

Wednesday, 13<sup>th</sup> December 2023

## 23.8Moz of indium and 119koz of gold in updated JORC Mineral Resource for West Desert, USA

- World-class indium resource defined at the West Desert Deposit in Utah, USA with an updated independent JORC 2012 Inferred Mineral Resource Estimate (MRE) that has added **33.7Mt @ 20g/t In and 0.1g/t Au**, which includes:
  - **18.7Mt @ 13g/t In and 0.09g/t Ag** contained within an open-pit resource
  - **15Mt @ 28.7g/t In and 0.12g/t Au** contained within higher-grade underground resource
- The updated JORC MRE adds **23.8Moz** of indium and **119Koz** of gold to the existing **1.3Mt** zinc, **49Kt** copper and **10Moz** silver of contained metal at West Desert
- West Desert is the only indium deposit in the US and one of the largest and highest-grade undeveloped indium deposits globally – indium is classified as a critical mineral in the US, which currently imports 100% of indium
- Considerable potential to significantly expand all metals within the West Desert resource, including:
  - The newly identified high-grade ‘Copper Zone’ (includes 17.22m @ 1.04% Cu, 0.58g/t Au and 12.46g/t In from 325.21m in WD22-01c) has not been included in the MRE at this stage, and remains open along strike and at depth
  - High-grade indium-zinc-copper mineralisation (includes 4.58m @ 5.21% Zn, 0.46% Cu, 0.6g/t Au, 18.68g/t Ag, 88.05g/t In from 455.65m in WD22-19) was discovered by American West Metals 250m to the west of the current resource
- West Desert is favourably positioned for development:
  - Hosted on private land owned 100% by American West Metals, allowing for expedited permitting
  - Located in a world class mining district of Utah that includes Kennecott’s world class Bingham Canyon Copper Mine, with considerable infrastructure and operating advantages
  - West Desert is amenable to bulk open cut and underground (long hole open stope) mining methods



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American West Metals Limited (**American West** or **the Company**) (ASX: AW1 | OTCQB: AWMLF) is pleased to provide a significant update to the JORC 2012 compliant Mineral Resource Estimate (**MRE**) for its 100% owned West Desert Project in Utah (**West Desert** or the **Project**) with the release of our maiden indium resource for West Desert.

**Dave O'Neill, Managing Director of American West Metals also commented:**

*"We are pleased to announce an updated JORC compliant mineral resource estimate (MRE) for the West Desert Deposit. Significantly, the updated MRE adds a world class indium resource to the existing large volumes of zinc, copper and silver that were defined within the maiden resource announced in February this year.*

*"Indium and gold were omitted in the maiden MRE for West Desert due to data gaps in the historical drilling, but further studies allow us to now add these two highly valuable metals as inferred resources.*

*"West Desert is currently the only indium resource in the US and is one of the largest undeveloped deposits of the metal globally. As the geopolitical alignment of supply chains in the resources sector emerges as an important issue in the U.S., the updated MRE highlights the unique characteristics of West Desert and its importance to the supply of critical and strategic metals.*

*"West Desert is well located for future development and has received strong support from the local and federal government. The large resources and exciting growth opportunities at West Desert demonstrate the outstanding value of the project."*



Figure 1: Indium rich chalcopyrite, bornite, and sphalerite in drill core from WD22-01 (interval 543.74-545.11m downhole @ 2.8% Cu, 0.3% Zn, 94.5g/t In, 0.49g/t Au and 39.5g/t Ag).<sup>1</sup>

<sup>1</sup> See our ASX Release dated 26<sup>th</sup> April 2022



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## MINERAL RESOURCE ESTIMATION AND CLASSIFICATION – INDIUM AND GOLD

Historical resource estimates and economic studies demonstrated that a large quantity of indium and gold exists within the West Desert Deposit<sup>2</sup>, and this was confirmed in drilling by American West Metals during 2022.

Due to gaps in the historical indium and gold data, the metals could not be included in the maiden Mineral Resource Estimation (MRE) for West Desert completed during February 2023 (see ASX announcement dated 9 February, 2023 – *Maiden JORC MRE for West Desert*).

An updated JORC compliant MRE for West Desert has now been completed to incorporate the indium and gold, which have been classified under the inferred resource category. The updated MRE was completed by international mining and engineering company Stantec Consulting Services Inc. (**Stantec**), with geological modelling and validation assistance by American West.

American West and Stantec have also completed mining and mineral processing studies which have included a number of pit shell analyses and stope optimisations to assist in refining the MRE. This has resulted in different material classifications for the inferred resources (listed in Table 1), and only mineralisation that is likely to be mineable has been included in the MRE.

The studies have shown that a phased mining approach combining open-pit and underground scenarios is likely to be the most appropriate way to mine the ores of the West Desert Deposit based on known mineral resources. The studies are preliminary in nature and not considered to be as 'Scoping Level'.

The indium and gold MRE in Table 1 below is reported in accordance with the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves under JORC Code – 2012. Some totals may not add up due to rounding. The maiden MRE for the West Desert zinc-copper-silver resources is also included below in Table 2.

Appendix A of this ASX announcement contains detailed supporting information for the MRE.

Category	Material	Mine type	Tonnes	In (g/t)	Au (g/t)	In (Oz)	Au (Oz)
Inferred	Oxide	Open Pit	15,531,071	10.8	0.09	5,916,698	49,306
Inferred	Sulphide	Open Pit	3,140,102	23.89	0.10	2,646,148	11,076
Inferred	Sulphide	Underground	14,996,864	28.73	0.12	15,198,136	63,480
<b>Total</b>			<b>33,668,038</b>	<b>20.01</b>	<b>0.10</b>	<b>23,763,978</b>	<b>118,761</b>

*Table 1: West Desert Indium and Gold Inferred Resource. Cut-off grades are: Open-pit Heap Leach oxide material category at 0.7% Zn, Open-pit Wet Mill sulphide material category 1.5% Zn, Underground Mill flotation sulphide material category >3.5% Zn.*

<sup>2</sup> See the InZinc 2014 PEA titled 'Technical Report on the West Desert Zinc-Copper-Indium-magnetite Project' available on our website at [www.americanwestmetals.com](http://www.americanwestmetals.com)

Category	Tonnes	Zn (%)	Cu (%)	Ag (g/t)	Zn (t)	Cu (t)	Ag (Oz)
Indicated	27,349,163	3.79	0.14	9.53	1,037,278	40,588	8,376,494
Inferred	6,318,875	4.01	0.13	7.13	253,626	8,465	1,440,285
<b>Total</b>	<b>33,668,038</b>	<b>3.83</b>	<b>0.15</b>	<b>9.08</b>	<b>1,290,904</b>	<b>49,053</b>	<b>9,816,779</b>

Table 2: West Desert Zinc-Copper-Silver Indicated and Inferred Resource total of all material categories.

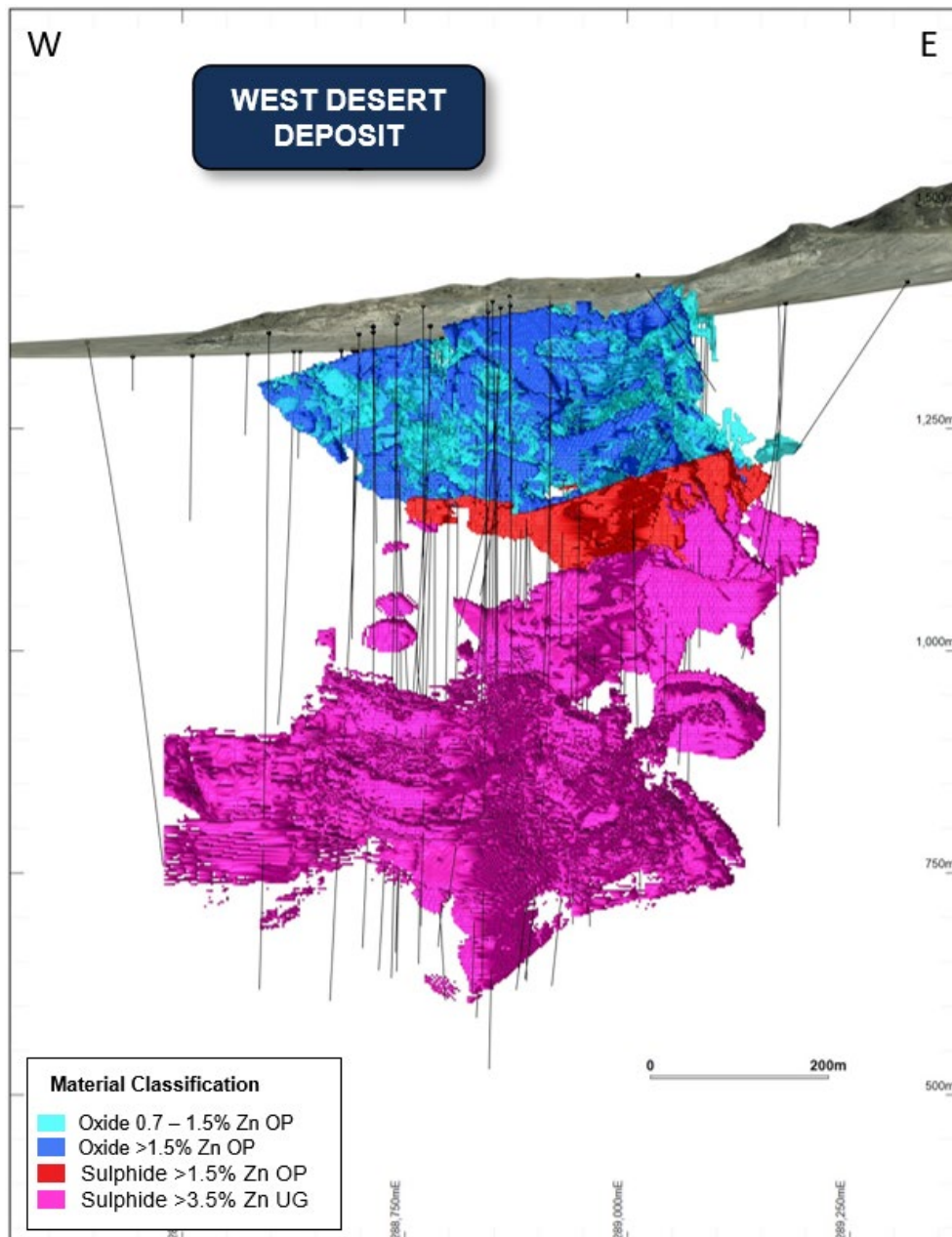


Figure 2: Total MRE blocks for the West Desert Deposit looking north. The blocks are visualised with different zinc cut-off grade. The indium and gold resources are classified as inferred resources.



## INDIUM – METAL WITH STRATEGIC AND CRITICAL IMPORTANCE

Indium is considered a critical and strategic mineral and is used in the aerospace, defense, energy, and telecommunications sectors. In 2021, the U.S. was a 100 percent net importer reliant on indium sourced from China, Canada, Republic of Korea, and France (U.S. Geological Survey, 2022).

Indium is most commonly recovered from sphalerite, a zinc-sulphide mineral, wherein the indium occurs in quantities of less than 1 part per million (ppm) to 100 ppm (U.S. Geological Survey, 2022). It is also found within roquesite (copper-indium-sulphide) and magnetite (Iron-Ore) at West Desert. In the U.S., indium is mostly found in porphyry and skarn deposits.

The West Desert deposit in Utah is the only deposit in the U.S. with a modern National Instrument 43-101 (NI 43-101) and JORC 2012 compliant resource estimate of indium (Dyer and others, 2014). Only 35% of drill samples used in historical and the JORC MRE's were assayed for indium, suggesting that the scale of the indium endowment at West Desert is potentially much larger than currently defined. As it stands, West Desert is one of the largest undeveloped deposits of indium in the world.

Due to the unique features and exceptional endowment of the West Desert Deposit, the Utah Geological Survey (UGS) received a \$300,000 federal grant to complete a detailed study on the indium at West Desert (see ASX announcement dated 9 November, 2022 – *US Federal Grant for West Desert Critical Metals Study*). The UGS research will focus on how the West Desert deposit formed, the deportment of the indium throughout the deposit and mineral district, and exploration indicators that may help find similar deposits in the future.

## WEST DESERT EXPANSION POTENTIAL

American West Metals believes there is significant potential to increase the MRE with further exploration in the near-mine areas. Only 10% of the porphyry contact has been explored and it remains highly prospective for further Skarn style high-grade mineralisation.

Four specific opportunities have been defined including the potential for further high-grade Zn-Cu-Ag-In-Au resources, including the newly identified 'Copper Zone', magnetite iron-ore, molybdenum and near-mine exploration targets.

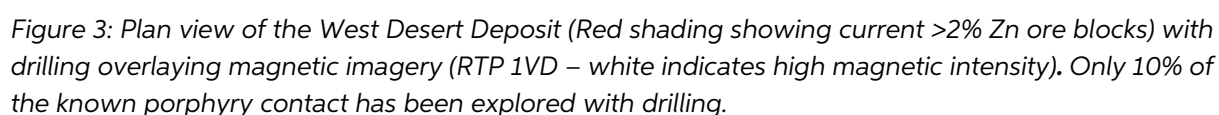
### High-Grade Zinc-Copper-Silver-Indium

Multiple historical and recent drill holes around the West Desert Deposit have intersected high-grade zinc and copper mineralisation outside of the current resource envelope (Figure 3). A systematic follow-up of these high-grade intersections is planned and has the potential to identify further significant mineralisation:

WD22-19 was the first exploration drill hole to be completed by the Company at the West Desert-Project<sup>3</sup>. The drill hole was completed 250m west of the West Desert Deposit, in an area with no previous drilling and was designed to simply test the centre of the targeted magnetic feature.

The drill hole intersected **0.92m @ 20.42% Zn, 0.76% Cu, 1.04g/t Au, 33.13g/t Ag and 54.47g/t In** at a downhole depth of 460.1m. The geology and geochemistry of WD22-19 appears very similar to the distal parts of the Deep Zone of the West Desert Deposit. Further drilling of the large magnetic anomaly (2.5km strike) has outstanding potential to define further mineralisation.

<sup>3</sup> See our ASX Release dated 19<sup>th</sup> September 2022



The Copper Zone is located on the margin of the porphyry and contains a number of coherent high-grade lenses within a broader domain of disseminated and network style chalcopyrite dominant mineralisation.

Drilling within the Copper Zone remains limited, and was therefore not included in the MRE. This zone remains the top priority for drilling and the discovery of further high-grade copper resources.

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### Iron Ore

The Zn-Cu-Ag-In mineralisation at West Desert is hosted largely within magnetite skarn and massive magnetite. During the mining and milling process of the zinc and copper ores, the magnetite is removed as a byproduct and has been shown to generate an Iron-Ore concentrate with grades up to 68% Fe. The 2014 Foreign West Desert PEA by InZinc<sup>5</sup> included this mineralisation in the resource and estimated that over **28Mt** could be potentially exploited during the life of the mine.

The Company believes that there is significant potential to unlock the value of this material and will look at a range of marketing opportunities and its potential inclusion into future MRE updates.

### Molybdenum

Historical and recent drilling has confirmed the presence of significant quantities of molybdenum within the porphyry intrusive stock and within the Zn-Cu skarn mineralisation of the West Desert Deposit (Figure 4).

Large volumes of molybdenum were encountered by American West during the latest drilling campaign, and drill hole WD22-01C intersected **417.55m @ 0.019% Mo** from 360.87m downhole (see ASX announcement dated 19 September 2022: *Assays confirm outstanding growth potential of West Desert*) along the margin of the porphyry.



Figure 4: Photo of molybdenite + quartz + pyrite veining within quartz monzonite porphyry stock in drill hole WD22-04 (interval 640.66-642.18m downhole @ 0.22% Mo).<sup>6</sup>

Drill hole WD22-01C provides evidence that the mineralisation at West Desert is related to a large underlying molybdenum rich porphyry system. Significantly, the metal associations and volume of mineralisation within the porphyry also show striking similarities to the giant Bingham Canyon mine in Utah (Current resource averages 0.017% Mo. Source – Rio Tinto, 17 February 2021, *Increase in Mineral Resource at Kennecott Copper operation following mine extension studies*).

<sup>5</sup> See the InZinc 2014 PEA titled 'Technical Report on the West Desert Zinc-Copper-Indium-magnetite Project' available on our website at [www.americanwestmetals.com](http://www.americanwestmetals.com)

<sup>6</sup> See our Quarterly Activities Report for the Period Ended September 2022



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## Near-Mine Exploration Potential

The geology of the West Desert Deposit displays typical features of most porphyry related mineral systems which is characterised by an inner intrusive hosted zone (+-molybdenum, copper, gold, silver, indium), and successively outward zones of skarn-hosted copper, skarn-hosted zinc, and replacement style silver-lead mineralisation.

The drilling and geophysics has shown that the skarn and CRD mineralisation at West Desert is likely to be only one element of a very large porphyry related mineral system. With only approximately 10% of the interpreted porphyry contact explored with drilling, further discoveries are highly likely. Skarn deposits are typically found in clusters around porphyries when hosted within favourable, reactive lithologies (limestone), like West Desert.

The gravity survey completed during 2021 by American West Metals<sup>7</sup> has highlighted multiple anomalies within a 6km long East-West corridor that appear identical to the West Desert gravity anomaly (Figure 5). These anomalies are located in compelling geological locations, including an offset to the known orebody, and along the contacts of the porphyry where similar deposits could be expected to form. Importantly, a number of these anomalies are situated in areas where historical drilling has intersected zinc-copper-lead-silver rich mineralisation (described on page 5).

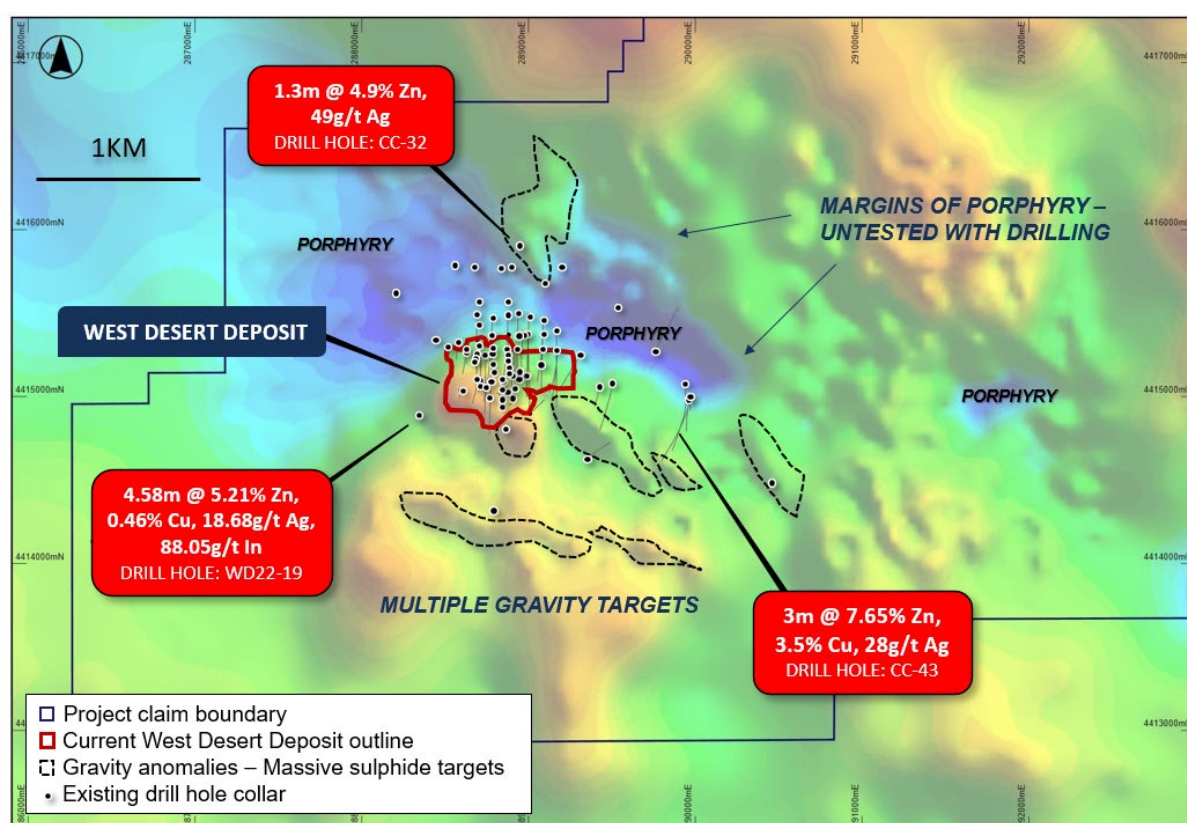


Figure 5: Interpreted CRD and skarn targets as defined by gravity and magnetics, overlaying historical drill holes and gravity image (CBA residual -400m at density 2.70g/cc – cooler colours are lower density and warmer colours indicate higher density)

<sup>7</sup> See our ASX Release dated 11<sup>th</sup> January 2022



## FORWARD PROGRAM

- **West Desert:** Leaching test work continues on oxide zinc and copper ores from the proposed open-pit at the West Desert Project. The test work includes new leaching technologies and processes aimed at optimising and building on the successful test work completed to date.
- **Storm:**
  - Estimation and final reporting for the maiden JORC compliant Mineral Resource Estimate (MRE) for the Storm Copper Project is being completed. The MRE is expected to be reported early in 2024.
  - Ore sorting, beneficiation, and process optimisation studies on a range of ore types from Storm continues. The expanded program is being completed in Canada and Australia. Results will be reporting upon the completion of the program.
- **Copper Warrior:** The assays from the recent Copper Warrior exploration drilling program are still pending, but expected shortly. The full technical results from the program will be reported once the data is compiled and interpreted.

This announcement has been approved for release by the Board of American West Metals Limited.

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### **Competent Person Statement**

The information in this announcement that relates to the estimate of Mineral Resources for the West Desert Deposit is based upon, and fairly represents, information and supporting documentation compiled by Mr Allan Schappert, a Competent Person, who is a Member of the American Institute of Professional Geologists (AIPG).

Mr Schappert is a Principal Consultant at Stantec and an independent consultant engaged by American West Metals Limited for the Mineral Resource Estimate and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code). Mr Schappert consents to the inclusion in this announcement of matters based on his information in the form and context in which it appears.

The information in this report that relates to Exploration Targets and Exploration Results for the West Desert Project is based on information compiled by Mr Dave O'Neill, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr O'Neill is employed by American West Metals Limited as Managing Director, and is a substantial shareholder in the Company.

Mr O'Neill has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify 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 O'Neill consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### **ASX Listing Rule 5.12**

The Company has previously addressed the requirements of Listing Rule 5.12 in its Initial Public Offer prospectus dated 29 October 2021 (released to ASX on 9 December 2021) (Prospectus) in relation to the 2014 Foreign West Desert MRE at the West Desert Project. The Company is not in possession of any new information or data relating to the West Desert Project that materially impacts on the reliability of the estimates or the Company's ability to verify the estimates as mineral resources or ore reserves in accordance with the JORC Code. The Company confirms that the supporting information provided in the Prospectus continues to apply and has not materially changed.

This ASX announcement contains information extracted from the following reports which are available on the Company's website at <https://www.americanwestmetals.com/site/content/>:

- 29 October 2021 Prospectus

The Company confirms that it is not aware of any new information or data that materially affects the exploration results included in the Prospectus. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Prospectus.



## ABOUT US



## AMERICAN WEST METALS LIMITED

### ABOUT AMERICAN WEST METALS

**AMERICAN WEST METALS LIMITED (ASX: AW1)** is an Australian clean energy mining company focused on growth through the discovery and development of major base metal mineral deposits in Tier 1 jurisdictions of North America. Our strategy is focused on developing mines that have a low-footprint and support the global energy transformation.

Our portfolio of copper and zinc projects in Utah and Canada include significant existing resource inventories and high-grade mineralisation that can generate robust mining proposals. Core to our approach is our commitment to the ethical extraction and processing of minerals and making a meaningful contribution to the communities where our projects are located.

Led by a highly experienced leadership team, our strategic initiatives lay the foundation for a sustainable business which aims to deliver high-multiplier returns on shareholder investment and economic benefits to all stakeholders.





## Mineral Resource Estimate – Supporting Information

### INTRODUCTION

The updated JORC compliant Mineral Resource Estimation (MRE) for West Desert was completed by international mining and engineering company Stantec Consulting Services Inc., with geological modelling and validation assistance by American West.

The West Desert Project is located 160km southwest of Salt Lake City, Utah, within the heart of the Sevier Orogenic Belt.

The Project is 100% owned by American West Metals Limited and comprises 330 acres of private land, 336 unpatented lode mining claims and a single State Metalliferous Mineral Lease, for a total land holding of approximately 32km<sup>2</sup>.

### GEOLOGY AND MINERALISATION

The West Desert Deposit is located on the northwest edge of the Fish Springs Range, which is situated in the northeastern part of the Basin and Range province of the western United States. The deposit forms part of a large, magmatic-hydrothermal, skarn/carbonate replacement system of late Eocene age. A number of Utah's most significant mining camps are based on these style of mineral systems including the main Tintic, Bingham Canyon and Park City Districts.

West Desert is classified as a zinc-copper skarn and carbonate replacement deposit. The deposit is separated into two distinctive geological units by the Juab Fault. The Main Zone lies north of the Juab Fault and is hosted by massive limestone and dolomites of the Notch Peak Formation. The Deep Zone lies to the south of the Juab Fault where mineralisation is more stratiform and hosted by a series of intermittent shale and limestone units within the Orr Formation.

The mineralisation is dominated by sphalerite with lesser chalcopyrite occurring in a series of lenses hosted by carbonates in proximity to the quartz monzonite intrusive complex. The most dominant skarns are magnetite rich. The zinc and copper is associated with significant quantities of silver, indium and gold. Lead and molybdenum generally occur on the margins of the deposit and elsewhere in the district.

### FOREIGN AND HISTORICAL RESOURCES AND BACKGROUND

InZinc Mining Ltd reported a resource estimate in the "Technical Report on the West Desert Zinc-Copper-Indium-Magnetite Project Preliminary Economic Assessment" in 2014 which estimated a foreign resource of **59Mt @ 1.85% Zn, 0.22% Cu, 26g/t In and 48% Fe**. The 2014 Foreign West Desert MRE proposed a bulk tonnage underground operation which was proposed to produce zinc, copper and magnetite concentrates (1.09Mt Zn, 131Kt Cu, 54Moz In, 28.2Mt Fe). The oxide resources were not included in the economic or mining assessments.



Subsequent work by American West (and InZinc) showed that the large 2014 Foreign West Desert MRE also contained a number of high-grade lenses and determined that there was the potential for **16.5Mt @ 6.3% Zn, 0.3% Cu and 33g/t In** (1.03Mt Zn, 45Kt Cu and 545t In) that could form the basis of a higher grade, staged mining operation. Metallurgical test work also confirmed high recoveries and the potential to mine the zinc and copper within the near-surface oxide and transitional material.

The maiden MRE by American West has included recent extensional and infill drilling (by InZinc and American West) which has been highly successful at confirming the continuity between high-grade lenses in the core of the deposit, and by expanding the margins of the mineralisation. This work has resulted in a significant growth in metal tonnes for the West Desert Deposit.

To appropriately compare the the 2014 Foreign West Desert MRE with the American West MRE on a like for like basis, the two resources were assessed using the same cut-off grades per material type (0.7% Zn for Oxide and 2.3% Zn for sulphide). The American West MRE includes approximately 1.91Mt of zinc metal, compared to approximately 1.32Mt (1.09Mt in the sulphide only case already discussed) within the 2014 Foreign West Desert MRE. This represents a **44% growth** in the volume of zinc metal for the West Desert Deposit.

#### MINERAL RESOURCE ESTIMATION DATA

The MRE was compiled using the data from 66 surface diamond core and 4 reverse circulation (RC) drill holes (43,397m of drilling for 9,196 samples). The majority of the drilling (60 drill holes for 28,410m) was completed between 1958 and 2008 by a number of companies including InZinc, Cyprus Mineral Company ("Cyprus") and Utah International Inc. ("Utah") and has been used in historical resource estimations. The historical diamond core drill holes were BX, AX, HQ, NQ and BQ in diameter.

American West commenced drilling during 2022 with 7 holes completed. 6 of these drill holes (for 3,846.86m) have been used in the MRE. The drilling by American West was PQ and HQ in diameter.

Appendix B lists the drill holes used in the MRE.

#### SAMPLING AND CORE RECOVERY

Drill core samples ranged from 0.3 to 5m in length, with the majority of the sample lengths between 1 and 2m. There are no detailed descriptions of sampling procedures available for the earliest work, but reports of the re-logging of significant quantities of Utah core by Cyprus suggest that Utah had followed the then-current industry standard of splitting the core in half, with one half retained and the other sent to the laboratory.

Cyprus used the same standard sampling methodology and, as was standard practice at the time, did not insert quality control samples of their own. Although no relevant information is available, it should be assumed that Utah also did not insert their own quality control samples.

Drill core sampling by InZinc and American West were selected and marked by the supervising geologists as the core was being logged. Sample intervals were chosen on the basis of lithology, mineralisation, and alteration and ranged in length between a minimum of approximately 0.5m and a maximum of about 2m.



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All of the historic drill campaigns recorded core recovery data, and the current data set includes over 12,000 individual core recovery records. The average core recovery for all of the historic drilling is approximately 90%, with 10% of the drill runs having less than 50% core recovery. There is a general correlation within the data set between core recovery and core diameter with the smaller core (AX and BX) having lower recoveries, on average, than the larger NX sized core.

## **GEOLOGICAL MODELLING**

Geological and grade shell models were used for the Mineral Resource estimation and prepared by American West. These were provided to Stantec as wireframe surfaces and solids.

The geological model and grade shells were constructed in Micromine by creating wireframes manually. The wireframes were based on historical geological models and were updated to reflect the latest information, interpretations and data. The main data sources included all of the available drill hole data as well as geological surface mapping.

The geological interpretations were based on the lithological logging and were divided into a series of key geological domains:

- Notch Peak Formation (North), Notch Peak Formation (South), Orr Formation, Porphyry, Juab Fault, Alluvium, Base of Oxidation

Each geological domain was estimated with its own unique set of parameters.

Grade shells for zinc and copper were created to help guide the estimation and to provide geological constraints on the distribution of the mineralisation. All other elements, including indium and gold, were estimated within the zinc and copper shells. The following grade shells were provided:

- Zinc: >0.1% Zn, >0.9% Zn, >9% Zn
- Copper: >0.1% Cu, >0.3% Cu, >0.75% Cu

## **MINERAL RESOURCE ESTIMATION**

The MRE is reported in accordance with the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves under JORC Code – 2012.

Grade estimation for zinc, copper, silver, indium, gold and molybdenum were completed using Inverse Distance within the geological domains using Vulcan Mining software.

Vulcan software was also used to analyse the grade distribution within each of the geological domains for each element. Each geological domain was modelled with its own unique anisotropy depending on local geological factors.

Top-cut thresholds have been determined using a combination of histograms, log probability and mean variance plots. Top-cuts have been reviewed and applied to the composites on a deposit basis.

Downhole compositing has been undertaken within these domain boundaries at 1.5m intervals.

All metals were estimated individually.





Bulk density values have been calculated from 651 measurements. The samples were grouped according to lithology. Within each group the top and bottom 2.5% were removed as outliers, and the mean of the remaining samples was assigned to that lithology. Because most of the West Desert core is solid and unfractured, no adjustments were made to the mean grades of the measured data.

### MINERAL RESOURCE CLASSIFICATION

The updated MRE for the indium and gold at West Desert has been classified Inferred based on drill hole spacing, sample density, data quality and geostatistical analysis.

Some historical drill holes did not assay for indium or gold and hence the differing resource classification to the maiden MRE for zinc, copper and silver at West Desert.

### CUT-OFF GRADES

Given the West Desert Deposit is polymetallic, the MRE was prepared and reported to a range of zinc and zinc equivalent (ZnEq) cut-off grades. The ZnEq grades express the economic contribution to the value of the block from the copper and silver content of that block. The cut-off grades selected for the MRE are comparable, and can be considered conservative from a cost standpoint, to other zinc-polymetallic deposits with similar development scenarios.

Zinc-equivalent (ZnEq) grades were used to apply different mining and processing methods to the MRE, and ultimately used to determine the cut-off grade that is most optimal for the potential development of each particular material category (using the defined set of economic parameters).

The ZnEq grades were calculated using forecast commodity prices and metallurgical recoveries. Further mining studies and optimisation will be conducted which may alter the ZnEq grades and economic outcomes of the project. The secondary payable metals, including indium and gold, were not factored in the ZnEq assumptions but will be added at a later date.

The heap leach ores use a cut-off grade of 0.7% Zinc only and will allow the exploitation of a lower grade halo of oxidised mineralisation. The mill leach and flotation classified material in the proposed open-pit uses a cut-off grade of 1.5% ZnEq.

A cut-off grade of 3.5% ZnEq was used in estimating the sulphide underground classified material.

### COST ASSUMPTIONS

The operating and other financial costs have been estimated by Stantec and in-house by American West using peer comparisons and contractor information.

The open-pit cost assumptions used are USD\$3/t for mining, US\$3.6/t for G&A, US\$15/t for crushing and processing for the oxide heap leach material, and US\$3/t for mining, US\$7.16/t for G&A, US\$32.76/t for crushing and processing, and US\$3.25/t for haulage for the oxide zinc and copper mill leaching.

The open-pit cost assumptions for the sulphide zinc, copper and silver mill flotation material are US\$3.0/t for mining, US\$7.2/t for G&A, US\$33/t for crushing and processing, and US\$3.25/t for haulage.



The underground cost assumptions for the sulphide zinc, copper and silver mill flotation are US\$50.39/t for mining, US\$16.68/t for G&A, US\$33/t for crushing and processing, and US\$3.25/t for haulage.

Metal prices used for the zinc equivalent calculations were based on long term forecasts from a variety of source and are, zinc - US\$1.37/Lb, copper - US\$4.18/Lb, and silver - US\$22/oz. The spot metal prices at the effective date of the MRE, 1 February, 2023 are, zinc - US\$1.56/Lb, copper - US\$4.19/Lb, and silver - US\$24/oz. The secondary payable metals, including indium and gold, were not factored in price assumptions.

### **METALLURGY AND PROCESSING ASSUMPTIONS**

A number of historical metallurgical programs have been completed on the West Desert ores and all have demonstrated excellent metallurgical properties and the ability to produce high quality zinc and copper concentrates. Whilst the majority of these tests were focused on the sulphide portion of the orebody, test work on oxide mineralisation had also shown promising results, with excellent recoveries of zinc and copper, and with relatively low sulphuric acid consumption. Indium and gold are mostly hosted by the zinc and copper concentrates respectively and recovered in the smelting process. No West Desert ores have undergone smelting test work.

American West recently completed specific test work on the oxide to understand the historical results and explore new potential processing opportunities (completed during October 2022). Test work was also completed on the underground sulphide mineralisation to replicate the historical results. The test program was completed by BASE Metallurgical Laboratories of Kamloops, BC, Canada.

These tests have shown outstanding results that demonstrate the potential viability of the oxide and transitional ores to traditional processing techniques, whilst confirming the historical tests of the sulphide ores.

The results of the recent tests as summarised as follows:

- Similar results were achieved between the historical KCA acid leach test work and the 2022 BASE metallurgical program:
  - KCA acid leach tests results ranged between 60%-94% Zinc recovery.
  - BASE acid leach tests results ranged between 73%-90% Zinc recovery.
- Sulphuric acid leach results on oxide material with a coarse particle size (1.2-33mm) displayed excellent recoveries of zinc up to 88.9% at moderate grades of 2.8% Zn to 5.5% Zn, respectively.
- Sulphuric acid consumption of the oxide ores appears to reduce with increasing grain size.
- Limited tests on copper extraction using sulphuric acid leach for low grade copper mineralisation produced recoveries up to 78%.
- Tests on sulphide material produced a 99.4% Zinc recovery by sulphide flotation, exceeding historical test results.

The successful metallurgical results from all forms of testing are driven by the simple and favourable mineralogy of the West Desert Deposit.



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Sulphuric acid leaching has emerged as the preferred processing technique for the near surface ores and has demonstrated repeatability at various particle sizes. The amenability of the oxide ores to this process method has unlocked the near surface potential of the West Desert Deposit and supports the proposal for a phased open pit and underground mining scenario.

Test work has demonstrated that the zinc and copper sulphide mineralisation at West Desert is capable of producing high-grade zinc and copper concentrates at 55% Zn and 32% Cu respectively.

The defining processing recoveries and assumptions for the West Desert MRE are as follows:

- Oxide Material for Heap Leach – **65% for Zinc**. No other metals assumed recovered.
- Oxide Material for Mill Leach – **85% Zinc and 70% Copper**. No other metals assumed recovered.
- Sulphide Material for Mill Flotation – **87% Zinc, 70% Copper, and 80% Silver**.

The above assumptions are considered conservative compared to the results of the metallurgical test work and further studies will aim to optimise the oxide and transitional ores further, and to investigate the potential to recover silver, indium and gold in the oxide leaching process.





## Mineral Resource Estimate – Drill Hole Information

The table below lists the drill holes completed at West Desert to date. Those holes with **bolded** IDs were not used for the MRE, primarily because they are outside of the resource area.

Hole ID	Easting (m)	Northing (m)	RL (m)	Total Depth	Azimuth	Dip	Type
C07-01	288,893	4,415,135	1,371	643.1	280	-88	Core
C07-02	288,891	4,415,173	1,364	737.0	356	-88	Core
C07-03	288,949	4,415,150	1,372	683.7	322	-89	Core
C07-04	288,801	4,415,150	1,357	594.1	231	-89	Core
C07-05	289,001	4,415,125	1,380	658.1	103	-90	Core
C08-06	288,741	4,415,058	1,368	729.7	194	-87	Core
C08-07	289,975	4,414,997	1,579	147.8	182	-55	Core
<b>C08-07A</b>	289,965	4,414,978	1,582	531.0	182	-67	Core
C08-08	288,882	4,415,207	1,359	614.2	0	-82	Core
C08-09	288,741	4,415,056	1,368	742.8	180	-82	Core
C08-10	288,951	4,415,100	1,380	690.2	183	-87	Core
C08-11	289,077	4,415,185	1,379	556.6	292	-89	Core
C08-12	288,699	4,415,099	1,356	765.1	182	-79	Core
C08-13	288,851	4,415,100	1,372	351.7	182	-83	Core
C08-13A	288,854	4,415,089	1,374	846.4	289	-90	Core
C08-14	288,598	4,415,035	1,357	741.0	186	-85	Core
<b>C08-15</b>	289,759	4,415,273	1,497	606.6	33	-61	Core
C-1	288,704	4,415,309	1,338	152.4	0	-90	Core
<b>C-2</b>	288,692	4,415,263	1,338	76.2	0	-90	Core
CC-1	288,679	4,415,208	1,338	123.1	0	-90	Core
CC-10	288,697	4,415,335	1,337	337.4	182	-50	Core
CC-11A	288,880	4,415,481	1,349	36.6	182	-50	Core
CC-11B	288,880	4,415,480	1,349	547.1	182	-50	Core
CC-12	288,944	4,415,364	1,359	489.2	182	-53	Core
CC-13	288,784	4,415,291	1,345	524.3	0	-90	Core
<b>CC-15</b>	288,882	4,415,562	1,345	292.9	0	-90	Core
<b>CC-16</b>	288,211	4,415,608	1,325	740.7	0	-90	Core
<b>CC-17</b>	288,695	4,415,492	1,337	361.2	182	-60	Core
CC-18	288,869	4,415,028	1,388	427.3	0	-90	Core
CC-19	288,633	4,415,284	1,337	152.4	182	-50	Core
CC-20	288,874	4,415,210	1,357	274.3	182	-50	Core



Hole ID	Easting (m)	Northing (m)	RL (m)	Total Depth	Azimuth	Dip	Type
CC-21	289,012	4,414,896	1,421	177.2	47	-45	Core
<b>CC-22</b>	289,346	4,414,627	1,454	228.9	57	-40	Core
CC-23	288,574	4,415,327	1,334	143.3	182	-40	Core
CC-24	289,001	4,415,374	1,366	605.0	182	-50	Core
CC-25	289,315	4,415,247	1,415	311.2	212	-39	Core
CC-27	288,784	4,415,367	1,343	893.4	182	-50	Core
<b>CC-28</b>	289,105	4,415,677	1,384	416.2	0	-90	Core
CC-29	289,091	4,415,460	1,375	400.8	182	-50	Core
<b>CC-30</b>	289,204	4,415,765	1,428	554.4	0	-90	Core
<b>CC-31</b>	289,006	4,415,486	1,362	699.5	182	-50	Core
<b>CC-32</b>	288,955	4,415,898	1,340	490.4	0	-90	Core
<b>CC-33</b>	288,788	4,415,473	1,341	909.2	182	-50	Core
CC-34	288,932	4,415,284	1,359	447.5	182	-55	Core
CC-38	288,786	4,415,264	1,345	326.1	182	-49	Core
CC-39	288,941	4,415,499	1,354	735.2	182	-55	Core
CC-40	289,004	4,415,271	1,365	518.5	182	-50	Core
CC-41	288,693	4,415,256	1,338	135.3	182	-53	Core
CC-42	288,707	4,415,429	1,337	48.2	182	-64	Core
<b>CC-43</b>	289,947	4,415,078	1,556	999.7	182	-60	Core
<b>CC-44</b>	293,848	4,413,698	1,353	554.4	0	-90	Core
<b>CC-45</b>	290,458	4,414,483	1,577	1,004.0	0	-90	Core
<b>CC-46</b>	288,868	4,414,811	1,397	151.5	0	-90	Core
CC-5	288,715	4,415,094	1,358	274.6	0	-60	Core
CC-6	288,875	4,415,278	1,352	397.6	182	-52	Core
CC-7	288,512	4,415,304	1,332	213.4	180	-60	Core
<b>CC-8</b>	288,712	4,415,568	1,337	169.8	0	-90	Core
CC-9	288,885	4,415,368	1,352	443.9	182	-51	Core
CCC-1	288,969	4,415,372	1,363	482.2	182	-47	Core
CCC-10	288,779	4,415,087	1,365	470.3	0	-90	Core
CCC-10A	288,779	4,415,087	1,365	762.6	0	-90	Core
CCC-11	288,915	4,415,050	1,387	774.2	0	-90	Core
CCC-12	288,771	4,414,990	1,388	741.6	0	-90	Core
CCC-13	288,849	4,414,985	1,393	661.1	0	-90	Core
CCC-14	288,913	4,414,993	1,398	771.8	0	-90	Core
CCC-15	288,843	4,414,932	1,408	777.5	0	-90	Core



Hole ID	Easting (m)	Northing (m)	RL (m)	Total Depth	Azimuth	Dip	Type
CCC-2	289,089	4,415,373	1,377	583.1	183	-59	Core
CCC-3	289,084	4,415,278	1,377	446.2	182	-58	Core
CCC-4	289,178	4,415,279	1,391	425.8	182	-50	Core
<b>CCC-5</b>	289,512	4,415,082	1,470	454.8	182	-50	Core
CCC-6A	288,844	4,415,045	1,381	505.5	0	-90	Core
CCC-6B	288,844	4,415,045	1,381	765.1	0	-90	Core
<b>CCC-7</b>	289,427	4,415,060	1,467	304.5	182	-65	Core
CCC-8	289,178	4,415,279	1,391	478.2	182	-60	Core
CCC-9	288,715	4,415,057	1,364	700.7	0	-90	Core
<b>RC-14</b>	288,680	4,415,776	1,331	79.3	0	-90	RC
RC-2	288,680	4,415,222	1,338	34.8	0	-90	RC
RC-26	288,883	4,415,247	1,355	67.2	0	-90	RC
RC-3	288,792	4,415,191	1,351	67.1	0	-90	RC
<b>RC-35</b>	288,898	4,415,778	1,340	158.5	0	-90	RC
<b>RC-36</b>	288,836	4,415,767	1,334	57.9	0	-90	RC
<b>RC-37</b>	288,557	4,415,774	1,329	61.0	0	-90	RC
RC-4	288,902	4,415,126	1,372	83.8	0	-90	RC
<b>RCCC-1</b>	289,541	4,415,524	1,444	304.8	0	-90	RC
<b>RCCC-6</b>	288,858	4,415,029	1,386	365.8	0	-90	RC
WD18-01	288,743	4,415,250	1,340	702.0	179	-75	Core
WD18-02	289,170	4,415,389	1,390	748.1	175	-52	Core
<b>WD18-03</b>	289,978	4,414,987	1,581	933.0	200	-65	Core
WD18-04	288,626	4,415,260	1,337	440.0	185	-74	Core
WD18-05	288,738	4,415,248	1,340	457.2	165	-83	Core
WD22-01	288,848	4,415,311	1,350	2,610.0	185	-57	Core
WD22-01B	288,848	4,415,311	1,350	41.0	192	-75	Core
WD22-01C	288,849	4,415,312	1,350	2,554.0	182	-79	Core
<b>WD22-02</b>	288,832	4,415,222	1,352	49.0	182	-52	Core
WD22-02B	288,831	4,415,222	1,352	767.5	182	-52	Core
WD22-03	289,041	4,415,277	1,370	1,804.0	176	-65	Core
WD22-04	288,990	4,415,278	1,364	2,477.0	208	-80	Core
WD22-05	288,811	4,415,313	1,348	2,427.0	180	-64	Core
<b>WD22-19</b>	288,397	4,414,986	1,341	2,062.5	0	-90	Core
<b>WW-1</b>	288,795	4,414,318	1,402	76.2	0	-90	Core
<b>WW-2</b>	288,445	4,415,338	1,331	39.0	0	-90	Core



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## JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <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 down hole gamma sondes, or 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 style="list-style-type: none"> <li>Historical samples and geological data are sourced using Diamond and Reverse Circulation Drilling. American West drilling was completed using Diamond Core.</li> <li>Sampling and geological intervals are determined visually by geologists with relevant experience</li> <li>The intervals of the core that are selected for assaying are marked up and then recorded for cutting and sampling.</li> <li>The mineralisation at the West Desert Deposit displays classic features and is distinctive from the host and gangue lithologies</li> <li>All intercepts are reported as downhole widths</li> <li>Sampling was conducted on full and half-core with nominal 1.52m sample lengths down to a minimum of 0.15m</li> <li>Sampling intervals were determined based off structure, lithology, and mineral assemblages in an effort to determine mineralized zones within in similar domains</li> <li>Au was analysed with a 30 g charge for fire assay all other elements of interest (Ag, Cu, In, Fe) were subjected to a MS finish at the certified laboratory</li> <li>Some details from historical drilling are unknown.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>American West's Diamond Drilling was completed by Major Drilling America Inc. using a LF230 core drilling rig</li> <li>A tri-cone bit was used through overburden to reach bedrock and then converted to PQ through gossan and HQ once drill string encountered the redox boundary</li> <li>Drilling is completed using PQ and HQT diameter core</li> <li>Downhole directional surveys are completed at the collar, 50ft (15.2m) and every 100ft (30.5m) downhole</li> <li>Drill core is oriented using a EZ Gyro</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure</li> </ul>	<ul style="list-style-type: none"> <li>Drill recoveries are recorded by the driller on run blocks and verified by the logging geologist in the digital geologic logs</li> <li>To minimise core loss in unconsolidated or weathered ground, split tubes are used until</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>representative nature of the samples.</i></p> <ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<p>the ground becomes firm and acceptable core runs can be achieved</p> <ul style="list-style-type: none"> <li>• No relationship has been determined between core recovery and grade and no sample bias is believed to exist</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Detailed geological logging was carried out on all drill holes with lithology, alteration, mineralization, structure, and veining recorded</li> <li>• A preliminary summary log is produced at the rig for daily reporting purposes</li> <li>• The logging is qualitative and quantitative</li> <li>• The drill core is marked up and photographed wet and dry</li> <li>• 100% of all relevant intersections and lithologies are logged</li> <li>• Most, but not all records are available for historical drilling</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The core is cut onsite into 1/2 and two 1/4s along the length of the core for assay, qualitative analysis and metallurgical sampling</li> <li>• Chip trays were taken during tri-cone for logging purposes only</li> <li>• Quality control procedures include submission of Certified Reference Materials (standards), field duplicates, and blanks with each sample batch. QAQC results are routinely reviewed to identify and resolve any issues</li> <li>• Sample preparation is completed at the laboratory. Samples are weighed, dried, crushed to better than 70% passing 2mm; sample was split with a riffle splitter and a split of up to 300g pulverised to better than 85% passing 75µm</li> <li>• The sample sizes are considered to be appropriate to correctly represent base metal sulphide mineralisation and associated geology based on the style of mineralisation (massive and disseminated sulphides), the thickness and consistency of the intersections and the sampling methodology</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>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.</i></li> <li>• <i>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</i></li> </ul>	<ul style="list-style-type: none"> <li>• Diamond core samples from American West are assayed at American Assay Laboratories, Reno, Nevada</li> <li>• Samples are assayed for Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Fe, Ga, Ge, Hf, Hg, In, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, Re, S, Sb, Sc, Se, Sn, Sr, Ta, Te, Th, Ti, U, V, W, Y, Zn, Zr using the ICP5AM-48 method</li> <li>• Assays with over limits are re-assayed using ore grade ORE-5a analysis</li> <li>• Samples are assayed for Au using Fire Assay</li> <li>• The assay method and detection limits are appropriate for analysis of the desired elements</li> <li>• Laboratory QAQC involves the use of internal lab standards using certified reference</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>have been established.</i>	<p>material (CRMs), blanks and pulp duplicates as part of in-house procedures. The Company also submits a suite of CRMs, blanks, and selects appropriate samples for duplicates</p> <ul style="list-style-type: none"> <li>Historical drilling has used a variety of assay element suites. Earlier drilling did not include the assaying of indium (and other metals)</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Significant intersections are verified by the Company's technical staff and a suitably qualified Competent Person</li> <li>No twinned holes have been drilled or used</li> <li>Primary data is captured onto a laptop spreadsheet and includes geological logging, sample data and QA/QC information. This data, together with the assay data, is validated and entered into the American West Metals server in Perth, Australia</li> <li>No assay data is adjusted</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>The WGS84 UTM Zone 12N coordinate system is used</li> <li>Drill hole collars are located with a handheld GPS with an expected accuracy of +/-5m for easting, northing and elevation</li> <li>Historical drill holes locations have been resurveyed and checked where possible</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>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.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>The drilling results in this report are sufficient to establish the degree of geological and grade continuity to support the definition of Mineral Resource and the classifications applied under the 2012 JORC code</li> <li>Drilling data was composited to 1.0m and 2.5m lengths dependent on the lithologic unit being estimated</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The drill holes are designed to intersect the mineralised zones at a near perpendicular orientation (unless otherwise stated). However, the orientation of key structures may be locally variable and any relationship to mineralisation has yet to be identified</li> <li>No orientation-based sampling bias has been identified in the data to date</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>All drill core is handled by company personnel or suitable contractors</li> <li>All core cutting and handling follows documented procedures</li> <li>There is chain of custody documentation for all shipments of samples in sealed bags from secured storage on site to the assay lab</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>An independent third-party review was completed by a competent person during logging, cutting, and prepping for sample shipment</li> <li>Stantec completed an onsite inspection of the core storage, sampling and processing facilities during 2022.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li><i>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 park and environmental settings.</i></li> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</i></li> </ul>	<ul style="list-style-type: none"> <li>West Desert property consists of 336 unpatented lode mining claims; all or part interest in 20 patented mining claims covering 330 acres, which are now private land; and one state mineral lease. The property has an aggregate area of approximately 32km<sup>2</sup>.</li> <li>All tenements and permits are in good standing per the 2022 record survey.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>Pinnacle completed conducted heavy-metal geochemical sampling, geological mapping, and a VLF-EM geophysical survey during 1958–59, including two core drill holes totalling 228.6m (C-1 and C-2).</li> <li>From 1961 to 1985, Utah drilled 39 core holes totalling 16,555.8 m and eight RC holes totalling 609.5 m. The Main Zone sulphide zinc and oxide deposits were discovered during this time.</li> <li>Noble Peak purchased the property in 1985 from Utah, carried out a small soil and rock geochemical survey, and sampled the old drill core and mine dumps for their potential to support a silver leaching operation.</li> <li>In 1990, a joint venture between Cyprus and Mitsui Mining &amp; Smelting Co. Ltd. (Mitsui) obtained an option to earn a 50% interest in the property from Noble Peak. Cyprus completed 15.3 line-km of gradient-array IP resistivity and 3.2 line-km of dipole-dipole IP surveying along with surface geological mapping. This led to identification of the main West Desert anomaly, its continuation to the east toward and under the Galena and Utah mines, and a new doughnut-shaped anomaly in the north-eastern quadrant of the survey area. By the end of 1991, Cyprus had completed 17 DD holes totalling 9,434.6m and two RC holes totalling 670.6m and had undertaken preliminary metallurgical studies. Cyprus relinquished its option on the property to Noble Peak in 1993.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>• In 1994, Noble Peak carried out a small prospecting and surface rock geochemical program to investigate the possibility of zone(s) of gold enrichment.</li> <li>• In 1998, Noble Peak changed its name to Vaaldiam Resources Ltd (Vaaldiam), began to concentrate on diamond exploration, and optioned the property to Sierra Gigantes Resources Inc. (Sierra). Sierra carried out an enzyme leach soil sampling survey prior to relinquishing its option.</li> <li>• In 2001, EuroZinc Mining Corporation (EuroZinc) purchased the West Desert property from Vaaldiam by purchasing a 100% equity interest in N.P.R. (US), Inc., a Nevada corporation and wholly owned subsidiary of Vaaldiam whose sole asset was the mineral title to the West Desert property. Other than compiling some of the historical results in a computer database, EuroZinc did not conduct any work.</li> <li>• In 2005, Lithic purchased N.P.R. (US), Inc. from EuroZinc, thereby acquiring the West Desert property.</li> <li>• From 2006, Lithic has conducted exploration that included photogrammetry, a helicopter-borne magnetic survey, and a pole-dipole IP survey.</li> <li>• In 2007–08, Lithic completed 10,639m of core drilling, and undertook preliminary metallurgical test work.</li> <li>• In 2009, Lithic completed metallurgical test work to evaluate recovery of zinc and copper in both the oxide and sulphide portions of the orebody.</li> <li>• In 2013, Lithic completed test work to evaluate magnetite recovery.</li> <li>• In February 2014, the company changed its name from Lithic to InZinc Mining Ltd.</li> <li>• In March 2014, InZinc Mining Ltd published a NI 43-101 compliant Preliminary Economic Assessment on the West Desert Deposit titled “Technical Report on the West Desert Zinc-Copper-Indium-Magnetite Project”.</li> <li>• In 2018, InZinc completed 5 DD holes totalling 3,279m to test and expand the mineralisation model generated for the PEA in 2014.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Base metal mineralisation discovered to date on the West Desert property consists of sphalerite with minor chalcopyrite, molybdenite, and galena occurring in a series of concordant to discordant magnetite-bearing skarns and replacement bodies in carbonate rocks south of, and adjacent to, a quartz monzonite intrusive complex.</li> <li>• Two main types of skarn have been distinguished on the basis of mineralogy, generally reflecting the chemistry of the host rock: a) the most common type is magnesian, consisting of humite ± magnetite ± phlogopite along with lesser spinel, periclase, actinolite, forsterite and tremolite and b) less common type of skarn/carbonate replacement deposit (CRD) is more calcareous in composition. It generally exhibits a less disrupted character, with preserved bedding replaced by alternating bands of</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>reddish-brown grossularite garnet separated by bands of fine-grained diopside and potassium feldspar, probably reflecting a protolith of thinly bedded limestone with shaly partings. Magnetite is occasionally present.</p> <ul style="list-style-type: none"> <li>The Main Zone mineralisation has been traced with drilling over a length of about 525m, a width of about 150m, and to a depth of 575m, and remains open to the west and to depth.</li> <li>The Main Zone has been oxidised to an average depth of about 250m.</li> <li>The Deep Zone is located immediately south of the Juab Fault and is hosted predominantly in thinly bedded limestones and shaley members of the Orr Formation.</li> <li>Within the Deep Zone, three separate CRD style mineralised horizons have been identified through drilling over an area of about 330m by 225m at depths from about 450m to 750m. They remain open at depth and to the west, south, and east.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>down hole 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>	<ul style="list-style-type: none"> <li>Historical drilling and significant intercepts have been independently compiled by Stantec and can be found in the MRE</li> <li>Supporting drillhole information (easting, northing, elevation, dip, azimuth, down hole length) is supplied within the MRE</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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 equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Weighted average grades are used for reporting drill intersections. The intersection begins at the start of the first selected sample and ends after the last sample in the interval.</li> <li>The cut-off grade for the reporting of metal values varies. Precious metal content is reported as zinc equivalency to cut-off grades.</li> <li>Where individual grades are quoted, the sampling depth is shown.</li> <li>Metal equivalents are applied to cut-off grades and grade-tonnage curves.</li> <li>Visual mineralisation is reported as the dominant mineral habit and abundance for the given interval. Intervals may include minor types of other styles of mineralisation.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>All intervals are reported as down hole lengths.</li> <li>Given the geometry of mineralization and drill hole design, the intervals are expected to be close to true widths</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>A prospect location map and cross sections are shown in the body of the announcement</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>All known explorations results have been reported</li> <li>Reports on other exploration activities at the project can be found in ASX Releases that are available on our website <a href="http://www.americanwestmetals.com">www.americanwestmetals.com</a></li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All material or meaningful data collected has been reported.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Further metallurgical test work will aim to provide a robust metallurgical and mineralogical model and refine the processing flowsheet.</li> <li>Technical reporting on the resource modelling and estimation using recent and historical drill hole data is currently underway.</li> <li>Subsequent activities are being planned and includes testing geophysical targets and other high priority exploration targets within the project area.</li> </ul>

## Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>Drill hole data was maintained by CGS Geo. Services and American West Metals Ltd.</li> <li>Stantec CP independently reviewed the drill hole database for: <ul style="list-style-type: none"> <li>duplicate samples,</li> <li>interval overlaps,</li> <li>interval sequence,</li> <li>extra horizons,</li> <li>and assay value review/ statistics.</li> </ul> </li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>CP representative from Stantec conducted site visits The West Desert Site, Utah and American Assay Labs (AAL), Reno Nevada during Dec 2022 and reviewed the following: <ul style="list-style-type: none"> <li>West Desert Site, Utah</li> <li>Drill hole location</li> <li>Logging/ Sampling procedures</li> <li>AAL Reno, Nevada</li> <li>Assay Methodologies and</li> <li>Internal QA/ QC</li> </ul> </li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>Geologic Interpretations were provided by CGS Geo. Services in conjunction with American West Metals Limited. The geologic interpretation was a continuation of previous work completed by Mine Development Associates (MDA) for InZinc Mining Ltd. in the 2014 Technical Report (Technical Report on the West Desert Zinc-Copper-Indium-Magnetite Project Preliminary Economic Assessment Juab County, Utah). The Stantec CP reviewed the provide interpretations for use in development of the resource estimation.</li> <li>A redox boundary was developed by CGS Geo. Services and used to assign oxide vs. sulphide material</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>The extent of the resource is approximately 700 m (x) by 500m (y) by 775m (z).</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> <li><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> <li><i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li><i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>Maptek's Vulcan 3D mine planning &amp; geological modelling software was used for the block model creation and block grade estimation.</li> <li>Inverse Distance Squared (ID<sup>2</sup>) was used for the estimation methodology.</li> <li>The estimation passes search were anisotropic and oriented based on each modeled lithologic domain.</li> <li>Block sizing ranges from 5m down to 2.5m</li> <li>Each Identified lithologic domain was estimated independently and 1.5m composite samples were flagged for use and limited to each domain's estimation.</li> <li>The 1.5m composite sets were capped/cut based on log normal plots and box plot results of the sample distributions for each independent lithologic domain.</li> </ul>
<i>Moisture</i>	<ul style="list-style-type: none"> <li><i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></li> </ul>	<ul style="list-style-type: none"> <li>Legacy drilling pre-2022 was measured for specific gravity (SG) on site using the wet/dry immersion weight technique.</li> <li>2022 drilling SG was measured using the same technique by an independent lab.</li> </ul>
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <li><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>Cut-off parameters were based on recovered zinc only for oxide heap leach material and utilize a zinc equivalent for oxide mill leach and sulphide mill flotation material.</li> <li>The cutoff grades reflect assumed mining methods, processing methodology, general and administrative (G&amp;A) and haulage costs</li> </ul>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not</i></li> </ul>	<ul style="list-style-type: none"> <li>The assumed mining factors were open pit and longhole open stoping methods.</li> <li>The minimum stope width applied to the MRE was 3-5m.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i>	
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>Numerous metallurgical test programs have been completed on representative samples of mineralisation from the West Desert Deposit.</li> <li>The defining assumed processing recoveries are based on the results of these programs and are as follows: <ul style="list-style-type: none"> <li>Oxide Material Heap leach (HL) processing recovery- 65% Zinc only.</li> <li>Oxide Material Mill Leach (ML) processing recovery- 85% Zinc and 70% Copper.</li> <li>Sulphide Material Mill Flotation (MF) processing recovery- 87% Zinc, 70% Copper, and 80% Silver.</li> </ul> </li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>No restricting environmental assumptions have been applied</li> </ul>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li><i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></li> <li><i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></li> <li><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>No bulk density samples have been acquired at this stage of the project.</li> <li>Core density samples were used to develop each modeled lithology. The samples were flagged for the corresponding lithology and box plots were used to determine the high (97.5 percentile) and low (2.5 percentile) outliers, which were subsequently removed, to gain the mean density for each lithology type and were coded in the model.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> </ul>	<ul style="list-style-type: none"> <li>Material confidence classifications were based on the three estimation pass parameters. <ul style="list-style-type: none"> <li>First pass- Indicated</li> <li>Second Pass- Inferred</li> <li>Third Pass- Unclassified/ Potential</li> </ul> </li> <li>The Stantec CP then reviewed the estimation pass results to smooth the</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	confidence results to eliminate any numerical gaps in the estimation results.
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>Currently, no audits have been performed on the Mineral Resource Estimate</li> </ul>
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>Stantec's CP feels that the Mineral Resource Estimate presented herein meets the inferred levels of assurance</li> </ul>