of the geotechnical optimisation of the pit, pre-split blasting is anticipated for the final walls. The pre-split blasting would reduce ground vibration and improve the final high wall condition.

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

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

Ancillary equipment for the operation would consist of service trucks, tyre handlers, mobile crane, water pumps, lighting plants and LDVs. The function of this equipment would be to support the pit equipment and maintenance workshops.

Grade control drilling and sampling is assumed to form part of the mine planning and execution to control feed definition at the Veovača deposit. It is planned to sample the blasthole chippings during blast hole drilling in advance of the loading activity to develop a grade control model that will inform the short and medium term mine planning.

In-pit water management is assumed to primarily consist of run-off control and sumps. The de-watering infrastructure and equipment would be sized to handle ground water inflows and precipitation. The surface water handling plan would be based on diverting as much surface water as possible away from the open pit, using collection ditches and sumps, then pumping the water to a Mine Water Pond. As the estimated pit deepens intermediate sumps may be required on the pit's walls and on the surface between the pit and the Mine Water Pond.

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

A contract mining approach has been assumed to be adopted, and an estimate of the mining contractor staff required to ensure delivery of the production mining plan is outlined in the table below, based on 2 x 12 hr shift for the operators, with a 3rd shift on break.

Table 12 - Estimated Mining Contractor Labour Requirements

Estimated Contractor Miner Labour Force	Number of Employees
Drill Rig Operators	6
Excavator Operators	6
Haul Truck Operators	60
FEL Operators	3
Primary Support Equipment Operators	5
Ancillary Operators	16
Dump Management Operators	3
Road Maintenance Crew	0
Engineering Labour	27
Indirect Labour	12
Total Workforce	**138**

Waste rock deposition is proposed to occur in three main phases, namely:

1. Pre-stripping waste used as rock-fill for infrastructure (water storage dam, north TSF wall and the larger south TSF wall;
2. WRD West located in the valley to the immediate north of the Veovača processing facility; and
3. Long term storage on the WRD South located in the southern valley adjacent to the processing facility

Selected waste rock would also be used for the construction of the ROM Pad, Tailings storage facility (TSF) walls and other infrastructure items during the site construction phase and potentially for further TSF wall lifts during the life of mine.

The proposed waste rock dump associated with mining operations would be constructed to meet the requirements of international best practices. Waste Rock deposition would utilise a valley fill method and provide approximately 6.9 million m^3 storage capacity with a final dump profile of 21.8^o to a gradient of 1:2.5. Dumps would initially be constructed with the natural fill angle of approximately 35^o or the angle of repose of the dumped material. The waste dump would be progressed by tipping from a higher level against a windrow and progressively pushing the waste out with a dozer.

Table 13 - Waste Rock Deposition Infrastructure

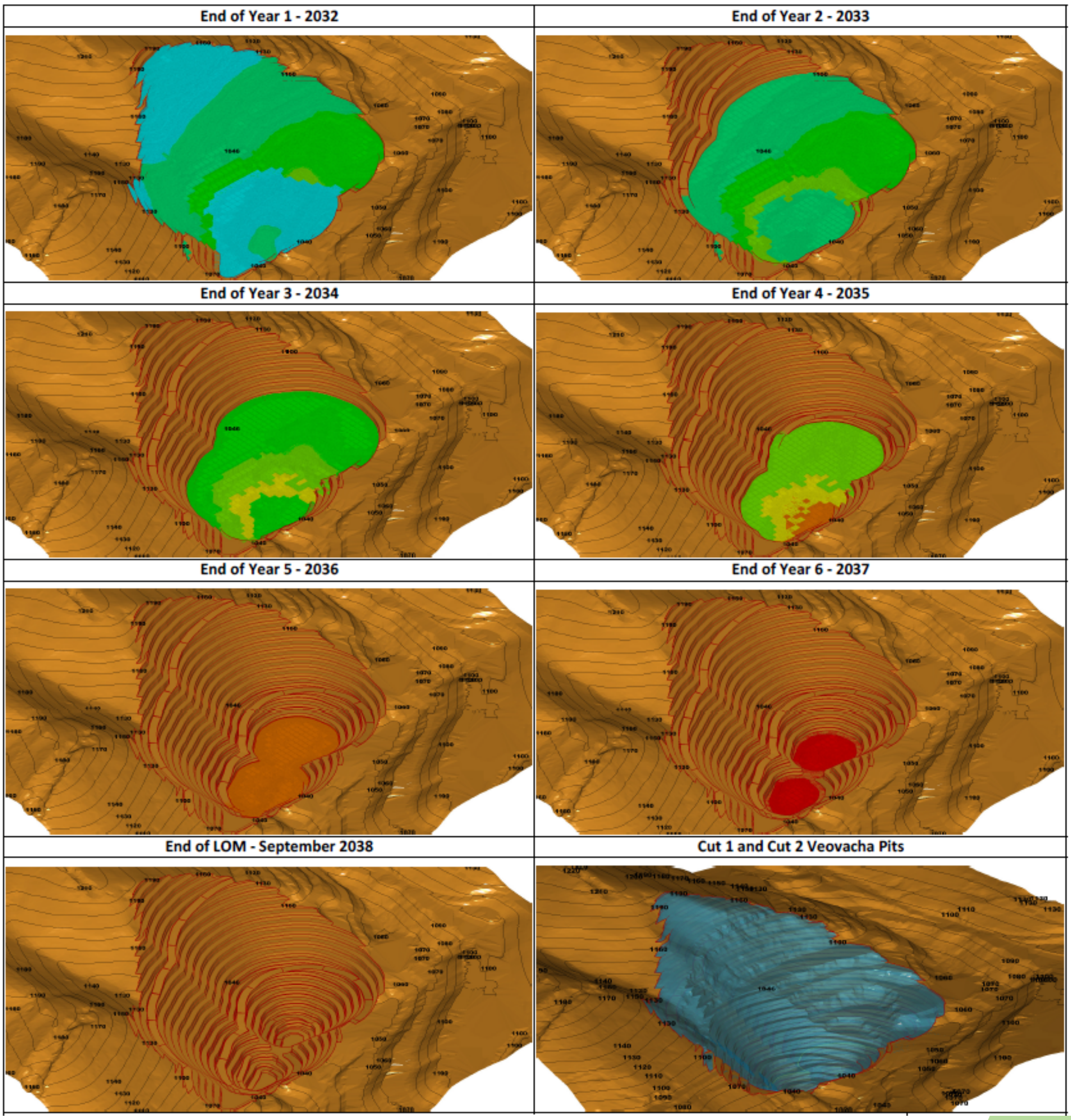
Area	Crest RL	Toe RL	Max Height	Footprint Area	Surface Area	Volume	Density	Mass
	mamsl	mamsl	m	m2	m2	m3	t/m3	t
TSF Wall South	960	898	62	58,207	58,058	1,056,327	1.86	1,964,768
TSF Wall North	960	930	30	7,693	7,219	52,747	1.86	98,109
Land Bridge / WSD	1,003	972	31	10,890	10,600	84,400	1.86	156,984
WRD West	1,024	916	108	89,890	80,610	1,776,790	1.86	3,304,829
WRD South	1,056	916	140	161,325	147,600	3,906,850	1.86	7,266,741
Total Rockfill Required				**328,005**	**304,087**	**6,877,114**		**12,791,432**

Conceptually, waste dumps will be progressively rehabilitated with topsoil, where possible. Surfaces of dumps would be contoured to minimise batter scour. Seepage and shallow ground water flow along the perimeter of the mine residue deposits would be controlled with suitable toe drains.

All areas impacted by the project, including all waste and tailings dumps, tailings dams and water dams would be stripped of topsoil before commencement of construction. This topsoil would be stockpiled for future rehabilitation work at the end of the mine production life.

The anticipated mine production schedule is illustrated in Figure 4. Stripping in Cut 2 could be delayed for approximately 1 year using a mining material limit of 4.5Mtpa. Mining is proposed to start in Cut 1 in December 2031 and would ramp up the Veovača feed supply from April 2032 and reach steady state production in November 2032. In order to ensure a seamless "dove-tail" with the ramp-down production tail from the Rupice underground mine initial ramp-up material is proposed to be stockpiled and reclaimed during the switch-over from underground to open pit feed.

Figure 4 – Veovača Pit Production Schedule

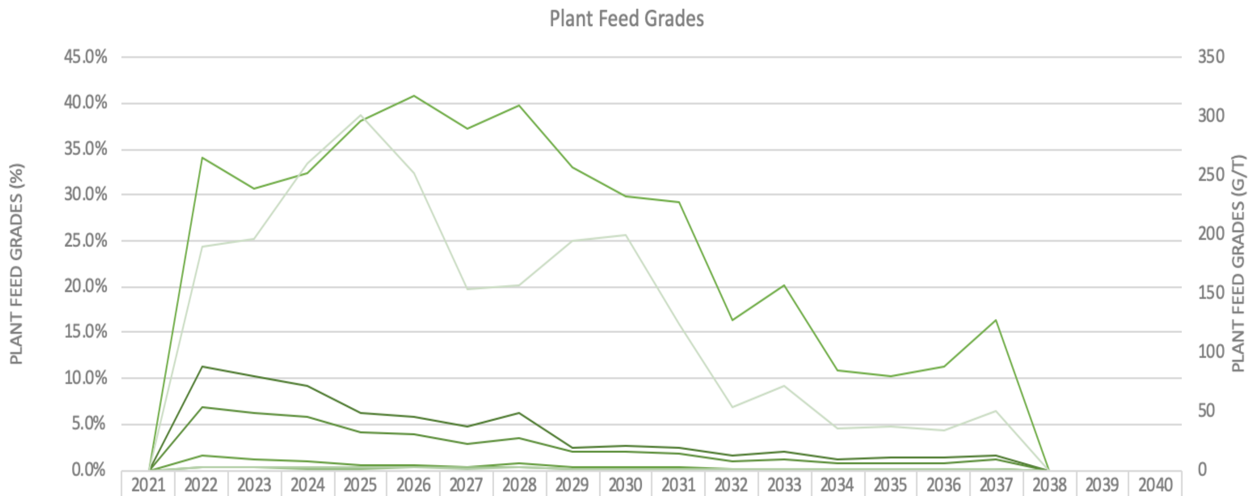


Proposed Combined Mine Output

The proposed plant feed schedule is developed from the anticipated commissioning dates for the plant and the expected ramp-up of feed supply from the Rupice underground operation. Cognisance is taken of stockpiling and re-handling in scheduling of the tonnages albeit minimal stockpiling is required throughout the anticipated LOM. Figure 5 and Figure 6 shows the processing plant feed tonnage schedule for the Veovača processing plant.

The base-case production schedule assumes an 800 ktpa plant throughput rate, commencing with the Rupice deposit (2021 – 2032) continuing with the Veovača open pit operation from 2032 to the end of the Life of Mine with a view to extracting the highest grade at the Rupice deposit in the early stage of the Rupice underground operation.

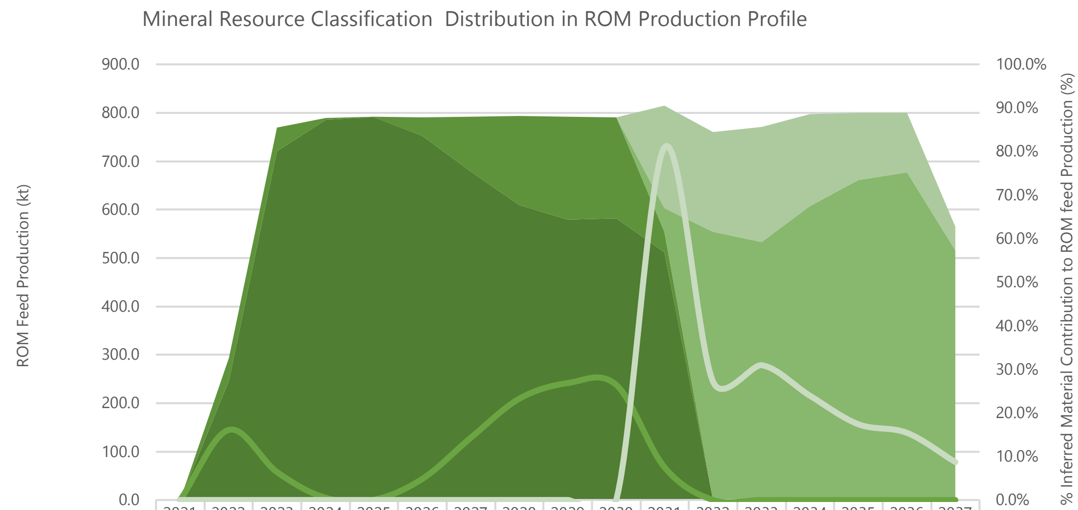
Figure 5- Plant Feed Grades



	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Zn Grade	0.0%	11.3%	10.3%	9.3%	6.2%	5.9%	4.7%	6.2%	2.4%	2.6%	2.5%	1.7%	2.1%	1.1%	1.3%	1.3%	1.6%	0.0%	0.0%	0.0%
Pb Grade	0.0%	6.9%	6.1%	5.8%	4.2%	3.8%	2.8%	3.5%	2.0%	2.1%	1.8%	1.0%	1.3%	0.8%	0.7%	0.8%	1.1%	0.0%	0.0%	0.0%
Cu Grade	0.0%	1.5%	1.2%	1.0%	0.6%	0.5%	0.4%	0.7%	0.3%	0.2%	0.3%	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
Ba Grade	0.0%	34.1%	30.8%	32.4%	38.0%	40.7%	37.3%	39.7%	32.9%	29.8%	29.3%	16.4%	20.2%	10.8%	10.3%	11.4%	16.4%	0.0%	0.0%	0.0%
Sb Grade	0.0%	0.3%	0.3%	0.2%	0.2%	0.2%	0.3%	0.3%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
Au Grade	0.0	2.4	2.3	2.8	2.6	2.5	1.5	1.7	1.4	1.5	0.9	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Ag Grade	0.0	189.1	195.8	259.4	300.8	252.2	153.1	156.7	193.9	200.1	123.2	52.8	71.7	34.9	36.2	34.0	50.3	0.0	0.0	0.0

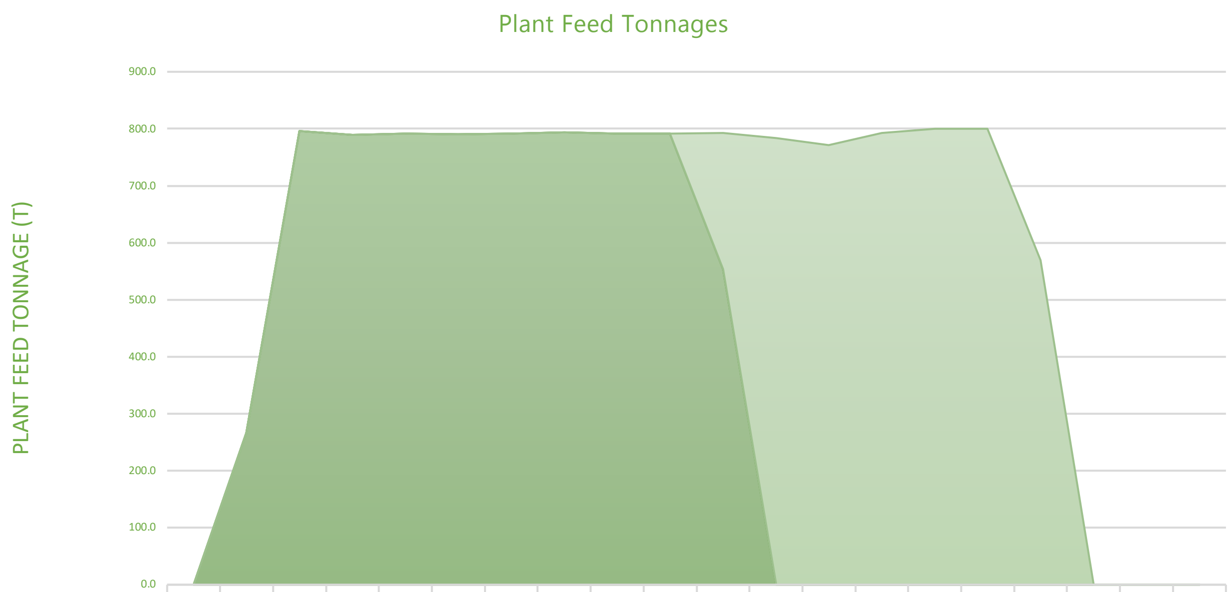
Zn Grade Pb Grade Cu Grade Ba Grade Sb Grade Au Grade Ag Grade

Figure 6 – Plant Feed by Mineral Resource Classification



	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Veovaca (Inferred)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	211.5	206.5	238.5	190.9	138.9	123.4	49.1
Veovaca (Indicated)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.7	554.3	532.5	606.7	660.4	676.6	515.1
Rupice (Inferred)	0.0	47.3	49.2	4.0	0.4	38.4	113.1	184.5	212.4	209.1	41.3	0.0	0.0	0.0	0.0	0.0	0.0
Rupice (Indicated)	0.0	246.8	719.9	785.0	790.8	752.1	678.2	609.0	579.0	581.7	512.2	0.0	0.0	0.0	0.0	0.0	0.0
Rupice % Inferred Material		16.1%	6.4%	0.5%	0.1%	4.9%	14.3%	23.3%	26.8%	26.4%	7.5%						
Veovaca % Inferred Material											81.0%	27.1%	30.9%	23.9%	17.4%	15.4%	8.7%

Figure 7 - Plant Feed Schedule (Mine Source)



	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Veovaca OP Feed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	238.7	783.2	771.0	792.1	800.0	800.0	568.8	0.0	0.0	0.0
Rupice UG Feed	0.0	266.7	796.0	789.0	791.3	790.4	791.3	793.5	791.4	791.3	553.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Rupice UG Feed   Veovaca OP Feed

PROPOSED DEPOSIT PROCESSING

The proposed process plant has been designed to treat up to 800,000 t/a of copper, lead, zinc, silver and gold bearing material from the Rupice Deposit with Veovača being processed later. The conceptual flowsheet, which has been developed from the test work outlined in a separate report, represents a conventional copper-lead, zinc and barite differential flotation processing facility.

The primary aim in the design of the process for the treatment of the different deposits is to:

- Provide a simple, reliable, low cost processing route that is easy to maintain in the relatively remote location;
- Incorporate a robust metallurgical flowsheet, ensuring maximum copper, lead, zinc, gold and silver recoveries and flexibility for minor changes in mineralisation types;
- Develop a single process flowsheet that enables processing of both the open pit material from Veovača and the underground material from Rupice to produce saleable copper-lead and zinc metal concentrates, containing gold and silver credits, and a barite concentrate as by-product;
- Ensure that the plant tailings and discharges are environmentally acceptable;
- Construct a treatment plant with new equipment and materials to ensure availability and compatibility; and,
- Incorporate a moderate degree of automation into the design to reduce the possibility of process interruptions during start-up and the ramp-up period.

The proposed process flowsheet developed as part of the Scoping Study is expected to generate the following metallurgical outcomes.

Table 14– Key Metallurgical Outcomes for Rupice & Veovača Deposits via Veovača Flotation Plant

Metallurgical		Zn Conc	Pb Conc	Ba Conc
Processing				
Average Conc Grade	**%**	54.3%	47.4%	92.6%
Total Conc Production	**ktonnes**	772	584	2,436
Mass Pull	**%**	6.5%	4.9%	20.5%
Metallurgical Recovery				
Zn	%	84.7%	13.0%	0.8%
Pb	%	3.3%	88.0%	2.1%
Cu	%	6.2%	80.5%	2.1%
BaSO4	%	0.6%	0.5%	70.7%
Au	%	21.6%	37.3%	7.8%
Ag	%	12.1%	74.5%	1.5%
Sb	%	4.3%	89.2%	0.9%
Payability Terms				
Zn	%	84.8%	0.0%	0.0%
Pb	%	0.0%	93.7%	0.0%
Cu	%	0.0%	30.0%	0.0%
BaSO4	%	0.0%	0.0%	100.0%
Au	%	64.9%	89.3%	0.0%
Ag	%	62.4%	95.0%	0.0%
Sb	%	0.0%	78.0%	0.0%

Payable Metal				
Zn	tonnes	355,284	0	0
Pb	tonnes	0	259,582	0
Cu	tonnes	0	11,523	0
BaSO4	tonnes	0	0	2,254,235
Au	koz	66	157	0
Ag	koz	4,170	38,962	0
Sb	tonnes	0	14,581	0

The conceptual process plant design was developed to reflect the values obtained from the locked cycle testwork. The Rupice mineralisation would require additional process stages to accommodate the additional value metal content (copper), the additional pyrite float stage, and the possibility of a future separation stage of the bulk concentrate into separate copper and lead concentrates. At present, the flowsheet is based upon the sale of a bulk copper-lead concentrate when processing Rupice material, or a lead concentrate, in the future, when processing Veovača. Zinc and barite concentrates would be produced from both deposit feeds for LoM.

Table 15 – Design Criteria

Item	Unit	Value	
		Veovača	Rupice
Operating Schedule	d/a	365	365
	h/d	24	24
	shifts/day	3	3
Mill Availability	%	90.4	90.4
Mill Throughput	t/a	800,000	800,000
	t/d	2,200	2,200
	t/h	100	100
Mineralised Rock SG		3.17	3.77
Bond Ball Mill Work Index	kWh/t	8.54	12.31
Rod Mill Discharge Density	%w/w	75	75
Ball Mill Discharge Density	% w/w	75	75
Mill Recirculating Load	%	250	250
Cyclone Feed Density	%	56	60
Cyclone Overflow Density	%	33	40
Cyclone Overall 80% Passing	µm	40	40
Cu-Pb Flotation			
No. Conditioning Stages	#	2	2
Conditioning Time	min	5+5	5+5
Rougher Residence Time	min	25	25
Regrind Size 80% passing	µm	20	10
Regrind Cyclone Overflow Density	%	20	20

Number of Cleaning Stages	#	2	3
Cleaner Residence Times	min	20,15	20,15,15
Zn Flotation			
No. Conditioning Stages	#	2	2
Conditioning Time	min	5+5	5+5
Rougher Residence Time	min	~~6~~ 40	6 40
Regrind Size 80% passing	µm	20	20
Regrind Cyclone Overflow Density	%	20	20
Number of Cleaning Stages	#	2	3
Cleaner Residence Times	min	25,15	25,15,15
Ba Flotation			
No. Conditioning Stages	#	2	2
Conditioning Time	min	5+5	5+5
Rougher Residence Time	min	30	30
Regrind Size	µm	-	-
Regrind Cyclone Overflow Density	%	20	20
Number of Cleaning Stages	#	2	5
Cleaner Residence Times	min	25,20	25,20,20,20,20

Based on the available metallurgical testwork results, the following Process Plant flowsheet has been proposed.

Following crushing, and grinding, the process plant consists of three circuits; a copper-lead stream, a zinc stream, and a barite stream.

The process would consist of the following unit operations:

- Crushing (2-stages) and screening
- Fine crushed material storage
- Grinding (rod-ball mill circuit) and classification
- Copper-Lead rougher / scavenger flotation
- Copper-Lead concentrate regrind
- Copper-Lead 2/3-stage closed cycle cleaner flotation
- Zinc rougher / scavenger flotation
- Zn regrind stage
- Zinc 3-stage closed cycle cleaner flotation
- Barite rougher
- Barite 5-stage closed cycle cleaner flotation
- Concentrate thickening, filtering, storage and dispatch
- Tailings thickening filtration
- Reagent mixing, storage and distribution
- Services for air, water and power

The processing facility would treat material at the rate of nominally 100 t/h, equating to an annual throughput of 800,000 t/a. It is assumed the two major deposit types that make up the feed to the base metals concentrator would be processed separately, with the higher grade Rupice deposit being processed for approximately the first 10 years, followed by the lower grade deposit from Veovača until the end of the current proposed mine life.

All new equipment has been selected and costed in this Scoping Study. However, suitable second-hand equipment would be considered for the major equipment items which would offer a discount without technically compromising the project.

The basis for the anticipated mass balance is the overall metallurgical balance presented in the locked-cycle test work completed by Wardell Armstrong International on composite samples from both deposits.

In general, the processing equipment has been selected and sized according to the design criteria and the preliminary mass balance. A preliminary list of the main equipment items and installed power is given in Table 16. Note that this table is based on information from currently available suppliers. However, any supplier with comparable performance equipment would be suitable.

Process Description

This description should be read in conjunction with the flowsheet in Figure 8.

Rupice material would be transported from the underground mine to the surface and reloaded for transport to Veovača processing plant. There it would be dumped in stockpile fingers representing various mineralisation types and grades. Veovača would be mined by open pit and trucked to the ROM stockpiles for processing. Material would be reclaimed by front end loader to the primary crusher feed hopper. Oversize +500 mm lump material can be removed from the static grizzly for mechanised breaking, or alternatively the rock breaker fitted to the primary jaw crusher can be used.

Crushing & Screening

The proposed crushing and screening plant will be designed for a nominal treatment rate of 150 t/h which will require around 16 hours per day of crushing during two 8 hour shifts, 7 days per week. In the case of future expansion of the plant the crushing and screening can therefore be operated for longer hours to make up the required material input. The crushing circuit is a conventional two-stage closed circuit. There will be 3 main units - primary jaw crusher, secondary cone crusher and product screen, each with integral product conveyors.

The primary jaw crusher would be fed using a vibrating grizzly feeder to pre-screen the ROM feed. The speed of the feeder will be controlled to maintain the tonnage set point based on the tonnage measured on the fine material stockpile feed conveyor. The oversize from the feeder will be fed directly into the primary jaw crusher.

Primary crushing is anticipated to be by a single toggle, 700 mm by 1,060 mm jaw crusher powered by a 125 kW motor and operating with a closed side setting of 60 mm to 70 mm. Jaw crusher product, with a nominal 80% passing size of 70 mm, will discharge onto a conveyor where it is combined with the grizzly screen undersize.

The primary jaw crusher product conveyor will discharge onto a vibrating, double deck, 2.4 m wide by 6.1 m long inclined product screen fitted with rubber screen mats having top and bottom deck screen apertures of 40 mm and 25 mm respectively. The top deck is a relieving deck only, so the oversize from both decks will report to the secondary cone crusher feed conveyor.

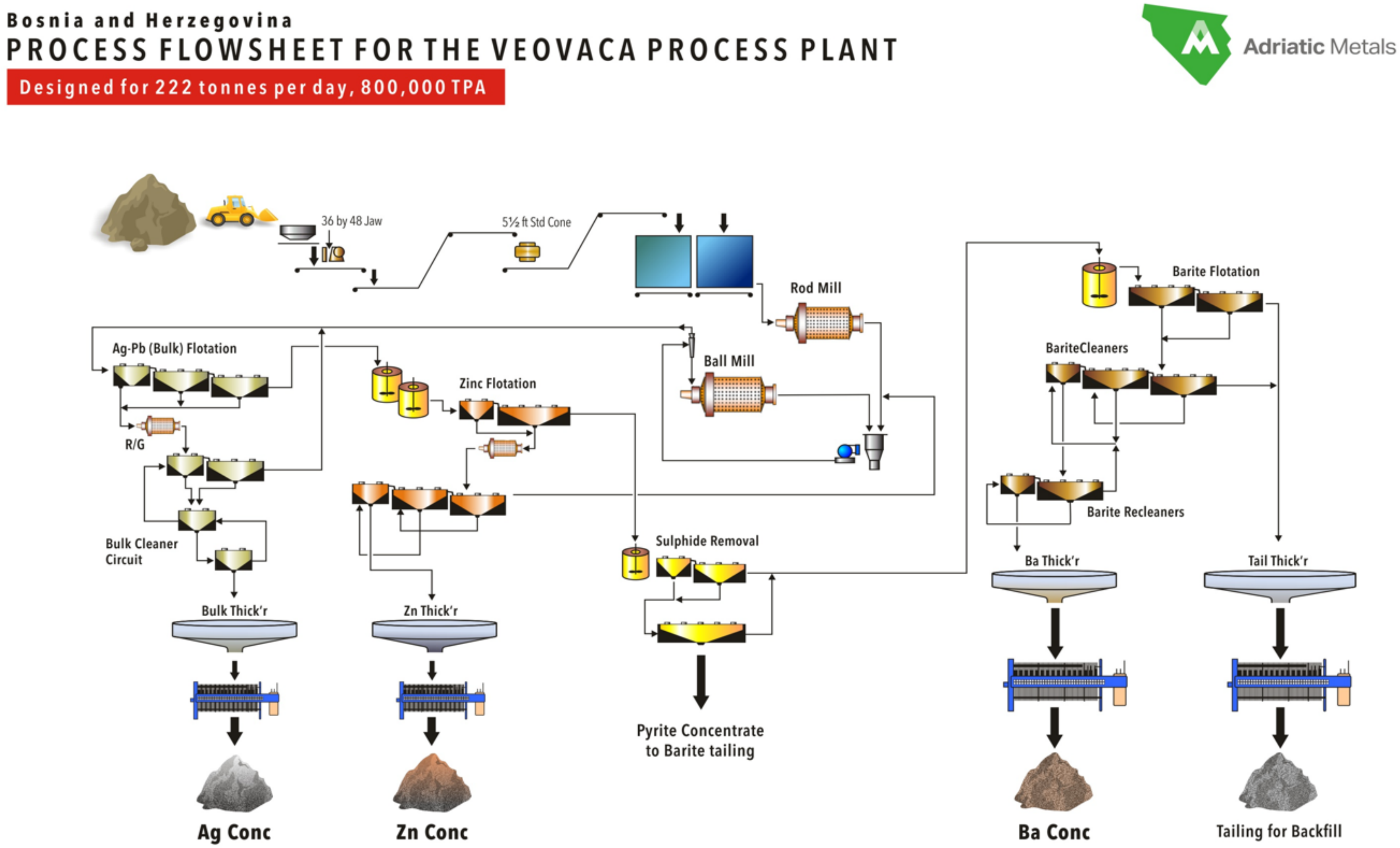
A proposed secondary cone crusher equipped with a small feed hopper fed by a vibrating pan feeder which will discharge material in the centre of the crushing chamber. It would operate with a closed side setting of nominal 16 mm and be powered by a 200 kW motor. The secondary crusher product would be recirculated back onto the double deck screen via two mobile conveyors to operate in closed circuit.

The product screen undersize, 100% -25 mm and with an 80% passing size of 20 mm would be conveyed to the fine material bin. A belt weigher on the conveyor would be used to control the grizzly feeder for the primary jaw crusher and therefore the overall throughput of the crushing and screening plant.

Table 16 - Major Mechanical Equipment List

Item	Equipment	Size	No.	Item	Equipment	Size	No.
1	Hopper and grizzley	100T	1	24	Zn Regrind Mill	ISA	1
2	Apron Feeder	48"	1	25	Regrind cyclones	6"	6
3	Primary crusher	24*36"	1	26	Regrind pumps	4/3	2
4	Impact conveyor.	36"	1	27	Clner 1 cells	10 cu m	7
5	Metal detector		1	28	Clner 2&3 cells	3 cu m	14
6	Weightometer	250 tph	1	29	Pyrite Ro-Sc cells	10 cu m	6
7	Conveyor	36"	1	30	Pyrite cleaner cells	3 cu m	2
8	Screen	8*20ft	1	31	Ba Conditioners	20 cu m	2
9	Cone crusher	5.5 ft	2	32	Ba Ro+Sc	10 cu m	8
10	Recycle Conveyors	36"	2	33	Ba Clnr 1	10 cu m	9
11	Fine Material Bins	2000T	2	34	Ba Clnr 2	10 cu m	5
12	Fine Material feeders	2*3 ft	2	35	Ba Clnr 3-5	5 cu m	17
13	Rod mill	11*18ft	1	36	Concentrate Thick'rs	50 ft	2
14	Ball mill	11*18ft	1	37	Barite thickener	100 ft	1
15	Mill pumps	10/8	2	38	Tailing Thick'r	100 ft	1
16	Cyclones	10″	10	39	Tailing Filter	VPA 2050-25	1
17	Bulk Ro+SC cells	10 cu m	8	40	Concentrate filters.	VPA-1530-20	2
18	Bulk Cleaner cells	3 cu m	16	41	Barite filter	VPA-2050-15	1
19	Bulk Regrind mill	ISA	1	42	Float circuit pumps.	various	35
20	Regrind pumps	4/3	2	43	Reagent tanks	20cu m	5
21	Regrind cyclones	6"	6	44	Header tanks	2 cu m	5
22	Zn Conditioners	20 cu m	2	45	Dozing pumps	Various	15
23	Zn Ro + SC cells	20 cu m	6	46	On-stream analyser.	32 stream	1
				47	Truck weighbridge.	50T	1

Figure 8 – Process Flowsheet Diagram



Fine Material Storage and Reclaim

The fine-material bin feed conveyor would discharge the product screen undersize directly into the open-topped fine material bin which has a conceptual capacity of 4,000 tonnes or roughly 48 hours of crushing plant operation. The storage capacity is needed to accommodate maintenance, and the shorter working hours of the crushing plant.

A level indicator would be provided, and the high set point interlocked with the fine material bin feed conveyor to prevent overfilling.

Material would be reclaimed from the fine material bin by a variable speed vibrating feeder onto the rod mill feed conveyor. This conveyor would be equipped with a belt weightometer. Feed to the rod mill would be controlled by varying the speed of the vibrating feeder according to the feed rate as measured on the weightometer.

Grinding & Classification

The proposed grinding circuit will consist of a rod-ball mill combination, with the ball mill, operating in closed circuit with a battery of hydrocyclone classifiers. The grinding circuit would operate 24 hours per day, 7 days per week. The conceptual plant has been designed to achieve a utilisation of minimum 90%. Treatment rate would be 100 t/h to achieve the required annual throughput rate of 800,000 t of copper-lead-zinc-barite rock.

The proposed Ø3.4 m by 5.5 m Effective Grinding Length (EGL) primary rod mill would be fitted with a single 800 kW drive and operate with rods up to a maximum 45% volumetric load. The proposed Ø3.4 m by 5.5 m Effective Grinding Length (EGL) secondary ball mill would be fitted with a single 800 kW drive and operate with balls up to a maximum 40% volumetric ball load. The mill operates at a fixed speed of 67% critical. The ball mill would be fitted with rubber liners and operate in an overflow configuration.

New feed would be conveyed to the rod mill feed chute where dilution water is added to achieve an acceptable milling density.

Slurry exiting the mills would pass over integral trommel screens to remove coarse particles and scats and prevent them from entering the mill discharge hopper. Additional dilution water would be added to dilute the cyclone feed stream before being pumped to the hydrocyclone cluster for classification. A product size of 80% passing 40 µm is the target.

The proposed cyclone battery will comprise a cluster of hydrocyclones in a manifold, eight operating and two on standby. The cyclone overflow would flow by gravity to the trash screen feed box. A 1.5m wide by 3.0 m long horizontal vibrating trash screen would be installed fitted with 800 µm aperture modular polyurethane screen panels. Underflow from the cyclone cluster would gravitate to the ball mill for further size reduction.

The cyclone feed pumps would be driven by a fixed speed drive with water addition to the sump to maintain the level at the set point. An ultrasonic level device is installed to monitor the mill discharge sump level. A changeover switch would be provided to enable the standby cyclone feed pump to be operated as and when required.

Oversize trash would gravitate directly to a trash bin. Undersize product from the trash screen would gravitate to the primary flotation conditioning tank.

Automatic control of the grinding and classification circuit is proposed and would be achieved through the following control loops:

- Rod mill feed water addition will be made in proportion to the material feed tonnage indicated by the mill feed conveyor weightometer;
- Ball mill feed water addition will be made in proportion to the material feed tonnage to control the mill discharge density;
- The common rod/ball mill discharge hopper level will be measured by an ultrasonic level element and used to control the water addition to maintain a set hopper level.

The rod mill power draw would be indicated on the mill control panel and grinding rods added on a daily basis to maintain a set power draw. Rod charging would be carried out using a specialised rod charging machine.

Grinding media for the ball mill would be located in bunkers and loaded to ball charging kibbles which are hoisted to the ball charging level and discharged into the ball mill.

The ball mill power draw would be indicated on the mill control panel and grinding balls added to maintain a set power draw. Grinding circuit spillage would be contained by a bunded concrete slab and steeply sloped floors will direct clean-up slurry and spillage to a vertical spindle sump pump located near the mill. Scats from the ball mill trommel are to be directed into a scats bin using a chute. These may be re-treated at a later date depending upon the scats grade.

Copper / Lead Flotation

Throughout the flotation area, VF vertical froth pumps are proposed to be used complete with integral tanks. These will greatly benefit the energy efficiency and reliable operation of the plant.

The first stage of the proposed flotation circuit is to produce a saleable bulk copper-lead concentrate containing gold, and silver.

The primary grind cyclone overflow stream would report to the rougher bulk flotation. Here the mineral surfaces are conditioned with the flotation reagents prior to the addition of air. A design total conditioning time of 10 minutes has been used.

Initially only zinc sulphate ($ZnSO_4$) is added to the slurry during the grinding stage as a depressant for galena and sphalerite. Sodium meta-bisulphite (SMBS) is dosed in the second conditioning stage, 3418A collector is added to the conditioning tank to float off the chalcopyrite/galena minerals. Methyl-Iso-Butyl Carbinol (MIBC) is then added to the first rougher cell as the frothing agent.

The proposed sizing of the flotation circuit has been based upon the mass balance generated from the WAI locked cycle laboratory test work (LCT#3) for the Rupice deposit.

Typical industry factors have been used to take into account the laboratory scale up to full plant size, with a scale up factor of 2.5 used for flotation cell volume, and a froth factor of 0.85.

The combined design residence time for the proposed copper/lead rougher and scavenger circuits is 25 minutes, equating to a total combined rougher/scavenger float cell volume of 80 m^3. The copper rougher/scavenger circuit would consist of standard mechanically agitated flotation cells.

The proposed copper-lead stirred regrind mill (250kW) will operate in closed circuit with a hydrocyclone cluster to achieve the target grind size P_{80} of 10 µm. The cyclone underflow material reports back to the regrind mill feed, whilst the cyclone overflow becomes cleaner flotation feed.

Additional activator, collector and frother would be added to the head of the first cleaner bank. Cleaner I copper-lead concentrate reports to the head of the Cleaner 2 float bank, whilst the Cleaner 1 tail is recycled back to the head of the rougher cells. Cleaner 2 copper-lead concentrate is upgraded in Cleaner 3, with Cleaner 3 tail reporting to the head of Cleaner 2 bank of cells. Cleaner 3 concentrate then becomes final concentrate and reports to the thickening and filtration section.

The sizing of the proposed Cleaner 1, 2 and 3 circuits have been based upon the mass balance generated from the WAI locked cycle test results.

The design Cleaner 1/Cleaner Scavenger, Cleaner 2 and Cleaner 3 residence times are 25, 15 and 15 minutes respectively, consisting of a total of 16 cells each 3 cu m capacity arranged as 9, 4, and 3 cell banks respectively

Each of the cell flotation banks would be separated by a pinch valve which be used to control the pulp level/froth depth in the units. The cells have suitable launders to deal with the high mass recoveries which will occur in the rougher and cleaner cells.

Water sprays would be provided in the launders to assist froth breakdown.

Zinc Flotation Circuit

The second stage of the proposed flotation circuit is to produce a saleable zinc concentrate.

The copper-lead rougher tailings stream would report to the zinc flotation conditioning tank. Here the mineral surfaces are conditioned with the flotation reagents. A design conditioning time of 10 minutes has been used.

Lime would be added to control the pH following which Copper sulphate is added for zinc activation. Potassium amyl-xanthate (PAX) collector is added to the conditioning tank to recover the sphalerite. MIBC is then added to the first rougher cell as the frothing agent.

The sizing of the proposed flotation circuit has been based upon the mass balance generated from the WAI locked cycle laboratory test work – LCT# 3, with zinc rougher-scavenger residence time of 40 minutes total and consisting of 6 cells each 20 cu metre volume.

The zinc rougher-scavenger circuit would consist of standard mechanically agitated flotation cells. The product would then be subjected to regrind ahead of cleaning.

The proposed zinc stirred regrind mill (250 kW) would operate in closed circuit with the hydrocyclone cluster to achieve the target grind size P80 of 20 µm. The cyclone underflow material reports back to the regrind mill feed, whilst the cyclone overflow becomes cleaner flotation feed.

The regrind cyclone overflow stream would report to the first cleaner cell bank for the first stage of upgrading. Additional activator, collector and frother would be added to the head of the first cleaner bank. Cleaner I zinc concentrate reports to the head of the Cleaner 2 float bank, whilst the Cleaner 1 tail is recycled back to the head of the rougher cells. Cleaner 2 zinc concentrate is upgraded in Cleaner 3, with Cleaner 3 tail reporting to the head of Cleaner 2 bank of cells. Cleaner 3 concentrate then becomes final concentrate and reports to the thickening and filtration section.

The sizing of the proposed flotation circuit has been based upon the mass balance generated from the WAI locked cycle laboratory test work. The sizing of the proposed Cleaner 1, 2 and 3 circuits have been based upon the mass balance generated. Typical industry factors have been used to take into account the laboratory scale up to full plant size, with a scale up factor of 2.5 used for flotation cell volume and a froth factor of 0.85. The design cleaner 1, cleaner 2 and cleaner 3 residence times are 25, 15 and 15 minutes respectively, consisting of 7 cells each 10 cu m as cleaner 1, followed by a six cell bank of 3 cu m capacity as cleaner 2 and a five cell bank of 3 cu m cells for cleaner 3.

Each of the flotation banks would be separated by a pinch valve which will be used to control the pulp level/froth depth in the units. The cells will each have suitable launders to deal with the high mass recoveries which will occur in the rougher and cleaner cells. Water sprays would be provided in the launders to assist froth breakdown.

Throughout the proposed flotation circuit concentrate streams are handled using froth pumps with integrated hoppers.

Pyrite Flotation

The tails from the Zinc circuit would be sent to a Pyrite float to remove any residual sulphides ahead of the barite float stage.

Sulphuric acid would be added to decrease the pH to 6, and both copper sulphate and PAX added to float the sulphides.

The proposed pyrite float consists of a pyrite rougher-scavenger and a single cleaner stage. The pyrite concentrate was initially sent to tailings whilst the pyrite tailing became feed to the barite float circuit. However, further test work has revealed that the pyrite concentrate can be upgraded to produce a saleable gold concentrate. This will be studied further in PFS stage.

Barite Flotation

The tails stream from the pyrite scavenger bank forms the feed to the proposed barite flotation circuit. Lime would be added to the conditioning tank to increase the pH to 9.5, followed by the addition of AF845 and frother to the head of the barite rougher stage.

A proposed barite scavenger circuit has also been included to allow for the recovery of any slow floating composite particles.

The design of the proposed barite rougher / scavenger circuit residence times is 20 minutes, giving rise to a rougher and scavenger float cell volume of 70 m^3.

The barite rougher / scavenger circuit would consist of standard mechanically agitated flotation cells.

The combined rougher/scavenger concentrate stream would report to the first cleaner cell bank for the first stage of upgrading. Additional activator, collector and frother would be added to the head of the first cleaner bank. There are five stages of cleaning proposed, in closed circuit.

The sizing of the proposed Cleaner 1, 2, 3, 4 and 5 stages have been based upon the mass balance generated from the WAI locked cycle cleaner tests. Typical industry factors have been used to take into account the laboratory scale up to full plant size, with a scale up factor of 2.5 used for flotation cell volume and a froth factor of 0.85. The design Cleaner 1, Cleaner 2, Cleaner 3, Cleaner 4, and Cleaner 5 residence times are 25, 20, 20, 20 and 20 minutes respectively, equating to a total cell volume of 230 cu m, arranged as 9, 5, 4, 3, 2 cells of 10 cu m respectively

Each of the flotation banks would be separated by a pinch valve which would be used to control the pulp level/froth depth in the units.

The cells would each have suitable launders to deal with the high mass recoveries that occur in the rougher and cleaner cells. Water sprays would be provided in the launders to assist froth breakdown.

Throughout the flotation circuit concentrate streams would be handled using froth pumps with integral hoppers.

Concentrate Thickening

The final copper-lead, zinc, and barite concentrates from the flotation section would be pumped to individual concentrate thickeners. The filtrate water from the concentrate filters would also be returned to the corresponding thickeners.

15 m diameter high rate thickeners are proposed to be installed for the copper-lead and zinc concentrate thickening duties, with a 30 m diameter high rate thickener installed for the barite concentrate thickening duty.

An auto-dilution system would be provided on the feed-well to increase the settling rate and the facility to add flocculant to the feed-well would be provided. A thickener underflow density of between 55% to 70% solids is expected to be achievable.

The thickener feed would pass through a de-aerator located at the feed-well to minimise froth generation on the thickener and water sprays provided over the surface of the thickener to assist the breakdown of any froth that does occur on the thickener.

A bed level measuring device would be installed to monitor the thickener bed depth. The addition rate of flocculant would be controlled according to the bed depth and the speed of the variable speed thickener underflow pumps controlled to maintain the underflow density set point. A nucleonic density gauge on the underflow pump discharge line would measure the density of the thickened slurry to the concentrate storage tank. Low densities would be alarmed and the operator would be able to open a valve to recycle the underflow back to the thickener feed until the required underflow density is achieved. This recycle facility would also be used during plant maintenance shutdowns.

Flotation Tailings

Slurry from the discharge of the barite scavenger flotation bank would be pumped to a proposed 35m tailing thickener ahead of a tailing filter. Filtered tailing would be transported back to the Rupice mine as feed to a paste-fill plant

Concentrate Filtering & Washing

Thickened copper-lead concentrate is proposed to be filtered, typically in a VPA1530-20 unit or similar, to achieve a moisture content of 8-10%. The expected TML (Transportable Moisture Limit) for a copper-lead concentrate is 11%.

A positive pressure plate and frame filter is proposed for the duty. Filter cake would discharge from the filter via chutes onto a short collection conveyor below. This conveyor would feed the stockpile in the concentrate storage shed

Thickened zinc concentrate is proposed to be filtered, typically in a VPA1530-20 unit or similar, to achieve a moisture content of 8-10%. The expected TML for a zinc concentrate is 11%.

A positive pressure plate and frame filter is proposed for the duty. Filter cake would discharge from the filter via chutes onto a short collection conveyor below which would feed the stockpile in the concentrate storage shed

Thickened barite concentrate is proposed to be filtered , typically in a VPA2050-15 unit or similar, to achieve a moisture content of 8-10%. The expected TML for a barite concentrate is 15%.

A positive pressure plate and frame filter is proposed for the duty. Filter cake would discharge from the filter via chutes onto a short collection conveyor below. This conveyor would feed the stockpile in the concentrate storage shed.

Concentrate Storage

A 300 mm high concrete bund wall would be provided around the sides of the proposed concentrate pads to help prevent loss of product off the pads and ingress of contaminants.

The concentrate pad would accommodate approximately 10 days' production. Under normal circumstances only sufficient concentrate quantities required to meet trucking schedules will be stored on the pad. The pad is required to store concentrate in greater quantities only when delays are experienced in transporting the concentrate from site due to unscheduled events such as road closures.

It is proposed that the trucks will be tared and then loaded by the concentrate handling front-end loader. All weighbridge outputs would also be displayed in the control room and print outs provided identifying the amount loaded on each truck.

Drainage and wash-down from each concentrate pad would be directed to a sump and pumped to the respective concentrate trash removal screen ahead of the concentrate thickener.

Concentrate is proposed to be transported from site on a contract basis by truck to the railhead in Vareš and thence to Ploče in Croatia, the nearest port, for shipping to the smelters.

Reagents

The proposed reagents to be used in the process plant are:

- Quicklime (pH modifier);
- Sulphuric Acid (pH modifier);
- Aerofloat 3418A (Cu-Pb collector);
- Potassium Amyl Xanthate (Zn & Pyrite collector);
- Sodium Meta Bisulphite (Zn depressant);
- Copper Sulphate (Zn activator);
- Zinc Sulphate (Zn depressant);
- Magnafloc 333 (flocculant);
- Aerophine 845 (Barite promoter);
- Sodium Silicate (Grange depressant) and,
- Methyl Iso-butyl carbinol (frother).

The reagents would be procured locally (Europe) and delivered to the site in bulk on an as required basis. Specialist reagents (provisionally Aerophine 3418 and Aerofloat 845) may require shipping in from abroad. The reagents would be stored in the specifically designed reagents storage area.

Where required, batches of powdered reagents would be dissolved into solutions of the required concentration. In general the mixing units are proposed as packaged units with bag/container tipping hoppers, powder metering screw, automatically controlled water mixing line, agitated mixing tank and a second buffer storage tank. Automatically-controlled dosing pumps would be fitted to the buffer storage tanks. In the case of the flocculant there is a proposed third ageing tank between the mixing and buffer storage tanks. Some of the key flotation reagents are stage-added to improve flotation performance.

From the mixing tank the reagents would be pumped across to header tanks located near the main flotation area. The reagents are then distributed and metered to each of the addition points using tundishes and gravity feed lines fitted with flow control valves.

Some proposed reagents could be delivered either as liquid or pre-mixed solutions. In the case of the small quantities of A3418 and A845, this would mean that individual 25litre drums can be fitted with drum-mounted dosing pumps. In the case of the sulphuric acid which is envisaged to be delivered as a 95%-98% solution in 1m^3 IBC's, similarly an IBC-mounted dosing pump can be used without need for a mixing unit.

Separate flocculant mixing units are proposed for the tails thickener, and for the three smaller concentrate thickeners combined. Subject to health and safety review it could be advantageous to situate these adjacent to the relevant thickeners rather than in the main reagent area.

INFRASTRUCTURE REQUIREMENTS

The Rupice and Veovača projects are located approximately 8.7km west-north-west and 3.5km east respectively from the town of Vareš and 35km to the north-north-west of the capital city Sarajevo.

The Rupice deposit is largely a greenfield site located some 1.5km from the nearest small village of Borovica Gornja and no infrastructure currently exists at the proposed mining operations. The site is currently accessed from the main sealed road. Travelling north from Sarajevo on the R444 and then turning west onto the R444a, north of Vareš, toward the site. From the R444a, a secondary sealed road (bi-directional single lane) accesses the village of Borovica Gornja and ultimately the exploration site via an unsealed exploration track in reasonable repair. There are no waterways or channels within close proximity to the project area and all construction material, equipment and consumables will need to be transported via rail or heavy truck and trailer from Vareš, Sarajevo or Ploče port located on the coast of Croatia.

A town of Vareš is electrified by a stepped down supply from the 220 KV main distribution line located in close proximity to the town. A 132 KV overhead distribution line runs in close proximity to the mine site alongside the main sealed R444a. The construction of approximately 2.5km overhead line will be required to connect to the 132 KV line.

Surface and ground-water estimates have indicated that the project will have a negative water balance and the mining and processing water requirements will require augmentation by either a planned well field or supplied mains water supply.

The Veovača deposit is largely a greenfield site that has been mined historically using open pit methods. The deposit is located in close proximity to Dastansko village to the east approximately 250m from the planned pit.

There is currently no mining infrastructure at the Veovača deposit, however, a derelict processing facility is located some 2km south-east of the proposed surface operation. A large administrative building located at the plant site has been successfully repaired and refurbished.

During the future mining of the Veovača deposit, it is proposed that a new dedicated mine haul road will be constructed to the west and east of the valley. The western haul road would be used to haul feed and waste to the processing plant and the waste rock dump areas respectively. The eastern haul road would be used initially for the transport of waste rock for the construction of the southern Tailings Storage Facility (TSF) wall. Following the completion of the southern TSF wall, this road will form the permanent water diversion channel (graded at 1:100 down to the southern TSF wall) that will divert water around the TSF for discharge into the valley downstream of the TSF wall.

The Bosnia and Herzegovina electrical grid forms part of the Continental Europe grid and is currently the largest electrical grid, by connected power, in the world. It is a single phase-locked 50 Hz mains frequency electricity grid that supplies over 400 million customers in 24 countries, including most of the European Union. The transmission system providers operating this grid formed the Union for the Coordination of Transmission of Electricity (UCTE), now part of the European Network of Transmission System Operators for Electricity (ENTSO-E).

The production and distribution of electricity within the Vareš region is provided by the Public Enterprise Electric Utility of Bosnia and Herzegovina (EPBiH). Electricity is generated from a mixture of fossil fuels and renewable energy with installed generating capacities from lignite-fired thermal power plants and hydro power plants.

The existing power distribution network infrastructure consists of a north-south 220KV and 400KV line in close proximity to the town of Vareš. Additional 132 KV network lines, run north-south in close proximity to the Rupice mine site.

At the Rupice mine, it is estimated that a 2.5km HT tower and suspended conductor extension would be required to access the 132KV line for distribution of power to the Rupice site. It is proposed that 132 KV will be stepped down to 35KV and 10 KV for distribution to the transformer yard located at the mine site. The 10KV feeders would be used for distribution to the underground workings, paste-fill plant, main ventilation fans and the workshops. The voltage would be further stepped down to a suitable voltage for the specified motors. Proposed three phase voltage underground would be 420 Volts and single-phase surface 220 to 240 volts. The estimated maximum demand for the underground operation is 6.1 MVA with an expected operating load of 4.7MW. It is proposed that 1 MW emergency generator be installed at the Rupice mine site for the provision of emergency power to main ventilation fans and pumping infrastructure.

At Veovača, the derelict processing facility has historically been connected to the HT electrical network and significant electrical upgrades are not expected. The estimated maximum demand for the processing facility operating at 800ktpa is 6.7MVA and the expected operating load of 4.5MW. The open pit mine services area load is expected to be low and would require a 2.5km medium tension line extended from the processing plant. Electrical demand at the open pit operation is expected to be less than 0.5MVA.

The project water management plan is central to maintaining an appropriate environmental and operational performance for the project. The principle adopted for site water management is to intercept and control water flowing within the operational areas to ensure that it stays within a single water shed area located within the mine operations. This contact water, contained within a single watershed, would report to the proposed water storage facility located at the lowest elevation of the watershed.

At Veovača, the water would be pumped back to the Raw water storage tanks located at the processing facility for use in the process plant and mining operation. The proposed water storage facility will have a capacity of 85,000 m3, approximately 250% of the monthly consumption at a usage of 0.5m3 per tonne processed not considering dead volume.

The average precipitation from Sarajevo data is 78mm per month with the lowest rainfall of 60mm in March. An estimated watershed area of 1.5 km2 would report to the proposed water storage dam, thus using 60mm per month should allow a potential collection of approximately 87,000m3 of rainfall, not allowing for evaporation and groundwater recharge and plant transpiration. Full recharge of the plant consumption would require 40% of precipitation within the watershed to be available at the water storage dam. It is anticipated that the plant make-up water would be approximately 35,000 m3 per month abstracted from the water storage dam contained within the mine boundary. Additional water. when required, would be made up from the adjacent municipal supply. The project water management plan will be developed to ensure minimum impact on the surrounding environment. All surface water within the processing facilities area and mining area would be collected in a channel, if required, or allowed to gravitate to the water storage facility. Excess water will be transferred to the water storage facility to be used within the processing plant. The great majority of uncontaminated surface water would bypass all mine and processing facilities.

At the Rupice mining operation, the peak make-up water requirements have been estimated to be 0.16m3 per tonne mined or 13,300m3 per month. Pumping rates of 22l/s would be required for 20 hrs per day or equates to 450m3/day to satisfy the underground make-up water requirements. This requirement would need to be obtained from nearby streams or a well field. Assuming a single borehole can yield 5 to 20m3/hr, up to 5 bore-holes would be required to augment the groundwater and surface water yields for processing and mining requirements. Dirty water from mining activities would be pumped back to the proposed mine water Raw water storage tanks located at the upper terrace area for recycling to the underground workings and the paste-fill plant. An 800m3 raw water storage tank is anticipated as being constructed at the upper terrace area to supply the paste-fill plant and underground workings with service water. The project water management plan will be developed to ensure minimum impact on the surrounding environment. All surface water within the mine infrastructure area would be collected in a channel, if required, or allowed to gravitate to the water storage facility. The groundwater inflows underground are proposed to be collected in sumps and pumped to be recycled within the mining semi-closed water reticulation circuit. Additional make-up water is available from local streams if required.

Discharge of water from the water storage facility into the environment, outside the watershed area, is not expected as it is estimated that there is a negative water balance.

Figure 9 – Proposed Infrastructure at Veovača

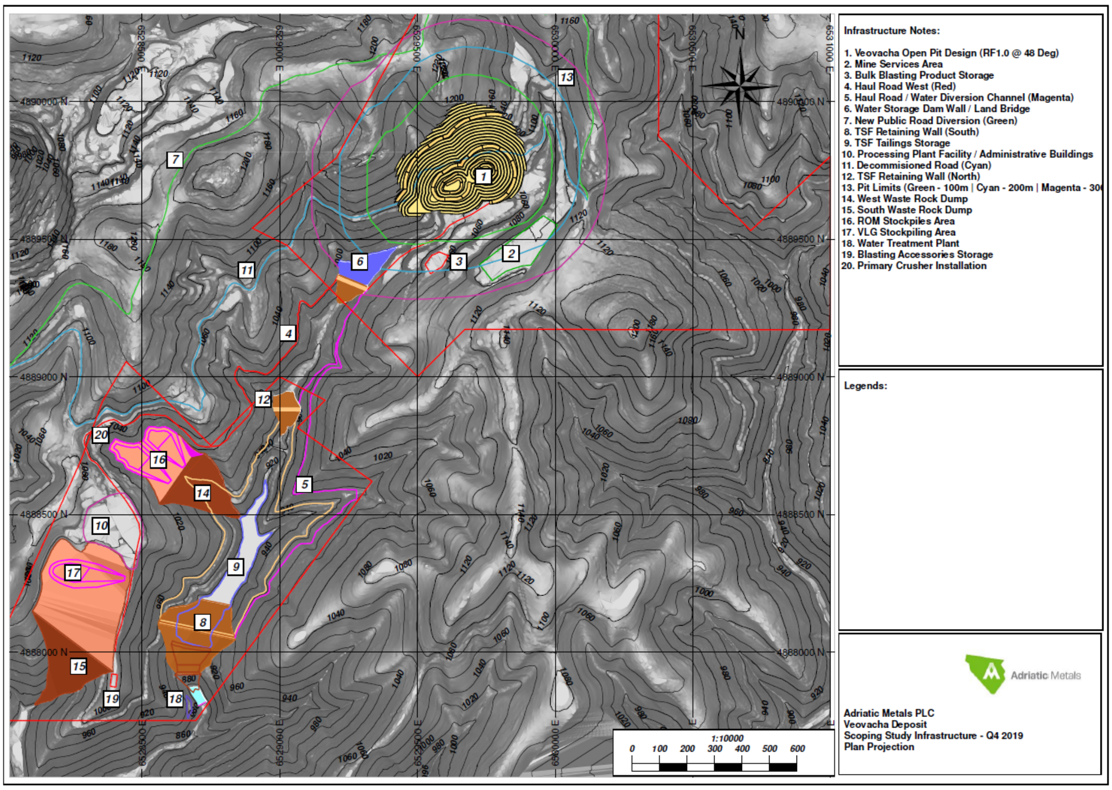
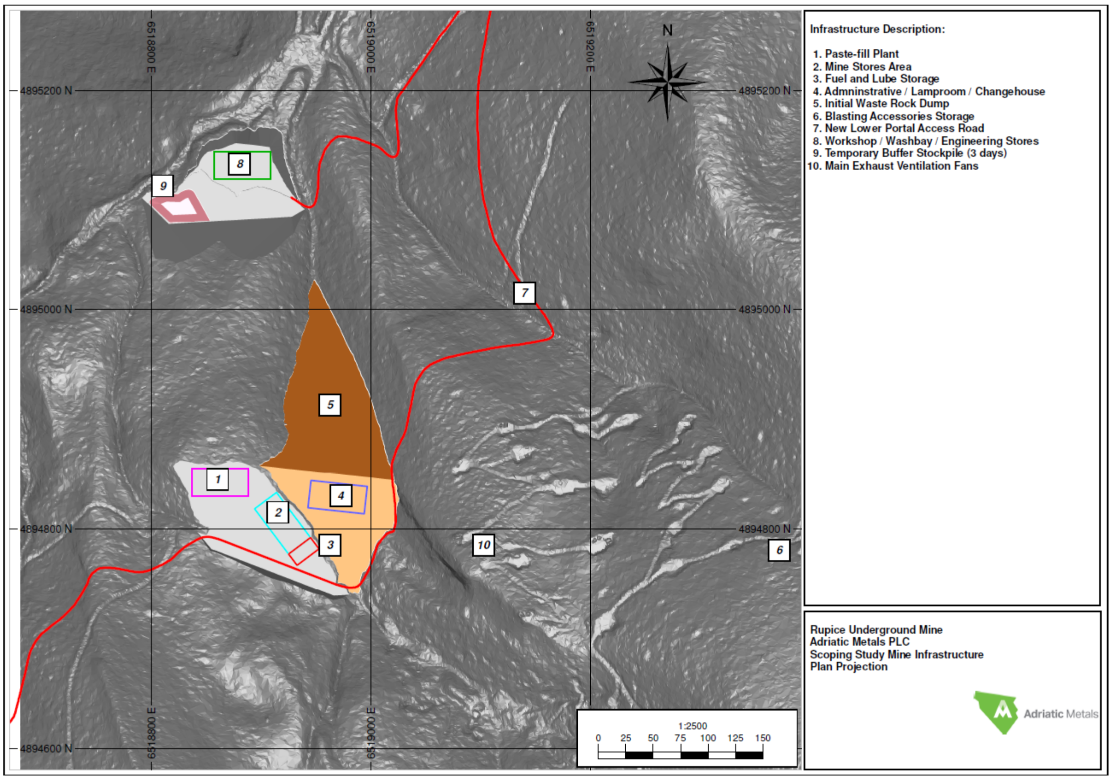


Figure 10 – Proposed Infrastructure at Rupice



Tailings Disposal

The tailings disposal strategy is proposed to be managed in two phases, namely;

1. Phase 1 - Processing of Rupice feed, dewatering and transporting tailings to the paste-fill plant located at Rupice for the purposes of stope void filling; and
2. Phase 2 – following the depletion of the Rupice, Veovača tailings will be pumped to the existing tailings facility located in the valley immediately east of the processing plant.

During phase 1 an emergency tailings storage facility is proposed, with four days storage capacity, approximately 6,100m3, and would be constructed in close proximity to the dewatering circuit to allow for temporary storage should transportation from the processing plant to Rupice not be possible.

Phase 2 tailings deposition is anticipated to require the construction of a small northern TSF wall and a larger southern TSF wall using pre-strip waste rock from the Veovača open pit. The northern wall would require 52,800m3 of compacted waste rock and be lined and equipped with pumping infrastructure to return water back to the process plant from the tailings pond. The southern wall would require 1,056,300m3 of compacted waste rock with crest of the dam at 960mamsl, with 2m free board, allowing for a total deposition capacity of 4.1Mt of tailings at 1.16 SG. This equates to 87% of Veovača processed tonnes – allowing for 13% mass pull of the concentrate products.

Telecommunications in Bosnia and Herzegovina comprises of licensed fixed telecommunication operators with a highly competitive mobile sector covering 99% of the population with a 63.29% penetration rate operating on 4G+ network. BH Telecom being the largest with the greatest coverage.

It is proposed that the mine site will be linked to data and voice telecommunications network via a satellite receiving station or cellular network repeater station. Communications on site will link the public network to the various voice, data and telemetry infrastructure systems within the local mine network using fibre optic cable which will support both data and voice communications. A repeater system will provide the infrastructure to enable hand-held and mobile radio sets to communicate around the site.

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

Transportation

Two main electrified rail lines form the rail network with a standard gauge of 1,435mm in Bosnia and Herzegovina, namely;

1. A west-east line connecting Bilhac in the west to Doboj in the north, and
2. A south-north line (25kV / 50Hz) connecting the Croatian port of Ploče to Doboj.

The south-north line traverses Sarajevo with the Podlugovi – Vareš rail branch for a distance of 24.5km terminating at the historical iron ore loading siding in the town of Vareš.

Product concentrate will be loaded into the 20-foot standard intermodal containers, with a net weight 27.8t and internal volume 33.1m3; they will be hauled via truck to the rail siding in Vareš. An Integrated Tool Handler (ITH) or forklift truck will unload the haul trucks and load the containers onto the flat rail cars for transport to the Port of Ploče in Croatia, approximately 230km, for shipment to the off-taker. Empty containers will be returned to the rail siding at Vareš for loading of the next consignment.

The historical rail siding at Vareš would allow for up to four parallel tracks with approximately 275 m over-run and the formation of a four-rake train comprising of 18 x 14.62m or 1 x 40 ft or 2 x 20 ft intermodal container wagons. This would allow a train consignment capacity of 72 x 62 tonne wagons or approximately 4,500 tonne consignments. At peak concentrate production, a total of 89 consignments would be required for 400kt of concentrate production per annum, approximately 2 consignments per week. Assuming a stack configuration of 5-4-3, 3 rows is accessible for a 45-tonne reach stacker, a stacking area of approximately 600m2 will be required for 72 x 20-foot containers.

Bosnia and Herzegovina have five international road routes and 20 state highways, with bus connections to many countries. The international routes link the countries of Serbia, Croatia and Montenegro and further afield connects with the extensive road network within the European union.

The proposed mine haulage route for the purposes of transporting material from the Rupice mine to the processing facility and the subsequent transport of dewatered tailings back to the proposed route of 28.1 km is comprised of three main areas:

1. 6.8 kms indicate non-existing routes that require construction and approval and will limit traffic to mine vehicles only;
2. 12.1 kms indicate existing public routes of medium impact that may require upgrade and traffic control and state approval for the use of public and mine operated vehicle, and
3. 9.2 kms indicated existing public routes of low impact that will require upgrade and traffic control and state approval for the use of public and mine operated vehicles.

All mine vehicles, other than underground vehicles, will comply with state laws and will be legally allowed to travel on public roads.

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

A vehicle washdown facility will be provided adjacent to the heavy equipment workshop area at the lower terrace near the portal. It will comprise of a bunded concrete slab sloping to a settling sump. Captured rainfall and diesel spillage from the adjacent diesel re-fuelling facility will also be directed to this sump. A sump pump will transfer dirty water to an oil and water separator.

An underground vehicle workshop will be constructed on surface for the maintenance, servicing and overhaul of mechanized mining machinery. The workshop will be equipped with inspection pit, lifting equipment, tools, spares stores, offices, tyre storage and oils, paints and liquid stores. A sump pump will transfer dirty water to an oil and water separator.

The site buildings are classified as either architectural, control rooms or industrial. Architectural buildings include administration offices and ablution facilities. Industrial buildings include workshops, stores and paste-fill plant.

It is planned, as far as possible, that the proposed buildings will be temporary and semi-mobile in nature taking into consideration the life of mine and ease of demobilization once site is required to be rehabilitated.

CONCETRATE MARKETING

Metals

Bluequest Resources AG ("BQR") of Baar, Switzerland were retained by Adriatic Metals to prepare a commercial report focussing on the high value zinc and lead-silver concentrates predicted to be produced from the Rupice deposit at a processing plant at Veovača.

The main focus of their study was on the high-grade concentrates that have been shown to be produced from the Rupice deposit. Seven smelters responded to the copper/lead concentrate data that was sent on a no-name basis. Similarly, eight smelters responded on the zinc concentrate data. The high silver and gold content in both the Cu/Pb and Zn concentrates was of significant interest as was the low iron levels in the concentrates. Of particular interest was that the Chinese smelters would view the Cu/Pb concentrate as a silver concentrate because of the high silver values and this has benefits in that VAT would then not be payable as the silver is exportable as bullion. Another benefit of the Chinese smelter is that the antimony (Sb) becomes another payable metal, in addition to the copper, lead, silver and gold, making this a very high value concentrate.

The exercise of confirming payabilities of the anticipated concentrates will guide our future testwork. The copper in the Cu/Pb concentrate only pays 30% of its value. This is significantly lower than getting 95-96% payability which would be normally possible. Hence future testwork will focus on producing a copper concentrate before the lead and zinc concentrates.

The work done by Bluequest was to calculate the overall value of the anticipated concentrates. To do this all costs of freight, (inland and ocean), insurance and all treatment charges and refining charges were taken into account. Potential penalty elements were also taken into account although these amount to only 5.5% of the value of the paying metals in the zinc concentrate and 0.2% of the value of the paying metals in the copper/lead concentrate. Overall Net Smelter Revenues (NSR) values, taking into account all payables and all deductions and costs, for the Rupice Cu/Pb and Zn concentrates are about USD 2,500/t and USD 950/t respectively.

Applying the same basic factors to the Veovača concentrates gives NSR values for the Pb and Zn concentrates of approximately USD 1400/t and USD 700/t respectively.

Barite

A study of the market potential of barite from the Varešh polymetallic project in Bosnia of Adriatic Metals was prepared in December 2017 by Peter W. Harben Inc. The fundamentals of the sector and the market drivers have not changed significantly, and this was subject to a 2019 update by Ted Dickson of TAK Industrial Mineral Consultancy. Because industrial minerals are marketed differently from metal concentrates and because Adriatic Metals will produce a ready ground product, marketing requires more direct discussions between the company and end users in the oil & gas industry. The grade and high SG (Specific Gravity) of the barite produced from Rupice make it an attractive product for drilling muds and it has passed the current API (American Petroleum Institute) tests in terms of sizing and other specifications. It proved difficult without being able to provide a bulk product for testing to get end-users to give an estimated FOB (Free on Board) price for our barite and estimates of between USD 130/t and USD 180/t have been suggested. A price of USD 155/t has been chosen for the Scoping Study report.

ROYALTIES and TAXATION

Corporate Income tax rates in Bosnia and Herzegovina are 10% and have been accounted for in the Economic section of this release. There are no Royalties payable to the central government, but the Concession Agreement between the Company and Zenica-Doboj Canton allows for KM1.50 (US$ 0.85) per tonne run of mine with a minimum fee of 100,000 tonnes per annum. On a Net Smelter return basis, this Royalty is equivalent to 0.2%.

CAPITAL EXPENDITURES

Rupice

Capital costs for mining have been calculated from international benchmarked rates for mobilization of equipment and construction on a Mine Services Area (MSA) that includes heavy equipment workshops, store and administrative structures. The mining capital is separated into surface and underground infrastructure.

Underground mining at Rupice is assumed as an owner operator underground operation. Mining equipment owning costs are included as a leased cost at 5% over 60 months and is including in the operational cost model. Initial development of the twin barrel decline and establishment of the Return Air Way (RAW) system is costed in the operational cost model, however, raise-boring of the 5.5m diameter main exhaust shaft and the establishment and support of the portal area has been included in the mining infrastructure capital estimate.

Rupice surface mining infrastructure capital costs used in the financial model are summarised in below.

Table 17 - Mining surface infrastructure capital costs at Rupice

Surface Infrastructure Capital	Units	2021	2022	Total (US$m)
On site Infrastructure				
Main Admin Building	US$M	0.1	0.1	0.1
Additional Offices Building	US$M	0.1	0.1	0.3
Parking	US$M	0.0	0.0	0.0
Potable and Process water and Sewage Treatment	US$M	0.1	0.1	0.3
Surface Fuel Storage-Dry Line	US$M	0.1	0.1	0.3
C - Backfill Fill Plant	US$M	7.3	7.3	14.5
Portal Construction - Cut	US$M	0.2	0.2	0.3
Portal Construction - Support	US$M	0.3	0.3	0.6
Portal Construction - Fill and compact	US$M	0.1	0.1	0.2
RAR MAIN to Surface - Civils	US$M	0.1	0.1	0.1
Surface Fresh Air Fan	US$M	0.4	0.4	0.8
Main Pump Station	US$M	0.1	0.1	0.2
Workshop	US$M	0.8	0.8	1.5
Overhead lines 35Kv	US$M	0.3	0.3	0.6
Power Distribution 35Kv - 10kv (8000KVA)	US$M	0.3	0.3	0.5
Potable Water	US$M	0.0	0.0	0.0
Fire Water and Raw Water Storage & Pumphouse	US$M	0.1	0.1	0.3
Mechanical and Electrical Maintenance Shop	US$M	0.1	0.1	0.1
Security Gate House	US$M	0.1	0.1	0.2
Permanent Oil/Fuel Area	US$M	0.0	0.0	0.1
Surface Warehouse (Modular)	US$M	0.2	0.2	0.4
Compressors	US$M	0.3	0.3	0.6
Emergency Power (1MVA)	US$M	0.3	0.3	0.6
General Site Electric	US$M	0.4	0.4	0.7
Surface - Engineering	US$M	0.2	0.2	0.4

Surface Site Utilities	US$M	0.5	0.5	0.9
Construction Camp	US$M	0.1	0.1	0.2
Surface Roads				
New Surface Roads	US$M	1.0	1.0	1.9
Upgraded Surface Roads	US$M	0.7	0.7	1.3
Existing Roads	US$M	0.4	0.4	0.9
Rail Siding				
Concrete Pad	US$M	0.4	0.4	0.8
45t Reach Stacker	US$M	0.3	0.3	0.5
Weighbridge	US$M	0.0	0.0	0.1
Control Room Office	US$M	0.0	0.0	0.1
Mobile Crane (80t) - 20-foot Container Spreader Frame	US$M	0.2	0.2	0.5
Tailings Storage Facility (TSF)				
Temporary Tailings Facility - Excavate Compact	US$M	0.0	0.0	0.1
Lining of Facility	US$M	0.1	0.1	0.2
Pump - Mechanical and Electrical	US$M	0.1	0.1	0.2
Reslurry Chamber	US$M	0.0	0.0	0.1
Administration				
Office Furnishings	US$M	0.0	0.0	0.1
Accounting Software & Implementation	US$M	0.1	0.1	0.1
Other Specialised Software	US$M	0.1	0.1	0.1
Travel/Accommodations Contractors	US$M	0.0	0.0	0.0
Computing and Software	US$M	0.1	0.1	0.3
Freight, Mobilisation / De-mobilisation	US$M	1.6	1.6	3.2
Subtotal	**US$M**	**17.5**	**17.5**	**34.9**
Contingency (30%)	US$M	5.24	5.24	10.47
Total Infrastructure CAPEX	**US$M**	**22.7**	**22.7**	**45.4**

Table 18 summarises the mining underground infrastructure capital cost used in the financial model.

Table 18 - Mining Underground Infrastructure Capital Cost at Rupice, US$m

Underground Infrastructure Capital	Units	2021	2022	Total (US$m)
Compressed Air Line Distribution	US$M	0.2	0.2	0.3
Paste-fill line Distribution	US$M	0.1	0.1	0.1
Process water/Potable Water	US$M	0.0	0.0	0.1
Main Dewatering Station	US$M	0.0	0.0	0.0
Pumping Stations	US$M	0.3	0.3	0.5
Vent Doors	US$M	0.0	0.0	0.1
Vent Regulators	US$M	0.1	0.1	0.1
Auxiliary Ventilation	US$M	0.1	0.1	0.1
Raising (FAR, RAR, OP, WP)	US$M	0.5	0.5	1.0
RAR Fan Station	US$M	0.2	0.2	0.4
Power Distribution	US$M	0.0	0.0	0.0
750MVA Portable Sub	US$M	0.7	0.7	1.4
Feed and Waste Handling	US$M	0.2	0.2	0.3
Central Blasting	US$M	0.4	0.4	0.8
Leaky Feeder	US$M	0.9	0.9	1.8
Cap Lamps	US$M	0.0	0.0	0.0
GDI's	US$M	0.0	0.0	0.0
Electrical - Underground	US$M	2.8	2.8	5.5
Phones Typical Level	US$M	0.1	0.1	0.3
Video on level	US$M	0.0	0.0	0.1
Leaky Feeder	US$M	0.0	0.0	0.1
Explosives Magazine	US$M	0.1	0.1	0.2
Accessories Magazine	US$M	0.0	0.0	0.1

Dewatering Sumps and Line	US$M	0.3	0.3	0.5
48 Person Refuge Station	US$M	0.8	0.8	1.5
Satellite Garage	US$M	0.4	0.4	0.8
Comfort Stations	US$M	0.0	0.0	0.1
Level Sump	US$M	0.0	0.0	0.1
Freight, Mobilisation / De-mobilisation	US$M	0.6	0.6	1.3
Subtotal	**US$M**	**8.7**	**8.7**	**17.4**
Contingency (30%)	US$M	2.6	2.6	5.2
Total Infrastructure CAPEX	**US$M**	**11.3**	**11.3**	**22.7**

Veovača

Open pit mining at Veovača is assumed as a mining contractor open pit operation. Mining equipment owning costs are included as a leased cost at 5% over 60 months and is including in the operational cost model.

Mining infrastructure capital costs used in the financial model are summarised in Table 19 below.

Table 19 - Mining Infrastructure capital costs at Veovača

Open Pit Infrastructure Capital	Units	2030	2031	Total (US$m)
Construction Equipment Mobilisation	US$M	0.0	0.0	0.0
Workshop	US$M	0.6	0.6	1.3
Offices	US$M	0.0	0.0	0.0
ICT (Communications)	US$M	0.3	0.3	0.5
Water Purification and Wells	US$M	0.0	0.0	0.0
Power Connection	US$M	0.0	0.0	0.0
Ablutions	US$M	0.1	0.1	0.2
Wash-down	US$M	0.1	0.1	0.3
Store	US$M	0.1	0.1	0.2
Lube Storage Facilities	US$M	0.1	0.1	0.2
Explosives Storage	US$M	0.4	0.4	0.8
Crib and safety training	US$M	0.1	0.1	0.3
Senior Staff Accommodation	US$M	0.0	0.0	0.0
Staff Accommodation	US$M	0.0	0.0	0.0
Security	US$M	0.1	0.1	0.1
Road Construction	US$M	0.3	0.3	0.5
First Fill Consumables	US$M	1.3	1.3	2.7
Construction Equipment Demobilisation	US$M	0.1	0.1	0.1
Freight, Mobilisation / De-mobilisation	US$M	0.3	0.3	0.6
Subtotal	**US$M**	**3.8**	**3.8**	**7.6**
Contingency (30%)	US$M	1.1	1.1	2.3
Total Infrastructure CAPEX	**US$M**	**4.9**	**4.9**	**9.8**

Processing

The hydrometallurgical processing capital costs have been derived for equipment, construction and engineering management for the concentrator plant from scoping study work undertaken by Wardell Armstrong under the guidance of Holland and Holland Consultants. Plant capital costs have been adjusted for expected high mass-pull concentrate conditions during the initial high-grade underground feed from the Rupice underground mine. The capital costs for the processing plant are summarised in Table 20

Table 20 - Processing Plant Capital Estimate

Processing Plant Capital	Units	Total (US$m)
Equipment Cost - Supply	US$M	18.50
Equipment Cost – Install and Commission	US$M	7.95
Piping	US$M	5.29
Installation	US$M	3.97
Buildings and Site Development	US$M	15.87
Auxiliaries	US$M	3.97
Outside Lines	US$M	2.65
Subtotal	**US$M**	**58.19**
Engineering, Procurement and Management	US$M	8.73
Contingency (30%)	US$M	17.46
Total Infrastructure CAPEX	**US$M**	**84.37**

Other Capital Costs

The following capital ratios have been applied in the capital estimate for the allowance of EPCM and owners' fees:

- 2.5% Capital allowance for Owners Costs
- 15% capital fee for Engineering Procurement and Construction Management (EPCM) for the processing plant
- 12.5% capital fee for Engineering Procurement and Construction Management (EPCM) for the mining infrastructure
- 30% Contingency for estimation inaccuracy and miscellaneous items

Rehabilitation and Closure

No provision for the rehabilitation and closure of the mine has been allowed in the capital cost estimate. An environmental provision of US$1.50/tonne amounting to some US$17.9m over the LOM is allowed in the operational cost. It is recommended that where appropriate structures are procured that are of the mobile / temporary nature to ensure cost effective and rapid demobilisation of surface site infrastructure is possible.

OPERATING EXPENDITURES

The operating costs were estimated from zero base activity-based model and calculated per period based on the mine production schedule for both the open pit and underground operation. Costs presented are real US Dollar denominated and any cost components presented in local currency (BAM) were converted to real US Dollar terms at the exchange rate of BAM 1.75 to 1 US$. Operational costs are presented in the following main categories:

Mining Operational Cost

The open pit and underground operational cost models are both developed as zero base activity based operational cost models.

The open pit mining operational cost model assumes mining contractor scenario with a 10% mark-up.

The underground mine operating cost model assumes an owner operator underground model with mining equipment leasing approach (5% interest 60 months repayment schedule). The activity-based model considers the following major mining activities;

- Trackless development and mucking activities;
- Long-hole stoping with mechanised mucking and hauling;
- Cementitious backfilling of stopes;
- Short-hole stoping with mechanised mucking and hauling;
- Logistics; and,
- Pumping and mine services.

Schedule quantities from the mine plan and scheduling were used to calculate operating cost cashflows on a per period basis. In addition to the variable unit rates and quantities a fixed cost allowance has been provisioned in the mining operational costs.

Table 21 and Table 22 and below summarise the mining operational costs used in the financial model.

Table 21 - Mining operational cost summary for the Rupice Underground Mine

	Units	Steady State - Phase 1 - 2023 – 2027 Note1	Steady State - Phase 2 - 2028 – 2030 Note2	LOM Average
LH Drilling	US$m	10.90	4.73	17.54
SH Drilling	US$m	21.36	6.44	35.17
Blasting	US$m	11.66	5.41	20.70
Primary Loading	US$m	14.45	4.66	22.32
Secondary Loading	US$m	0.00	0.00	0.00
Hauling	US$m	26.52	9.94	42.58
Support	US$m	14.10	5.55	24.39
Ground Handling	US$m	0.00	0.00	0.00
Logistics	US$m	21.52	10.60	40.70
Maintenance	US$m	6.87	3.18	11.88
Construction & Roadways	US$m	0.00	0.00	0.00
Re-development	US$m	0.00	0.00	0.00
Waste Disposal	US$m	27.10	13.61	44.38
Pumping	US$m	1.20	0.70	2.20
Mine Services	US$m	14.65	8.84	27.59
Contractor Margin	US$m	0.00	0.00	0.00
Total Mining Cost	**US$m**	**170.31**	**73.66**	**289.44**
LH Drilling	US$/t milled	2.75	1.99	2.45
SH Drilling	US$/t milled	5.40	2.71	4.92
Blasting	US$/t milled	2.95	2.28	2.89
Primary Loading	US$/t milled	3.65	1.96	3.12
Secondary Loading	US$/t milled	0.00	0.00	0.00
Hauling	US$/t milled	6.70	4.18	5.95

Support	US$/t milled	3.56	2.34	3.41
Ground Handling	US$/t milled	0.00	0.00	0.00
Logistics	US$/t milled	5.44	4.46	5.69
Maintenance	US$/t milled	1.74	1.34	1.66
Construction & Roadways	US$/t milled	0.00	0.00	0.00
Re-development	US$/t milled	0.00	0.00	0.00
Waste Disposal	US$/t milled	6.85	5.73	6.20
Pumping	US$/t milled	0.30	0.29	0.31
Mine Services	US$/t milled	3.70	3.72	3.86
Contractor Margin	US$/t milled	0.00	0.00	0.00
Total Mining Unit Cost	**US$/t milled**	**43.03**	**31.00**	**40.46**

Notes:

- Steady State production accompanied by increased waste development for feed access.
- Steady State production accompanied by decreased / minimal waste development.

Table 22 - Mining operational cost summary for the Veovača Open Pit Mine

	Units	Steady State - Phase 1 - 2032 – 2034 Note1	Steady State - Phase 2 - 2035 – 2038 Note2	LOM Average
Load	US$m	2.97	1.63	4.93
Haul	US$m	11.14	10.88	23.27
Primary Support	US$m	3.32	3.04	7.55
Drilling	US$m	6.54	0.00	7.27
Blast	US$m	1.79	0.64	2.64
Ancillary Equipment	US$m	4.96	4.54	11.29
Dump Management	US$m	2.29	2.10	5.22
ROM Pad Re-handle	US$m	0.11	0.10	0.24
Engineering (Workshops)	US$m	2.06	0.00	2.82
Infrastructure	US$m	0.00	0.00	0.00
Road Maintenance	US$m	0.00	0.00	0.00
Indirect Expenses	US$m	1.58	0.00	2.17
Contractor Margin	US$m	3.68	2.29	6.74
Total Mining Cost	**US$m**	**40.43**	**25.23**	**74.15**
Load	US$/t milled	1.27	0.75	1.04
Haul	US$/t milled	4.75	5.02	4.89
Primary Support	US$/t milled	1.41	1.40	1.59
Drilling	US$/t milled	2.79	0.00	1.53
Blast	US$/t milled	0.76	0.29	0.56
Ancillary Equipment	US$/t milled	2.11	2.10	2.38
Dump Management	US$/t milled	0.98	0.97	1.10

ROM Pad Re-handle	US$/t milled	0.05	0.05	0.05
Engineering (Workshops)	US$/t milled	0.88	0.00	0.59
Infrastructure	US$/t milled	0.00	0.00	0.00
Road Maintenance	US$/t milled	0.00	0.00	0.00
Indirect Expenses	US$/t milled	0.67	0.00	0.46
Contractor Margin	US$/t milled	1.57	1.06	1.42
Total Mining Unit Cost	**US$/t milled**	**17.23**	**11.63**	**15.60**
Total Mining Unit Cost	**US$/t mined**	**3.53**	**7.19**	**4.54**

Notes:

- Steady State production accompanied by increased waste stripping (above 3:1) for feed access.
- Steady State production accompanied by decreased / minimal waste development (approx. 1:1).

On-mine Costs

The on-mine costs for the Rupice and Veovača Deposits site were estimated from first principles based on estimated local labour rates and includes provision for stores and equipment. On-mine costs are calculated for the indirect equipment, stores and ancillary items. Indirect labour is included in the mining operational costs for both the Rupice and Veovača mining operations.

Ancillary cost items are summarised in Table 23 below:

Table 23 - Indirect Labour Number and Costs

Ancillary On-mine Costs	Peak Monthly Cost (US$/mth)	LOM Average Monthly Cost (US$/mth)
Management & Corporate	1,150	1,139
Accommodation Note 2	500	495
Office Costs	5,750	5,693
Computers & IT Services	8,924	6,711
Travel Expenses	3,571	3,536
Miscellaneous Note 1	168,960	7,191
Health and Safety	7,660	2,526
Change house and Lamp room	13,730	-
Mining Contractor	-	-
Total Indirect Labour Cost per Month	**210,245**	**27,291**
Total Indirect Labour Cost per Tonne	**3.19**	**0.41**

Notes:

- Miscellaneous costs include maintenance and spares estimate for the paste-fill plant.
- No allowance is made for accommodation and feeding scheme for any level of employee as employees will be sourced from local labour supply.

Processing Operational Costs

The hydrometallurgical processing operating costs have been derived from metallurgical test-work and scoping study work undertaken by Wardell Armstrong under the guidance of Holland and Holland Consultants. Operating costs are adjusted for local energy, reagent and labour costs and are summarised in Table 24

Table 24 - Processing Cost Estimates for Rupice and Veovača Ores

Processing Costs	Units	Rupice Feed	Veovača Feed
Labour	US$/tonne milled	2.73	2.73
Power	US$/tonne milled	3.22	3.22
Wear Parts	US$/tonne milled	2.71	2.71
Maintenance and Spares	US$/tonne milled	1.16	1.16
Reagents	US$/tonne milled	10.94	4.04
Assaying	US$/tonne milled	0.25	0.25
Total Fixed Cost	**US$/tonne milled**	**21.01**	**14.11**

Off-mine Costs

Off-mine costs comprises of additional cost for transport of Rupice feed to the Veovača processing facility. A specialist transportation contractor is assumed to fulfil the transport requirements and a unit rates of US$0.15/t/km is based on a benchmarked contractor rate. A total unit rate of US$ 4.20 / tonne is applied as an off-mine cost for the 28km route (single way) from the Rupice mine to the Veovača processing facility, equating to a total LOM off-mine cost of US$30m. The transportation of intermodal containers containing product concentrate has been calculated at a unit rate of US$ 0.92 / tonne dry concentrate (unit rates of US$0.15/t/km) based on a 6.6km route (single way) from the Veovača processing facility to the rail siding in Vareš , equating to a total LOM off-mine cost of US$3.5m.

Sustaining Capital Costs

A 2.5 % and 4.0% sustaining capital provision has been applied to the processing and mining operational cost for the Rupice deposit. The open pit mining operation proposed at the Veovača deposit will be undertaken using a mining contractor and no mining sustaining costs have been allowed once Veovača is in full production. The sustaining capital provision for the total LOM equates to US$17m.

Environmental Provision

An environmental provision of US$1.50/ tonne feed has been applied for the purpose of site rehabilitation following the end of the life of mine. The environmental provision for the total LOM equates to US$18m.

Deductions from Concentrate Sales

Deductions from the sales of the Zinc, Lead and Barite concentrates, Table 25, include the concentrate transport and treatment charges. Refining charges for precious metals and deleterious element penalty charges are levied for deleterious elements contained within the Zinc and Lead concentrates based on their concentration. The Barite concentrate attracts a transportation charge of US$ 12.5/ tonne conc (dry) FOB to the Port of Ploče in Croatia.

Table 25 - Concentrate Deductions Costs

Concentrate Deductions	LOM Total (US$m)	US$/tonne conc (dry)	US$/tonne feed milled
Zinc Concentrate	**279.5**	**362.0**	**23.5**
Transport Charge	57.3	74.3	4.8
Treatment Charge	177.6	230.0	14.9
PM Refining Charge	0.0	0.0	0.0
Deleterious Penalty Charge	44.6	57.8	3.7
Lead Concentrate	**110.2**	**188.6**	**9.3**
Transport Charge	55.3	94.6	4.6
Treatment Charge	49.7	85.0	4.2
PM Refining Charge	1.1	1.9	0.1
Deleterious Penalty Charge	4.1	7.1	0.3
Barite Concentrate	**30.4**	**12.5**	**2.6**
Transport Charge	30.4	12.5	2.6
Treatment Charge	0.0	0.0	0.0
PM Refining Charge	0.0	0.0	0.0
Deleterious Penalty Charge	0.0	0.0	0.0
Total Deductions on Concentrate	**420.1**	**110.8**	**35.3**

Operating Cost Summary

A summary of the total operating cost is presented in Table 26.

Table 26 - Operating Cost Summary including Deductions

Summary Operating Cost	Units	2023 – 2027 Note 1	2028 – 2031 Note 2	2032 – 2034 Note 3	2035 – 2038 Note 4	LOM
Mining OP	US$m	0.0	8.5	40.4	25.2	74.2
Mining UG	US$m	170.3	88.1	0.0	0.0	289.4
Processing	US$m	83.2	65.0	33.2	30.7	217.8
On-mine	US$m	12.6	9.2	1.0	0.9	24.8
Off-mine	US$m	18.2	13.4	0.3	0.2	33.6
Sustaining Capital	US$m	8.9	5.1	0.8	0.8	17.0
Environmental Provision	US$m	5.9	4.8	3.5	3.3	17.9

Summary Operating Cost	Units	2023 – 2027 Note 1	2028 – 2031 Note 2	2032 – 2034 Note 3	2035 – 2038 Note 4	LOM
Sub-total Operating Cost	US$m	299.2	194.0	79.3	61.0	674.6
Deductions	US$m	222.3	108.2	40.5	29.0	420.1
Total OPEX (US$m)	**US$m**	**521.5**	**302.3**	**119.8**	**90.0**	**1,094.8**
Mining OP	US$/tmilled	0.0	2.7	17.2	11.6	6.2
Mining UG	US$/tmilled	43.0	27.8	0.0	0.0	24.3
Processing	US$/tmilled	21.0	20.5	14.2	14.1	18.3
On-mine	US$/tmilled	3.2	2.9	0.4	0.4	2.1
Off-mine	US$/tmilled	4.6	4.2	0.1	0.1	2.8
Sustaining Capital	US$/tmilled	2.2	1.6	0.4	0.4	1.4
Environmental Provision	US$/tmilled	1.5	1.5	1.5	1.5	1.5
Sub-Total Operating Cost	**US$/tmilled**	**75.6**	**61.2**	**33.8**	**28.1**	**56.7**
Deductions	US$/tmilled	56.2	34.2	17.3	13.4	35.3
Total OPEX (US$/tmilled)	**US$/tmilled**	**131.8**	**95.4**	**51.1**	**41.5**	**91.9**

Notes:

1. Production period representing steady state underground production with increased development requirements.
2. Production period representing steady state underground production with decreased development requirements.
3. Production period representing steady state open-pit production with increased waste stripping requirements.
4. Production period representing steady state open-pit production with minimal waste stripping requirements.

PROJECT ECONOMICS

A standard Discounted Cashflow (DCF) method of financial valuation is used to value the Veovača and Rupice Projects. The DCF model is reported at 100% attributable equity. Key inputs to the financial valuation such as the ROM production profile, operating costs and capital costs have been described in detail in the preceding sections of this report.

The DCF model has utilised US$ as the base currency as the majority of capital and operating cost estimates are based in US$. Where stated (specifically in the output and reporting numbers) a Rate of Exchange (ROE) of 1.75 BAM to 1 USD has been used for currency conversion.

Corporate tax rates in Bosnia & Herzegovina and are 10% payable on positive cashflows from operations. A five-year straight-Line Depreciation (SLN) method of redeeming capital expenditure has been used to amortise the capital cashflows.

Cashflows are discounted at 8% to obtain a Net Present Value of the Project.

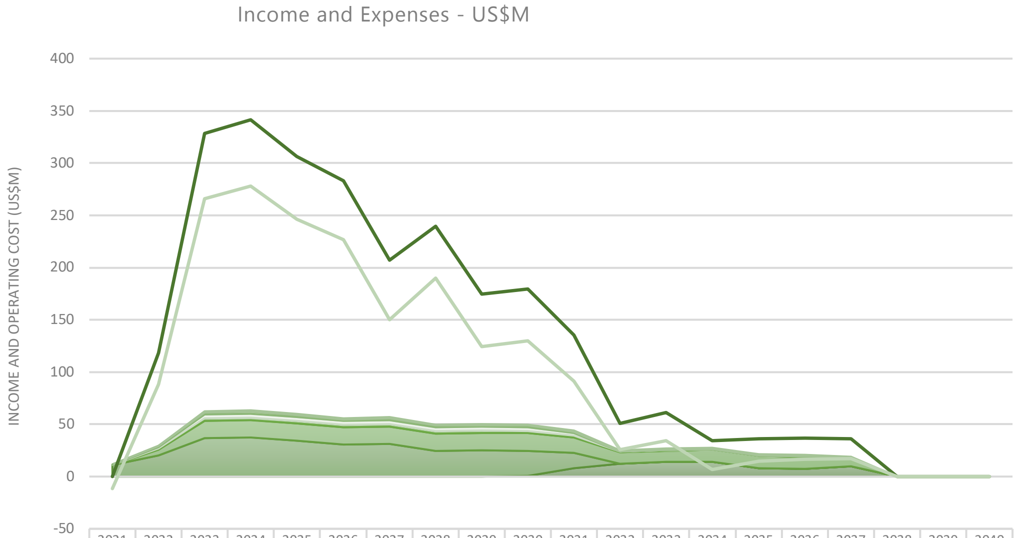
Key post tax financial outcomes are presented in the following tables:

Table 27 - Summary of Economic Results

Post Tax Results	Units	Combined Projects
NPV @ 0%	US$M	1,534.8
NPV @ 5%	US$M	1,102.1
NPV @ 10%	US$M	814.8
NPV @ 8%	**US$M**	**916.6**

Post Tax Results	Units	Combined Projects
IRR	%	107.4%
Payback (Project Start)	Months	21
Payback (Processing Start)	Months	8
Return on Capital Employed (Pre-Tax)	Multiple	10.3x

The operating expenditure and income form concentrate product stream for the combined products is presented in Figure 11.



	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Environmental Provision	0.00	0.40	1.19	1.18	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.17	1.16	1.19	1.20	1.20	0.85	0.00	0.00	0.00
Sustaining Costs	0.44	0.95	1.88	1.92	1.79	1.63	1.67	1.40	1.41	1.39	0.95	0.28	0.27	0.28	0.28	0.28	0.20	0.00	0.00	0.00
Off-mine Costs	0.00	1.37	3.59	3.67	3.67	3.67	3.64	3.68	3.57	3.56	2.55	0.12	0.14	0.08	0.08	0.08	0.08	0.00	0.00	0.00
On-mine Costs	0.11	1.03	2.47	2.51	2.52	2.53	2.56	2.53	2.51	2.34	1.83	0.34	0.36	0.36	0.36	0.36	0.25	0.00	0.00	0.00
Concentrator Plant	0.00	5.74	16.73	16.60	16.64	16.62	16.64	16.68	16.64	16.64	15.01	11.08	10.94	11.19	11.28	11.28	8.09	0.00	0.00	0.00
Underground Operation	10.98	20.04	36.66	37.58	34.41	30.37	31.30	24.46	24.94	24.27	14.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Open Pit Operation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	7.95	12.34	13.81	14.28	8.20	7.34	9.69	0.00	0.00	0.00
Total Income after Deductions	0.0	118.0	328.6	341.5	306.5	283.0	207.3	239.8	174.5	179.6	135.3	50.9	61.1	34.4	36.2	36.9	36.3	0.0	0.0	0.0
EBITDA	-11.5	88.5	266.1	278.0	246.3	227.0	150.3	189.9	124.2	129.7	91.4	25.6	34.4	7.0	14.8	16.4	17.1	0.0	0.0	0.0

Figure 11 - Combined Operating Expenditure and Income

Key mining metrics are presented in the following tables:

Table 28 - Key Mining Overview and Metrics

Mining Metrics	Units	Combined Projects	Veovača OP	Rupice UG
Total Feed Production	ktonnes	11,908	4,754	7,154
Total Waste Production	ktonnes	13,189	11,595	1,594
Total Mined	ktonnes	25,097	16,349	8,748
Metal Mined				
Zn	tonnes	495,004	71,121	423,882
Pb	tonnes	314,766	43,627	271,139

Mining Metrics	Units	Combined Projects	Veovača OP	Rupice UG
Cu	tonnes	47,709	3,139	44,570
BaSO4	tonnes	3,189,564	663,715	2,525,849
Au	koz	472	13	459
Ag	koz	55,051	6,960	48,090
Sb	tonnes	20,954	4,629	16,325
As	tonnes	6,934	1,343	5,591
Hg	tonnes	1,729	768	961
Average Head Grades				
Zn	%	4.2%	1.5%	5.9%
Pb	%	2.6%	0.9%	3.8%
Cu	%	0.4%	0.1%	0.6%
BaSO4	%	26.8%	14.0%	35.3%
Au	g/t	1.23	0.08	2.00
Ag	g/t	143.79	45.54	209.07
Sb	%	0.18%	0.10%	0.23%
As	%	0.06%	0.03%	0.08%
Hg	%	0.01%	0.02%	0.01%
Mine Life				
Ramp-up	Months	9	8	10
Years at Steady State	Yrs	14.6	5.8	8.8
Average Production Rate	ktpm	66	66	66

Key processing metrics are presented in the following table:

Table 29 - Key Processing Overview and Metrics

Processing Metrics	Units	Zn Conc	Cu+Pb Conc	Ba Conc
Average Conc Grade	%	54.3%	47.4%	92.6%
Total Conc Production	ktonnes	772	584	2,436
Mass Pull	%	6.5%	4.9%	20.5%
Metallurgical Recovery				
Zn	%	85.4%	13.1%	0.9%
Pb	%	3.3%	88.8%	2.1%
Cu	%	6.2%	80.8%	2.1%
BaSO4	%	0.6%	0.5%	71.6%
Au	%	21.7%	37.3%	7.8%
Ag	%	12.2%	75.1%	1.5%
Sb	%	4.4%	90.5%	0.9%
As	%	3.2%	62.0%	4.4%

Processing Metrics	Units	Zn Conc	Cu+Pb Conc	Ba Conc
Hg	%	62.0%	33.3%	0.9%
Payability Terms				
Zn	%	84.8%	0.0%	0.0%
Pb	%	0.0%	93.7%	0.0%
Cu	%	0.0%	30.0%	0.0%
BaSO4	%	0.0%	0.0%	100.0%
Au	%	64.9%	89.3%	0.0%
Ag	%	62.4%	95.0%	0.0%
Sb	%	0.0%	78.0%	0.0%
As	%	0.0%	0.0%	0.0%
Hg	%	0.0%	0.0%	0.0%
Payable Metal				
Zn	tonnes	355,284	0	0
Pb	tonnes	0	259,582	0
Cu	tonnes	0	11,523	0
BaSO4	tonnes	0	0	2,254,235
Au	koz	66	157	0
Ag	koz	4,170	38,962	0
Sb	tonnes	0	14,581	0
As	tonnes	0	0	0
Hg	tonnes	0	0	0

LOM operational and capital expenditure metrics are presented in the following table:

Table 30 - Summary of LOM Operating and Capital Costs

Post Tax Results	Units	Combined Projects
Operating Costs	**US$/tonne milled**	**56.65**
OP Mining Note 1	US$/tonne milled	15.60
UG Mining Note 1	US$/tonne milled	40.46
Concentrator Plant	US$/tonne milled	18.29
On-mine	US$/tonne milled	2.10
Off-mine	US$/tonne milled	2.82
Sustaining CAPEX	US$/tonne milled	1.43
Environmental Provision	US$/tonne milled	1.50
LOM Capital	**US$m**	**178.4**
Open Pit Mining	US$m	7.6
Underground Mining	US$m	52.3
Processing Plant	US$m	58.2

Post Tax Results	Units	Combined Projects
EPCM Fees	US$m	16.2
HO Fees	US$m	3.0
Contingency	US$m	41.2

Notes:

- Total operating costs for LOM are reported from a weighted average calculation of the open pit mining at Veovača and underground mining at Rupice deposits.

Elemental contribution to income from concentrate sales are presented in the following table:

Table 31 - Elemental Contribution to Income

Contribution	Total	Zn Conc	Pb Conc	Ba Conc
Zn	30.3%	84%	0%	0%
Pb	17.7%	0%	33%	0%
Cu	2.6%	0%	5%	0%
BaSO4	10.0%	0%	0%	100%
Au	11.0%	9%	14%	0%
Ag	25.3%	7%	42%	0%
Sb	3.2%	0%	6%	0%
Total	**100.0%**	**36%**	**54%**	**10%**

SENSITIVITIES

A number of standard financial sensitivities are listed in the tabulation below.

Table 32 - Financial Sensitivity Results

Key Driver	Sensitivities	After-Tax IRR%	After-Tax NPV8% (US$m)
CAPEX	-50%	183.3%	987.8
	Base Case	107.4%	916.6
	+50%	75.6%	845.4
OPEX	-50%	124.3%	1,088.1
	Base Case	107.4%	916.6
	+50%	91.4%	745.1
Metal Prices (all elements)	-50%	25.6%	97.8
	Base Case	107.4%	916.6
	+50%	174.6%	1,733.3

Figure 12- Standard Financial Sensitivity (NPV)

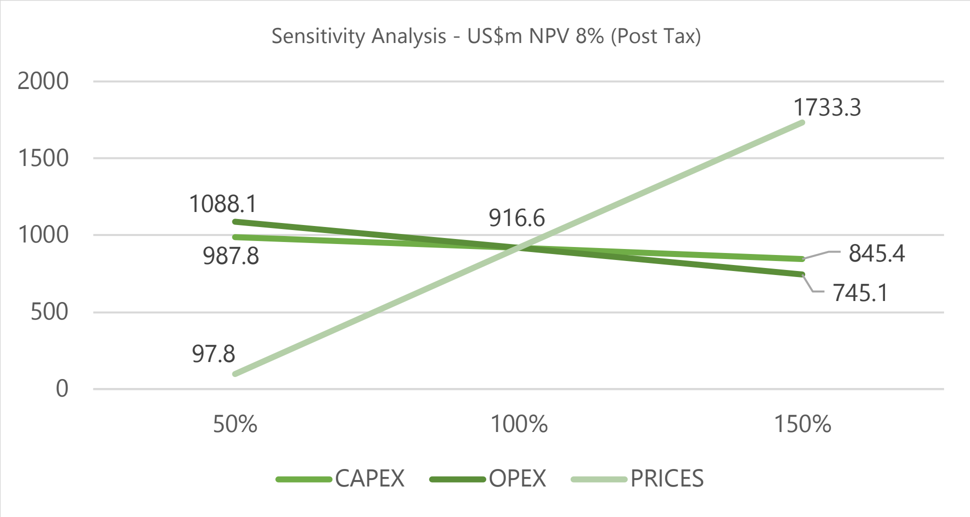
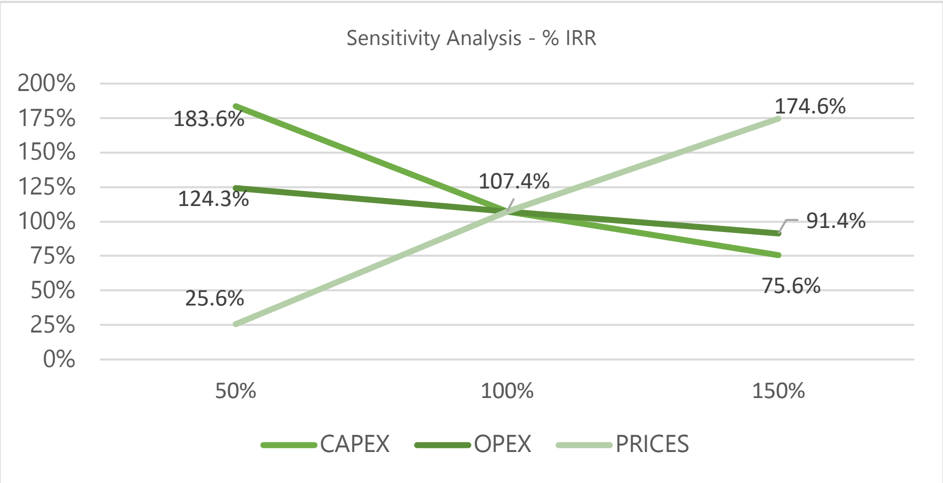


Figure 13 - Standard Financial Sensitivity (IRR %)



RECOMMENDATIONS

Geology / Evaluation / Exploration

CSA Global recommends that an expedited exploration and evaluation programme be implemented, targeting the underground stoping horizons to convert Indicated and Inferred material to Measured and Indicated categories for the purpose of supporting an Ore Reserve at pre-feasibility level. Additional work to improve geological and geochemical understanding will support Mineral Resource upgrade and geometallurgical modelling.

Distribution of and relationships between payable and deleterious metals are a key component of the value drivers for the development, both for processing and waste management. Building a robust geometallurgical model is an important component for the next stage of study.

Geotechnical

CSA Global recognises that the geotechnical recommendations are key drivers for the determination of the preferred mining method, and it is advised that Adriatic Metals PLC appoint a geotechnical engineering company to conduct the necessary engineering work to determine cost-benefit relationship of each mining method to be applied in the pre-feasibility and feasibility studies. Such work will indicate most appropriate method on extraction and the stope configuration, geometry and support regimes required to ensure safe and sustainable extraction of the underground resource.

Hydrology

Additional studies are recommended to improve the level of understanding relating to the hydrology and hydrogeology at the Rupice deposit. This additional information would also increase the confidence with regards to predictions for mine water management at Rupice and Veovača Deposits, specifically with the intention of securing water supply to the 0.8 Mtpa concentrator plant, during the pre-feasibility and feasibility stages of the projects.

Paste-fill

CSA Global recognises that based on the geometry and orientation of the orebody and the anticipate rock mass strength, a cementitious fill method will be required to limit dilution and provide maximum extraction of the high-grade resource. CSA Global recommends that Adriatic Metals PLC appoint a specialised engineering company to conduct the necessary engineering work to determine technical fill parameters, operational and capital expenditure for a paste-fill plant during the pre-feasibility and feasibility stages of the projects.

Mining

It is noted that as part of a pre-feasibility or feasibility study that all disciplines will require additional information and test-work to be performed to enable further refinement of the PEA assumptions commensurate with the requirements of a Pre-Feasibility or Feasibility Study.

CSA Global notes that the geotechnical recommendations are a key driver for the determination of the stope geometry, extraction ratio and potential dilution based on the selected mining method and it is advised that Adriatic complete the necessary engineering work to determine rock properties at the Rupice Deposit during the pre-feasibility and feasibility study phases.

CSA Global notes that the mining capital and operating cost estimates are key drivers for the Rupice Project, and it is advised that should the project proceed to pre-feasibility level study, that appropriate updated geotechnical, hydrology, equipment selection and ventilation simulation is completed to support cost and planning estimates for the underground mine.

As part of the Pre-Feasibility or Feasibility Study, all considerations should be given to mobile and modular type construction of all infrastructure due to the short-term nature of the extraction and the potential surrounding deposits that may be exploited following the depletion of the Rupice and Veovača Deposits deposit.

Considering the additional test-work required in light of a potential Pre-Feasibility or Feasibility Study it is further recommended that careful planning of any additional resource definition drilling to upgrade the resource may provide cost savings if coupled with the requirements for geo-hydrology and geo-technical disciplines.

Key areas identified requiring focus in the lead-up to the commencement of a Pre-Feasibility or Feasibility Study is:

- Resource definition drilling, sampling, test work and further geological analysis to increase confidence in resource and allow subsequent reserve declaration.
- Better definition of deleterious material distribution in the mineral resource estimates and evaluated against proposed mine development.

- Geotechnical drilling, sampling, test work and analysis to support mining method selection and panel dimensions.
- Hydro-geotechnical drilling, sampling, test work and analysis to determine aquifer sustainable abstraction and recharge rates with the purpose of determining well field requirements to support mining and processing requirements.
- Electrical energy supply study with the purpose of determining source, supply and possibility of securing supply for the energy requirements to support mining and processing requirements.
- Detailed road and traffic study for the proposed route or alternate route with the purpose of determining a safe, sustainable and cost-effective haulage method for feed material and backfill between the processing site and the Rupice underground operation.
- Ventilation study with the purpose of determining possible heating and or cooling requirements for the Rupice underground operation.
- The proximity of any historical underground workings to the Rupice deposit needs be defined by accurate survey CAD format for use in potential depletions and mine planning purposes.
- Rail logistics study to determine the appropriate consignment size and schedules, rolling stock numbers, operating and capital cost numbers.

At Pre-Feasibility or Feasibility level, increased accuracy from the resource definition update, hydrology and geotechnical work will provide the necessary components for a greater level of detail for the mining engineering discipline. As part of the mining engineering refinements, CSA Global notes that the following should be considered in subsequent study phases, but not necessarily be limited to:

- Refinement in the stope optimisation process based on MRE update and geotechnical recommendations;
- Finalise pumping arrangements based on groundwater modelling;
- Equipment cost-benefit trade-off for feed material handling, i.e. diesel, battery or electric;
- Ventilation simulation and modelling based on outcomes of equipment selection;
- Develop first principle capital cost models in line with level of accuracy required by level of study undertaken;
- Update and localise first principles operating cost models in line with level of accuracy required by level of study undertaken;
- Trade-off alterative haulage methods for feed material and backfill transportation between processing facility and Rupice underground operation;
- Confirm an open pit operation is not viable for Rupice based on feed resources supply during the pre-feasibility study;

Processing

CSA Global notes that the processing plant recovery, capital and operating cost estimates are key drivers for the resource and it is advised that should the project proceed to pre-feasibility level analysis that appropriate metallurgical and geometallurgical test-work and process design is completed to support cost and recovery estimates for the concentrator facility at the required throughput and throughout the expected range of head grades

Environmental

Adriatic have commenced a full international Environmental & Social Impact Assessment, and the following recommendations from CSA will be incorporated into that scope of work.

- Confirm permitting coverage and develop a contingency plan for rapid application for a separate Rupice exploitation permit if required.
- Undertake a land/property ownership inventory for Veovača open pit, waste dumps and processing plant sites; Rupice U/G mine site facility; and the transport corridor. Set up and publicise an appropriate acquisition procedure.
- Identify likely requisition of property required for the Project assets and infrastructure and initiate early discussions/negotiations for relocation/resettlement preferences and plans.
- Clearly identify pre-existing contamination sources and ensure accurate soil quality mapping as part of the baseline studies to ensure legacy issues are not linked to the Project, and to aid clean-up and rehabilitation.
- Undertake comprehensive geotechnical and water quality assessments of the existing TSF to ensure structural stability and to better inform design and planned engineering for future tailings facility expansion as required.
- Undertake detailed geochemical testwork, ideally using samples from recent drilling programmes that are representative of ore and waste materials anticipated from the project operations. Representative sample selection, preparation, testwork and analyses can be time consuming and initial studies should be started as soon as possible. Geochemical studies should however continue and progress through levels of detail in-line with scoping, PFS and FS.
- Initiate early and inclusive stakeholder engagement to keep affected communities and the wider public aware of Project plans and intentions; to determine any concerns; and to ensure inclusion of suitable mitigations to allow Project social licence.

For further information please contact:

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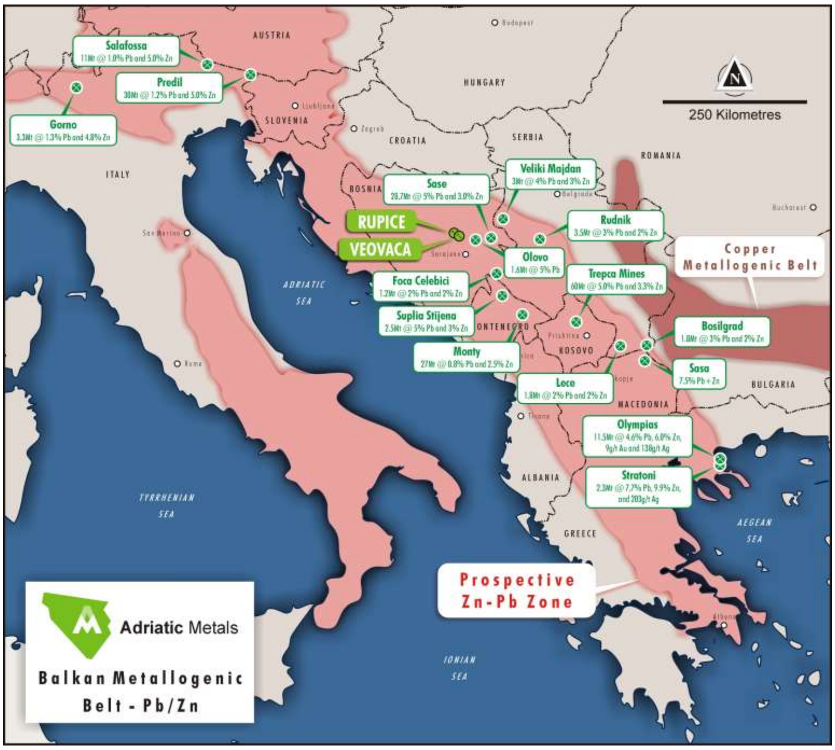
Managing Director & CEO
info@adriaticmetals.com

ABOUT ADRIATIC METALS

Adriatic Metals PLC (ASX:ADT) ("Adriatic" or "Company") is an ASX-listed precious and base metals explorer and developer via its 100% interest in the Vareš Project in Bosnia & Herzegovina. The Project comprises a historic open cut mine at Veovača and brownfield exploration at Rupice, an advanced proximal deposit which exhibits exceptionally high grades of base and precious metals. Adriatic's short-term aim is to expand the current JORC resource at high-grade Rupice deposit, as well as conduct exploration on a number of other prospects within the expanded Concession. Adriatic has attracted a world class team to expedite its exploration efforts and to rapidly advance the Company into the development phase and utilise its first mover advantage and strategic assets in Bosnia.



COMPETENT PERSONS STATEMENTS

The information in this report which relates to Exploration Results is based on information compiled by Mr Robert Annett, who is a member of the Australian Institute of Geoscientists (AIG). Mr Annett is a consultant to Adriatic Metals PLC, and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Annett consents to the inclusion in this report of the matters based on that information in the form and context in which it appears.

The information in this report which relates to mining study is based on information compiled by Mr Bruce Pilcher, who is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM). Mr Pilcher is a consultant of CSA Global, has in excess of 30 years mining industry experience and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Pilcher consents to the inclusion in this report of the matters based on that information in the form and context in which it appears.

The information in this report which relates to metallurgy and processing is based on information compiled by Mr Gary Patrick, who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM), and a Charter Professional (Metallurgy). Mr Patrick is an Associate Consultant of CSA Global, has in excess of 30 years mining industry experience, and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration. Mr Patrick consents to the inclusion in this report of the matters based on that information in the form and context in which it appears.

The information in this report that relates to the Mineral Resources is based on information compiled by Dmitry Pertel. Dmitry Pertel is a full-time employee of CSA Global and is a Member of the Australian Institute of Geoscientists. Dmitry Pertel has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Dmitry Pertel consents to the disclosure of information in this report in the form and context in which it appears.

DISCLAIMER:

Forward-looking statements are statements that are not historical facts. Words such as “expect(s)”, “feel(s)”, “believe(s)”, “will”, “may”, “anticipate(s)”, “potential(s)”and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: (i) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations, (ii) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined, (iii) the potential for delays in exploration or development activities or the completion of feasibility studies, (iv) risks related to commodity price and foreign exchange rate fluctuations, (v) risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities, and (vi) other risks and uncertainties related to the Company’s prospects, properties and business strategy. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

APPENDIX 1 – MATERIAL ASSUMPTIONS

Material assumptions used in the estimation of the mineable material and associated financial information relating to the study discussed in this announcement, including consideration of the "modifying factors" under the JORC Code, are set out in the following table.

Criteria	Comment
Study Status	The mineable material and financial information in this study are based on a scoping study level assessment. The study referred to in this announcement is based on low-level technical and economic assessments and is insufficient to support the estimation of Ore Reserves or to provide assurance of an economic development case at this stage or to provide certainty that the conclusions of the study will be realised.
Mineral Resource Estimate Underpinning the Minable Material	The Mineral Resource estimate for the Vareš Project declared in July 2019 (see ASX announcement dated 23 July 2019) underpins the mineable material related to the polymetallic mineralisation which would be processed into metal concentrates, as contemplated by this study. This Mineral Resource estimate was prepared by a Competent Person in accordance with JORC Code 2012 (the JORC Code). The likelihood of eventual economic extraction was considered in terms of possible underground and open pit mining, likely product specifications, possible product marketability and potentially favourable logistics to the point of product sales.
Mining Factors or Assumptions	The Scoping Study contemplates mining based on an open pit operation at Veovača and an underground operation at Rupice utilising conventional drill and blast, load and haul and crusher feed, with mining to be undertaken by experienced mining contractors. Several sites for disposal of waste material have been identified near Veovača, including the existing tailings facility which is undergoing additional geotechnical test work to determine its suitability.
Metallurgical Factors or Assumptions	The metallurgical parameters for the processing of the Vareš mineralisation into metal concentrate products are derived from comparable polymetallic processing operations and the preliminary metallurgical test work undertaken by Wardell Armstrong International. The samples for this test work were selected on the basis of being representative of the mineralised zones.
Infrastructure & Logistics	There is a substantial amount of existing infrastructure at Veovača and Rupice, including a nearby rail siding outside of Vareš, roads, high voltage power and the historical tailings management facility. Some additional roads will need to be constructed for by-passing villages to transport material from Rupice to Veovača, and some roads will require widening and upgrade. Estimates of capital costs included in this release includes the estimates for the expected infrastructure required.
Capital Costs	The capital cost estimate for the Scoping Study has been compiled on preliminary plans for civil engineering works, mining and processing equipment and associated infrastructure. The estimate has been prepared based upon CSA Global's project database, current in-house data from recent projects, industry standard estimating factors and benchmarking against other projects. Estimates exclude duties and taxes, working capital, financing costs, relocation and resettlement costs, rehabilitation and closure costs. A 30% capital expenditure contingency allowance has been applied to cost estimates. The cost estimates were compiled in USD with a base date of Q4 2019 in real terms, with no allowance for escalation or inflation.
Operating Costs	The operating cost estimate for this study includes all costs associated with mining, processing, infrastructure, and site-based general and administration costs. The operating costs have been developed based on comparative costs for operations of similar size. Mining costs range from US$15.60/t for open pit mining at Veovača to US$40.46/t for underground mining at Rupice. Processing costs are consistent at $18.3/tonne for the life of mine. General and administration costs address overheads, administration and corporate expenses at an approximate cost of $4.92 per processed tonne. The selling costs include a treatment charge of $230/ zinc concentrate tonne and $85/ lead concentrate tonne. No treatment charged has been applied to Barite concentrates. Transport costs of $0.15/t/km for an assumed distance of 28 km. The cost estimates were compiled in USD in 2018 real terms, with no allowance for escalation or inflation
Revenue Factors	Revenue from the project is derived from the sale of barite, a zinc, gold & silver concentrate and a lead, silver, gold, antimony and copper concentrate. The Company has established the characteristics of expected final products through benchmarking against comparable polymetallic processing operations and the preliminary metallurgical testwork conducted by Wardell Armstrong International. Bluequest Ag has conducted a marketing study for the proposed concentrates and all estimated costs associated with shipping, insurance and handling have been incorporated into the Net Smelter Revenue assumptions. This marketing study underpins the payability assumptions for each metal concentrate presented in Appendix

	1. Payability is a standard term in concentrate sales contracts and defines the portion (percentage) of the contained metal for which payment will be made by the refiner to the miner. CSA Global have used a combination of recent spot and forward consensus estimates provided by BMO Capital Markets, which is compiled from over 26 forecasts by respected global investments banks. The combined basis for metal price assumptions is intended to remove the effects of recent volatility in base metal markets and provide a more realistic view of metal prices anticipated at the time of commencement of production. Risks associated with these assumptions include that the payability of metals in concentrate is lower than expected, the metal concentrate product split differs from expectations and that the metal price assumptions are not met
Schedule & Timeframe	The project development schedule assumes the completion of a PFS by early 2020 and a FS by Q4 2020. Development approvals and investment permits will all be sought from the relevant Bosnian authorities in early 2020. Delays in any one of these key activities could results in a delay to the commencement of construction (planned for Q2-2021). This could lead on to a delay to first production which is planned for Q2-2022. The Company's stakeholder and community engagement programs will reduce the risk of project delays.
Market Assessment	The market for the Company's silver and base metal products is well established. The metals that would be produced from the Vareš Project are actively traded in spot metals markets and through forward dated derivative financial instruments. Prices set in financial markets reflect underlying metal demand and supply conditions and market sentiment. These prices are often the reference prices used by the Company in negotiating offtake and / or sales agreements with counterparties. From 2018 to 2020, estimated consensus lead, silver, zinc and copper prices are all greater than current LME spot prices. Accordingly, the current market conditions could be characterised as favourable for the metals to be produced.
Funding	To achieve the range of outcomes indicated in the Vareš Project Scoping Study, funding of in the range of US$150 million will likely be required in capital expenditure to construct the mine, grinding mill, project infrastructure and processing plant. It is anticipated that the finance will be sourced through a combination of equity and debt instruments from existing shareholders, new equity investment and debt providers from Australia and overseas. In October 2019, the Company completed an A$25 million placement of ordinary shares, with strong institutional investor participation. The Board considers that the Company has sufficient cash on hand to undertake the next stage of planned work programs, including the completion of a PFS, continued metallurgical testing and the commencement of other technical studies. The Company's Board believes that there is a reasonable basis to assume that funding will be available to complete all feasibility studies and finance the pre-production activities necessary to commence production on the following basis: • Adriatic's Board and executive team have a strong financing track record in developing resources projects, • Adriatic has a proven ability to attract new capital and supportive major investors including Sandfire Resources NL, • Adriatic believes this Scoping Study demonstrates the project's strong potential to deliver a favourable economic return, • The long operating history of Vareš reduces project risks, as many of the key operating risks are known and can be managed • The recent and ongoing attraction of international investors and companies to opportunities in Bosnia, • The positive financial metrics of the project and the underlying demand growth for the commodities, and • Other companies at a similar stage in development have been able to raise similar amounts of capital in recent capital raisings.
Economic	The Scoping Study is a preliminary technical and economic study based on low level technical and economic assessments (+/- 40% accuracy) that are not sufficient to support the estimation of Ore Reserves. Further evaluation work and appropriate studies are required before Adriatic will be able to estimate any Ore Reserves or provide any assurance of an economic development. A discount rate of 8%

	has been used for financial modelling. This number was selected as a cost of capital and considered a prudent and suitable discount rate for project funding and economic forecasts.
Exchange rate	Estimates presented in this announcement are presented in USD unless stated otherwise.
Social	The Scoping Study contemplates the development of the Rupice mine via an underground mining operation with the construction of a processing facility and a concentrator and tailings storage facility at Veovača, where the existing open pit mine will be expanded in the latter years of the project life. The Company expects the Vareš Project will create significant social and economic benefits for local communities, including employment opportunities, but acknowledges that some local residents may be directly or indirectly affected by the mine's development and associated operations. Community programs and social impact studies have commenced, with a Community liaison office established in the town of Vareš, where staff are available for consultation with the local community.
Other	There are several other material risks to this project including product price, sovereign, competition, regulatory approval, social licence, scheduling and other risks typical of projects of similar scale.
Audits or reviews	This study was internally reviewed by Adriatic. No material issues were identified by the reviewers. All study inputs were prepared by Competent Persons identified in this announcement.

APPENDIX 2 – ABBREVIATIONS

Abbreviation	Meaning	Abbreviation	meaning
%	percent	DH	drill hole
°	degrees (in Radians)	E	East
°C	degrees Celsius	EIA	Environmental Impact Assessment
2D	two-dimensional	EM	electromagnetic (survey)
3D	three-dimensional	EMP	Environmental Management Plan
A$	Australian Dollar	ESIA	Environmental and Social Impact Assessment
AAS	Atomic Absorption Spectroscopy	ESMP	Environmental and Social Management Plan
ABA	acid-base account	FA	fire assay
ARD	acid rock drainage	FEL	front-end loader
Au	gold	FET	full-time employees
BAM	Bosnia-Herzegovina Convertible Mark	g	gram
BD	bulk density	g/t	grams per tonne
BDL	below detection limit	GPS	Global Positioning Device
CAPEX	capital expenditure	HARD	half absolute relative difference
CIL	carbon-in-leach	HR	Human Resources
CIM	Canadian Institute of Mining, Metallurgy and Petroleum	HSE	Health, Safety and Environment
cm	centimetre	ICP	inductively coupled plasma
CRM	Certified Reference Material	IDW	Inverse Distance Weighting
CSA Global	CSA Global (UK) Ltd	IGR	International Gold Resources Inc.
CSV	comma separated values	IP	induced polarisation
Cu	copper	IRR	internal rate of return
CV	Coefficient of variation	ITS	Inchcape Testing Services
DA	dynamic anisotropy	JORC	Australasian Joint Ore Reserves Committee Code
DBA	database administrator	KE	kriging efficiency

DD	diamond drill hole	kg	kilograms
DGPS	differential global positioning satellite	km	kilometre
DH	drill hole	km^2	square kilometres
E	East	KNA	kriging neighbourhood analysis
kit	thousand tonnes	RC	reverse circulation (drill hole)
LG	Lerch Grossman	RC-DD	reverse circulation with diamond tail (drill hole)
LOM	life of mine	RMS	root mean squared
m	metre	ROM	run of mine
Ma	million years	RAP	Resettlement Action Plan
MCC	motor control centre	RQD	rock quality designation
me, MN, marl	metres east, north and relative level	S	South
mm	millimetre	SCR	Solid Core Recovery
Mos.	million ounces	SD	standard deviation
MRE	Mineral Resource estimate	SG	specific gravity
Mt	million tonnes	SQL	Structured Query Language (Database)
Mt/a	million tonnes per annum	t/a	tonnes per annum
N	north	t/h	tonnes per hour
NAF	non-acid forming	t/m^3	tonnes per cubic metre
NI 43-101	National Instrument 43-101 for the Standards of Disclosure for Mineral Projects within Canada	TR	trench
NPV	net present value	TSF	tailings storage facility
NSR	net smelter return	US$	US dollar
NVPS	NPV Scheduler	UTM	Universal Mercator Project
OK	ordinary kriging	VOIP	voice over internet protocol
OSA	overall slope angle	VSAT	very small aperture terminal
oz	troy ounce, 31.1034768 g	W	west
PIE	Preliminary Internal Estimate	WGS1984	World Geodetic System 1984
ppb	parts per billion	XRD	x-ray diffraction
PPE	personal protective equipment	XRF	x-ray fluorescence
ppm	parts per million		
par	portable x-ray fluorescence		
QAQC	quality assurance/quality control		
QP	Qualified Person		
Q-Q	quantile-quantile		