

# **Engineering Review and Mine Site Inspections** Augustus Polymetallic Deposit, Arizona

## HIGHLIGHTS

- Copper Veins exposed at surface and within mines.
- Multiple existing mines and adits reviewed.
- Metallurgical sampling program planned for metallurgical studies.
- AVM to start permitting process for sampling program.
- Mine site infrastructure in place to private lands

Advance Metals (ASX: AVM) is pleased to announce that the company has developed plans to fast-track the exploration and development of the Augustus project. An engineering review was undertaken on site to assist with identifying sites for metallurgical studies and the continued development of the project.

LIDAR from the Arizona Geological survey was initially used to identify and digitise locations of old adits and mines in conjunction with the existing data. The data points developed were used to locate these points in the field as part of the engineering review.

The engineering review accessed the old underground mine workings and established locations for a Metallurgical sampling program. Due to the advanced nature of the Augustus Project, confirmatory drilling and twinning of existing drill holes will occur after a Metallurgical sampling program has been completed. Unlike many other exploration projects, the Augustus Project has established mineralisation zones due to the large and diverse amount of historical exploration data and the unique land position.

The recent reviews allow AVM to expedite the project towards development and complete a Metallurgical sampling program that will be used for metallurgical studies and establishing processing flowsheets. Due to the amount of existing data, the company is confident in the locations of vein systems as they have been mined historically. The company is excited about the information gathered from the review and will update the market once the report has been completed.

# Commenting on the engineering review, Advance Chief Executive Officer Frank Bennett said:

The engineering survey is a key component in the next steps in our development of the Augustus project. The company was able to access the underground mines within the drill targets we are currently developing. Having been on site last week, I was able to see the mineralisation and our clear path to production. Augustus is a unique project that can move faster than many other projects on the market. We are really excited about the next steps in our development process..



AVM CEO Frank Bennett next to outcropping vein



### **Engineering Review**

After acquiring a 20-year lease on land parcel #200-04004B (The Bullard Mine), AVM has completed an engineering review on the property. The Bullard Mine has been leased for an initial payment of \$5,000 from the Bullard Mining Company. The amount will be charged annually for the first five years until it ultimately scales to \$20,000 during the last five years of the lease. A 3% net smelter royalty rate has also been set for any extracted ore from the lease.

The reconnaissance for the engineer review was done to identify sites where samples could be obtained for metallurgical testing. The program was designed to help fast-track the project towards permitting by identifying areas where samples can be taken to help with plant infrastructure design.

Unlike many other exploration programs, the Augustus project includes established historical mines and exploration sites that allow the company to focus on areas of known mineralisation. Utilising the historical data and LIDAR data compiled earlier in the year by the company, the engineering review was able to locate and inspect the historic mines across the project.



Bullard Main Mine Opening with outcropping vein at surface

![](_page_1_Picture_7.jpeg)

Bullard Main Mine Copper vein exposed inside mine underground.

During the site visit, the team could access several areas that had been previously mined. Mine portals remain in good condition, allowing the company to access copper exposures underground inside the mine. Accessing the underground mineralisation has enabled the company to start the process for a Metallurgical sampling campaign and start metallurgical work.

As seen below in several images, the oxidised copper can be seen both at the surface and underground in the historic mines. The staining observed at the project gives the company confidence that the mineralised system could be more extensive than previously thought.

![](_page_2_Picture_0.jpeg)

![](_page_2_Picture_1.jpeg)

Bullard Mine North Portal 1 with copper staining in wall Rock

![](_page_2_Picture_3.jpeg)

Inside Bullard Mine North with mineralised rock taken from mine and portal to lower levels

![](_page_2_Picture_5.jpeg)

Bullard Mine North Portal 2 with copper staining in wall Rock

![](_page_2_Picture_7.jpeg)

Inside Bullard Mine North Copper Exposed underground

![](_page_2_Picture_9.jpeg)

Bullard Mine East Portal with copper staining in wall Rock

![](_page_2_Picture_11.jpeg)

Bullard Mine East Inside Mine with mined copper oxidised

The underground workings and mine sites across the project area have now been georeferenced and will be analysed in conjunction with historical mine plans. The old mines were only sunk to around 100 feet, but historical drilling data shows mineralisation in drill holes at up to 300 feet.

![](_page_3_Picture_0.jpeg)

![](_page_3_Picture_1.jpeg)

**Unity Vein Area Mine Portal** 

**Unity Vein Area Inside Mine** 

Several old adits and mines have been developed on the western side of the property, and the company will use these to collect Metallurgical samples at these locations. The company will also use these openings to do confirmatory geochemical analysis.

### **Outcropping and mineralised Veins**

Oxidised copper was seen on the walls and faces of the historic mines in multiple locations. The veins have been observed historically up 1.83 meters (6 feet) thick at the Bullard mine. AVM is seeking an expedited production schedule for this target area due to favourable land status.

The company has identified numerous veins during the site visit and areas with outcropping mineralisation. The location of the veins is important as it proves the historical data and allows the company to complete targeted drilling, unlike many other explorers trying to define the zone of the mineralisation.

![](_page_3_Picture_8.jpeg)

**Copper Vein Outcropping at surface** 

Copper Vein outcropping at surface

![](_page_4_Picture_0.jpeg)

![](_page_4_Picture_1.jpeg)

### **Copper Vein Outcropping at surface**

**Copper Outcropping at surface** 

### Mine Site Infrastructure

The existing infrastructure at the Augustus project shows a deep and rich history of mining in Arizona. Many old roads are still in excellent condition, and the main access roads are maintained all year round. The roads leading up to the Bullard mine and other drill targets can be used for exploration and development without huge capital investments.

![](_page_4_Picture_6.jpeg)

**Existing Road leading to Mines** 

![](_page_4_Picture_8.jpeg)

**Historical Pulley System at mine** 

### **Next Steps: Exploration and Development**

The company will now look to fast-track the project towards development by completing an engineering study with the data collected from the property. The study will look at the gaps in the data and make several recommendations. At the same time, the company will be completing a technical report to incorporate the new information taken from the site. Planning will commence on taking Metallurgical samples and starting the permitting process. The company will reenter the old workings to evaluate and sample the resource zones identified in the historical studies.

This market announcement has been authorised for release to the market by the Board of Advance Metals Limited.

![](_page_5_Picture_0.jpeg)

### For more information, please contact:

Advance Metals Limited Chief Executive Officer: Frank Bennett Email: fbennett@advancemetals.com.au

### Background

The 100% owned Augustus polymetallic project covers 1,741 contiguous acres. The project resides in the central western part of Arizona, approximately 140 km (87 mi) northwest of Phoenix, AZ. AVM staked 72 federal lode mining claims to acquire the project.

AVM personnel undertook an in-depth technical review of historical documentation to digitise relevant information and develop GIS exploration models utilising historical drilling records. The process involved utilising GIS modelling software, AI programs, satellite remote sensing, and geological and geophysical analysis of the project area.

Analysis of the historic results found strong exploration potential at the Augustus project. The company then completed drone-supported ground surveys, geological field reconnaissance, satellite analysis, and geochemical surveys as an initial geological assessment of the project.

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**Chief Operating Officer: Dominic Hill** 

Email: dhill@advancemetals.com.au

### **About Advance Metals Limited**

Advance Metals Limited (ASX: AVM is a copper-focused exploration company with a world-class portfolio of copper growth projects in mining-friendly jurisdictions of the United States. We seek to maximise shareholder value through the acquisition, discovery, and advancement of high-quality metals projects in North America. The company utilises the expertise of our North American exploration team to identify underexplored and undervalued high-grade copper projects with significant geological potential. The company has 100% ownership of the Garnet Skarn Deposit, the Augustus Polymetallic Project, and the Anderson Creek Gold Project. More information can be seen on the AVM website, www.advancemetals.com.au.

![](_page_6_Picture_0.jpeg)

![](_page_6_Picture_1.jpeg)

**AVM Project Locations** 

![](_page_7_Picture_0.jpeg)

### Previously Released Information

These ASX announcements refer to information extracted from reports available for viewing on AVM's website, www.advancemetals.com.au, and announced on:

- 06.09.2021 "Historical Gold Assays Anderson Creek Gold Project"
- 16.01.2019 "Elko Coking Coal Project JORC Resource Increased to 303Mt"

AVM confirms it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of exploration targets, that all material assumptions and technical parameters underpinning the exploration targets in the relevant market announcements continue to apply and have not materially changed. AVM confirms that the form and context in which the Competent Person's findings were presented have not been materially modified from the original market announcements.

### **Forward-Looking Statements**

Statements contained in this release, particularly those regarding possible or assumed future performance, revenue, costs, dividends, production levels or rates, prices, or potential growth of the company, are or may be forward-looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements.

The interpretations and conclusions reached in this announcement are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high they might be, make no claim for absolute certainty. Any economic decisions that might be taken on the basis of interpretations or conclusions contained in this report will therefore carry an element of risk, or conclusions contained in this report will therefore carry an element of risk.

### **Competent Persons Statement**

The information in this report that relates to Exploration Results is based on information compiled by Mr. Jim Guilinger. Mr. Guilinger is a Member of a Recognised Overseas Professional Organisation included in a list promulgated by the ASX (SME Registered Member of the Society of Mining, Metallurgy and Exploration Inc).

Mr. Guilinger is Principal of independent consultants World Industrial Minerals LLC. Mr. Guilinger has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Guilinger consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

![](_page_8_Picture_0.jpeg)

# JORC Code, 2012 Edition – Table 1 Augustus Polymetallic Project, Yavapai County, Arizona Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done, this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Cominco completed reconnaissance drilling at Augustus. Historical results contain no further details than drill hole locations and assay analysis for Au. No further details were provided.</li> <li>Freeport-McMoran completed reconnaissance drilling at Augustus. Historical results contain no further details than drill hole locations and assay analysis for Au. No further details were provided.</li> <li>U.S. Bureau of Mines completed reconnaissance drilling at Augustus. Historical results contain no further details than drill hole locations and assay analysis for Ag, Au, and Cu. No further details were provided.</li> <li>Canadian Mining Company completed reconnaissance drilling at Augustus. Historical results contain no further details than drill hole locations and assay analysis for Au. No further details were provided.</li> </ul>
Drilling techniques	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit, or another type, whether the core is oriented and if so, by what method, etc.).	<ul> <li>No new drilling is reported in this release.</li> </ul>

![](_page_9_Picture_0.jpeg)

Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures are taken to maximise sample recovery and ensure the representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>No new drilling is reported in this release.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Cominco historical core samples, no further details provided.</li> <li>Freeport-McMoRan historical core samples, no further details provided.</li> <li>U.S. Bureau of Mines historical core samples, no further details provided.</li> <li>Canadian Mining Company historical core samples, no further details provided.</li> </ul>

![](_page_10_Picture_0.jpeg)

Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn, and whether quarter, half, or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc., and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise the representivity of samples.</li> <li>Measures are taken to ensure that the sampling is representative of the in-situ material collected, including, for instance, results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled</li> </ul>	<ul> <li>Cominco historical core samples, no further details provided.</li> <li>Freeport-McMoRan historical core samples, no further details provided.</li> <li>U.S. Bureau of Mines historical core samples, no further details provided.</li> <li>Canadian Mining Company historical core samples, no further details provided.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality, and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</li> </ul>	<ul> <li>No geophysical tools were encountered in the reports.</li> <li>Cominco historical core samples, no further details provided.</li> <li>Freeport-McMoRan historical core samples, no further details provided.</li> <li>U.S. Bureau of Mines historical core samples, no further details provided.</li> <li>Canadian Mining Company historical core samples, no further details provided.</li> </ul>
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	<ul> <li>Due to the early stage of exploration, no verification of significant results has been completed at this time.</li> <li>Core results were reviewed by Independent Consultants.</li> </ul>
	The use of twinned holes.	No twin holes were encountered.

![](_page_11_Picture_0.jpeg)

	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>All data is digitally recorded in the exploration report to Qld government.</li> </ul>
	Discuss any adjustment to assay data.	<ul> <li>No adjustments to the data.</li> </ul>
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	<ul> <li>Cominco historical core samples, no further details provided.</li> <li>Freeport-McMoRan historical core samples, no further details provided.</li> </ul>
	<ul><li>Specification of the grid system used.</li><li>Quality and adequacy of topographic control.</li></ul>	<ul> <li>U.S. Bureau of Mines historical core samples, no further details provided.</li> </ul>
		<ul> <li>Canadian Mining Company historical core samples, no further details provided.</li> </ul>
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	<ul> <li>Cominco historical core samples, no further details provided.</li> </ul>
		<ul> <li>Freeport-McMoRan historical core samples, no further details provided.</li> </ul>
		<ul> <li>U.S. Bureau of Mines historical core samples, no further details provided.</li> </ul>
		<ul> <li>Canadian Mining Company historical core samples, no further details provided.</li> </ul>
	• Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	<ul> <li>No mineral resources or reserves have been estimated. The competent person considers the results of further exploration, drilling, sampling and laboratory analysis, trenching for bulk samples, etc., would be required to establish the geological grade continuity and an understanding of the metallurgical properties for each of the project areas.</li> </ul>
	Whether sample compositing has been applied.	No Sample Compositing Applied

![](_page_12_Picture_0.jpeg)

Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Cominco historical core samples, no further details provided.</li> <li>Freeport-McMoRan historical core samples, no further details provided.</li> <li>U.S. Bureau of Mines historical core samples, no further details provided.</li> <li>Canadian Mining Company historical core samples, no further details provided.</li> <li>No new drilling reported.</li> </ul>
Sample security	• The measures are taken to ensure sample security.	<ul> <li>Cominco historical core samples, no further details provided.</li> <li>Freeport-McMoRan historical core samples, no further details provided.</li> <li>U.S. Bureau of Mines historical core samples, no further details provided.</li> <li>Canadian Mining Company historical core samples, no further details provided.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>No external audits or reviews have been conducted to date.</li> </ul>

![](_page_13_Picture_0.jpeg)

### **Section 2 Reporting of Exploration Results**

# (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location, and ownership, including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national parks, and environmental settings.	<ul> <li>Advance Metals controls 72 Federal Lode Claims covering an area of 1,473 acres. Annual claim maintenance fees are payable to the BLM by September 1 of each year. AVM paid initial staking fees in April 2023.</li> <li>The claims are 100% owned by Texas and Oklahoma Coal Company (USA) Inc (a 100% owned AVM subsidiary).</li> <li>Land Parcel (#200-04004B) leased from Bullard Mining Company for 20 years with an initial payment of \$5,000.</li> <li>The 20-year lease costs \$5,000 per year for the first five years before scaling up to \$20,000 for the last five years.</li> <li>A 3% net smelter royalty rate has been set for any extracted ore from the lease.</li> </ul>
	<ul> <li>The security of the tenure held at the time of reporting and any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>No impediments to holding the claims exist. To maintain the claims, an annual holding fee of \$165/claim is payable to the BLM.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>The historical tenure reports indicated that several companies have explored the project area over the last 100 years. Exploration has mainly consisted of geochemical sampling of rock and soil.</li> <li>The area was previously explored for Gold by Freeport-</li> </ul>
partico		McMoRan, Teck Cominco Resources, Canadian Mining Inc., and ASARCO Resources.
Geology	• Deposit type, geological setting, and style of mineralisation.	• The copper ore occurs within quartzite and arkosic conglomerate as a hydrothermal vein hosted in Tertiary volcaniclastics. The occurrence can be characterised as a vein-type polymetallic deposit.

![](_page_14_Picture_0.jpeg)

Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results, including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>downhole length and interception depth</li> <li>Hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	No new drilling reported in this release.
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal</li> </ul>	<ul> <li>Cominco historical core samples, no further details provided.</li> <li>Freeport-McMoRan historical core samples, no further details provided.</li> <li>U.S. Bureau of Mines historical core samples, no further details provided.</li> <li>Canadian Mining Company historical core samples, no further details provided.</li> <li>No metal equivalents used</li> </ul>
	equivalent values should be clearly stated.	
Relationship	• These relationships are particularly important in the reporting of Exploration Results	<ul> <li>No new drilling reported in this release.</li> </ul>
mineralisation	<ul> <li>If the geometry of the mineralisation with respect to</li> </ul>	
widths and	the drill hole angle is known, its nature should be	
intercept lengths	<ul><li>reported.</li><li>If it is unknown and only the downhole lengths are</li></ul>	

![](_page_15_Picture_0.jpeg)

	reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to, a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	• See main body of this release.
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practised to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>Cominco historical core samples no further details provided. The competent person believes the samples are balanced in the context of early-stage exploration reporting.</li> <li>Freeport-McMoRan historical core samples no further details provided. The competent person believes the samples are balanced in the context of early-stage exploration reporting.</li> <li>U.S. Bureau of Mines historical core samples no further details provided. The competent person believes the samples are balanced in the context of early-stage exploration reporting.</li> <li>U.S. Bureau of Mines historical core samples no further details provided. The competent person believes the samples are balanced in the context of early-stage exploration reporting.</li> <li>Canadian Mining Company historical core samples no further details provided. The competent person believes the samples are balanced in the context of early-stage exploration reporting.</li> </ul>

![](_page_16_Picture_0.jpeg)

Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported, including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; Bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>All meaningful &amp; material exploration data has been reported.</li> </ul>
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	• Early-stage exploration and follow-up of identified Cu and Au anomalies, including additional interpretation of geophysical data, reviews and assessments of regional targets and infill geochemical sampling of ranked anomalies in preparation for future drill testing.
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• There is not enough data for geological interpretations and drill planning at this time.

Note that JORC Sections 3 and 4 are not relevant at this early state of exploration.