Tuesday, 31<sup>st</sup> January 2023

# Quarterly Activities Report for the Period Ended December 2022

# West Desert Project, Utah

- Excellent recoveries of zinc and copper produced by metallurgical test work on the oxide and sulphide ores at West Desert further support the potential for a combined open pit and underground development at West Desert
- The Utah Geological Survey has been awarded a federal grant to study critical metals at the West Desert Deposit, in recognition of the large volumes of zinc and copper defined at West Desert, as well as the only resource of indium in the US
- Detailed work has continued on the maiden JORC compliant mineral resource estimate for the West Desert Deposit

# Storm Copper Project, Canada

- Final assays for American West's inaugural drilling campaign at Storm were received during the quarter and confirmed additional thick, near-surface high-grade copper mineralization
- Strong drilling results at the 2750N Zone with latest assays including:
  - 19m @ 2.08% Cu from 58m downhole, including;
    - 2m @ 15.98% Cu from 70m downhole (ST22-06)
  - 10m @ 2.36% Cu from 53m downhole, and;
  - 7m @ 1.08% Cu from 79m downhole (ST22-04)
  - 2m @ 1.81% Cu from 36m downhole, and;
  - 7m @ 1.00% Cu from 40m downhole, and;
  - 1m @ 5.75% Cu from 13m downhole (ST22-07)
- A significant volume of near-surface high-grade copper at the 2750N Zone has now been confirmed with mineralisation open to the west along a 1km prospective strike length
- Potential to further define near-surface high-grade copper deposits with the drilling of the extensive 2200N and 4100N Zones where multiple intersections of massive copper sulphides have been discovered by historical drilling

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- 3D inversion work on data from American West's recent Induced Polarization (IP) survey has identified several large targets that are interpreted to be consistent with copper mineralisation
- The largest of the IP anomalies which has a strike of more than 3.5km surrounds the historical Big Indian and Blue Jay copper mines, indicating potential for extensions to known sedimentary copper mineralisation

## Corporate

- Mr Dan Lougher has joined the board of American West as a Non-Executive Director from 9 November 2022 and will become Non-Executive Chairman from 1 April 2023
- The Company raised approximately \$3.4 million during the quarter to progress its advanced copper and zinc projects

American West Metals Limited (ASX: AW1) ("American West" or "the Company") is pleased to report on its Quarterly activities for the period ending 31 December 2022. During the December 2022 quarter.

## Dave O'Neill, Managing Director of American West Metals commented;

"This quarter has seen the return of final assays for the drilling at Storm, and the continuation of intensive study work on the West Desert and Copper Warrior Projects.

"The drilling program at the Storm Project continued to exceed our expectations, and our maiden drill program has been a huge success. The program has expanded the volume of mineralisation at the 2750N Zone, and discovered a new, potentially large, sedimentary copper system below the near-surface mineralisation.

"Planning for the follow-up exploration has been completed and will include a significant expansion of activities with the addition of an RC drill rig and an extensive ground geophysical program. Exploration will also expand into new areas with an aim to highlight the belt scale opportunity at Storm.

"Detailed work has significantly progressed the West Desert JORC compliant mineral resource estimation. An important part of our modelling process has been to apply rigorous economic and development overlays, to confirm our robust mining proposals for the project.

"Work has also continued on the Copper Warrior Project with the reinterpretation of recent IP data revealing a number of high-priority anomalies. These exciting copper exploration targets will be drill tested once permitting for the program has been approved.

"We have a big 2023 planned and we look forward generating strong news flow in the coming months."



# West Desert Project, Utah

American West Metals received the final results for the metallurgical test work during the quarter. The test work on representative oxide and sulphide ores has shown outstanding results including very high recoveries of zinc and copper, and the potential amenability of the oxide and transitional ores to traditional acid heap leaching. The results show the potential economic viability of the oxide ores and support the continued study for a combined open pit and underground development scenario at West Desert.

Work also continued on the maiden JORC compliant mineral resource estimate (MRE) for the West Desert Deposit. The historical resource for West Desert hosts more than **59Mt of Indicated and Inferred Resources** with a higher-grade core of **16.5Mt @ 6.3% Zn, 0.3% Cu, 33g/t In for 1.03Mt Zn, 45Kt Cu and 545t Indium** (Ni43-101, historical and foreign). The MRE work during the quarter was focused on incorporating drill results from 2018 and 2022 into the resource, and optimising the resource model with a number of mining scenarios and economic overlays.

## MAIDEN JORC COMPLIANT MINERAL RESOURCE ESTIMATE

Extensive work was completed on the West Desert MRE during the December quarter. The work has included a robust review and assessment of the resource with a range of mining and development scenarios. The aim of this work is to incorporate the latest drilling and metallurgical findings which have confirmed our assumptions around the viability of a combined open-pit and underground mining operation.

The drilling from 2018 and during 2022 has provided a significant increase in the confidence of the West Desert resource and highlighted clear distinctions between the zinc dominant orebody, and emerging copper dominant ore system along the margins of the porphyry intrusion (Figure 1). The recent resource modelling work has highlighted the 'Copper Zone' as an area for significant resource and value upside, and upcoming drilling will focus on extending these copper-silver-gold-indium rich lenses.

Along with extending and confirming the continuity of the known zones of high-grade zinc and copper, the recent drilling by American West has also discovered further high-grade mineralisation along strike, to the west of the current deposit, highlighting the significant growth potential of the West Desert mineral system.

Planning has progressed on the 2023 drilling program to follow-up these key near-mine exploration targets, and to progress key feasibility activities which include will metallurgy, geotechnical and hydrology drilling.





Figure 1: Isometric view of the West Desert Deposit looking to the NE. Note the continuous lens' of high-grade (>9% Zn) mineralisation within the core of the deposit, and extensive copper zone.

### METALLURGICAL TEST WORK ON OXIDE ORES

The metallurgical test work was completed on drill core samples from the 2022 diamond drilling program by BASE Metallurgy in Canada, and has shown outstanding results that demonstrate the potential viability of the oxide and transitional ores to traditional processing techniques.

The acid leach test work on a range of different sized oxide material has produced up to 89.9% recovery for zinc, 78% recovery for copper, and with relatively low acid consumptions.

Testing of high-grade sulphide ores from the Main Zone of the West Desert Deposit has confirmed historical results and produced exceptional recoveries of over 99% for zinc using simple sulphide flotation.



Heap leaching is widely used as a low cost and simple processing technique and can be used to recover very low concentrations of base and precious metals. The amenability of the oxide ores to this process method unlocks the near surface potential of the West Desert Deposit and supports the potential for a staged open pit and underground mining scenario.

#### **ORE TYPES AND SAMPLE SELECTION**

The drill holes selected for the metallurgy program are located in key areas defined by pit shell analyses on the existing PEA resource (Figure 2). The drilling targeted the near surface and potential open pit zones and acquired oxide, transitional, and fresh ore samples (Table 1).

Composite	Hole ID	From	To (m)	Width	<b>Zn</b> %	Cu %	Au	Ag g/t	ln g/t
		(m)					g/t		
Α	WD22-01	30.02	51.66	21.64	0.77	0.00	0.0	1.32	0.35
В	WD22-02	74.52	85.96	11.44	6.46	0.17	0.22	3.92	90.73
с	WD22-02	99.66	110.03	10.64	2.52	0.36	0.15	14.31	33.82
D	WD22-03	372.60	377.63	5.03	27.12	0.02	0.01	2.46	238.94

Table 1: Summary of drilling intersections used for the metallurgical test program.

#### **Composite A description**

Drill hole WD22-01 provided core from an area of massive dolomite with vein and disseminated style mineralisation identified in the geological logging. The rocks show strong weathering and contain high levels of carbonate and carbon.

The sample interval contains generally low zinc and other metal grades, and XRD analysis confirms the presence of iron oxides and hemimorphite (zinc silicate). Hemimorphite is an important secondary zinc ore type and is formed in the weathered parts of sphalerite rich orebodies. Zinc silicates can be more challenging to liberate metallurgically than zinc carbonates.

Ore classification - Oxide

#### **Composite B description**

Composite B is sourced from drill hole WD22-02 and is strongly oxidised. The interval is logged as being structurally bound and contains magnetite skarn mineralisation hosted within minor limestone and dolomite.

The interval contains ore grade zinc with copper, silver, gold and indium present as important credits. XRD confirms that the main ore mineral is smithsonite (zinc carbonate), which is known to be highly amenable to leaching and can produce a high quality and sought-after zinc fertilizer product.

Ore Classification - Oxide

#### **Composite C description**

Composite C was also sourced from drill hole WD22-02 and the interval is located further downhole to Composite B. The material appears moderately to strongly weathered in places and contains visible



zinc and copper oxide minerals. The host rocks consist of a mix of dolomite, massive magnetite skarn and porphyry intrusives.

XRD confirmed the presence of smithsonite and surprisingly, did not detect the presence of azurite and malachite (both were visually logged). The marginally higher copper grades in this interval suggest that some of these minerals are present.

Ore Classification - Upper Transitional

#### **Composite D description**

The samples for Composite D were sourced from the main zone of the West Desert Deposit and were used as a comparison on the oxide/transitional samples, and to validate historical sulphide metallurgical test work.

The interval contains massive zinc sulphides hosted within magnetite skarn. Interestingly, the XRD shows the presence of very minor smithsonite which likely occurs within altered micro fractures and late fault related slickensides.

Ore Classification - Fresh



Figure 2: Long section of the West Desert Deposit (2014 PEA resource model) showing sample locations for the metallurgical test work.

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#### ACID LEACH TEST WORK

A range of tests were completed on the composites and included sulfuric acid-leach coarse ore bottle roll (COBR), ammonia leaching, sulphide flotation and heavy liquid separation (HLS). Ammonia leaching and HLS are not described below due to below average performance of the techniques on the composite samples.

#### Acid Leach Coarse Ore Bottle Roll Tests

This technique has evaluated coarse ore bottle roll (COBR) sulphuric acid leaching for heap leach amenability of all four composite samples.

The COBR tests were conducted by placing crushed ore material at targeted grind sizes in a bottle on rollers. The bottle is rolled intermittently with different time intervals. A number of different particle sizes were used including very coarse 10 to 33mm particles to better understand real world heap leaching potential.

The results of the COBR show excellent recoveries for zinc for Composites A, B and C. However, due to the high carbonate content of Composite A, the acid consumption and time required to achieve the high recoveries is excessive and likely uneconomic. COBR testing on Composite D was ineffective.

Tests were also completed on Composites B and C to determine the recovery of copper using the same methods. Both samples respond well despite the relatively low feed grades between 0.18 and 0.41% Cu (Table 5).

Importantly, the net acid consumption for Composites B and C is very low relative to most zinc oxides, and appears to be a function of particle size. This presents as a pathway to the potential economic extraction of zinc and copper from the oxide ores at West Desert.

Composite	Test ID	Grind Size Mm	Feed Grade Zn %	H₂SO₄ Cons. kg/t	Final PLS Zn, ppm	Zn Rec %	Leach Tail Zn %
Α	A-02	1.2	0.67	461	1562	80.6	0.13
В	A-06	1.2	6.69	88.5	16,744	89.9	0.68
С	A-07	1.2	3.16	106	6,888	72.7	0.86
В	A-12	33	5.49	54.9	15,930	61.8	2.10
С	A-13	33	2.80	39.2	6,090	46.5	1.50
В	A-14	10	5.48	49	21,380	80.8	1.05
С	A-15	10	2.84	49	6,950	50.8	1.40

Table 2: Summary of COBR test results for zinc extraction on Composites A, B and C.





Figure 3: COBR recovery curves for Composites A, B and C (Labelled Sample A, B and C respectively) showing percentage of zinc recovery over time in hours (at 1.2mm particle size)

Composite	Test ID	Grind Size Mm	Feed Cu %	Final PLS Cu, ppm	Cu Rec %	Leach Tl Cu %
В	A-06	1.2	0.18	296	60.1	0.07
С	A-07	1.2	0.37	759	67.7	0.12
В	A-08	0.075	0.19	232	68.2	0.06
С	A-09	0.075	0.41	516	78.0	0.09

Table 3: Summary of COBR test results for copper extraction on Composites B and C.



Figure 4: COBR recovery curves for Composites B and C (Labelled Sample B and C respectively) showing percentage of copper recovery over time in hours (at 1.2mm particle size)

### DEVELOPMENT IMPLICATIONS OF METALLURGICAL RESULTS

The metallurgical test program has met or exceeded the performance of the historical test work and has confirmed the processing viability of the zinc-copper oxide and transitional ores at West Desert.

The successful metallurgical results are driven by the simple and favourable ore mineralogy of the West Desert Deposit.

Sulphuric acid leaching / COBR has emerged as the preferred processing technique for the near surface ores and has demonstrated repeatability at various particle sizes.



Key points that summarise the case for potential economic extraction of zinc and copper at West Desert, include:

- 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.
- Composite B and C acid leach results 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.
- Limited tests on copper extraction using acid leach for Composites B and C produced recoveries up to **78%** at low copper grades.
- Composite D produced a 99.4% Zinc recovery by sulphide flotation, exceeding historical test results.

Exploitation of the oxide zones at West Desert will give development optionality and is expected to add significant additional mine life to the project. Prior mining and economic studies at West Desert did not include this material, being purely focused on the sulphide ores and the generation of a magnetite iron-ore product.

#### **CRICTICAL METALS STUDY**

The Utah Geological Survey has been awarded a US federal grant for critical minerals research on American Wests 100% owned West Desert Deposit.

Large resources of zinc, an essential component for many metal alloys, and copper, one of the most important commodities for electric vehicles and efficient energy grids, are found at West Desert. Significantly, the deposit also contains unusually high levels of indum, which also considered a crictical and strategic metal in the US and is becoming a highly sought after commodity.

Indium, in the form of indium tin oxide (ITO), is an essential material used to create touchscreens on a range of consumer devices, such as smartphones and display panels, and for other industrial applications, such as windshields and solar panels.

No indium was produced in the United States in 2021, and the West Desert deposit is the only domestic established resource of indium, currently estimated to contain enough indium to supply all U.S. demand for nearly 10 years (Utah Geological Survey).

The funding for the study comes from the U.S. Geological Survey **Earth Mapping Resource Initiative (Earth MRI)** program, which is dedicated to improving geological knowledge about domestic critical mineral resources.

The \$300,000 grant will run over three years and is being conducted by the Utah Geoloigcal Survey (UGS). 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.

The collaboration will allow UGS unprecedented access to geological information and data related to West Desert, and support research into how this important deposit formed.



# Storm Copper Project, Nunavut

The final assays were received for American West Metals maiden drilling program at the Storm Copper Project during the quarter.

A total of ten drill holes for 1,534m was completed during the 2022 program (Figure 5), with 997m drilled at the shallow and high-grade 2750N Zone, and with 537m completed targeting high-priority exploration geophysical targets that were defined in the 2021 Fixed Loop Electromagnetic (FLEM) Program.

Most of the drill holes completed at the 2750N Zone have successfully intersected thick zones of breccia and/or massive copper sulphides (mostly chalcocite) hosted within much broader intervals of vein and fracture style mineralisation.

There is excellent potential for further extensions to the 2750N Zone with strong copper anomalism in soils and rock chips along strike for over 1km from the known mineralisation. Massive chalcocite has been mapped in outcrop to the west of the 2750N Zone, with assays of rock chips up to 62% copper.

Faults are believed to be a major control on mineralisation. Further drilling will aim to define the structural architecture of the 2750N Zone, and to expand the economic potential of the Storm area by defining resources at the highly prospective 2200N and 4100N Zones. These opportunities offer outstanding upside and large-scale potential for a low-footprint, direct shipping ore (DSO) type operation.



Figure 5: Orthographic view of the 2750N drilling showing mineralised envelope (>0.5% Cu) and copper grades.



Hole ID	Prospect	Easting	Northing	Depth (m)	Azi	Inclination
ST22-01	2750N	466230	8172841	128	180	-50
ST22-02	2750N	466202	8172763	155	360	-65
ST22-03	2750N	466293	8172778	119	359	-68.6
ST22-04	2750N	466276	8172827	146	182	-60.3
ST22-05	2750N	466275	8172827	89	180	-45.8
ST22-06	2750N	466178	8172828	152	180	-53
ST22-07	2750N	466164	8172804	101	197	-52
ST22-08	2750N	466328	8172822	107	180	-55
ST22-09	Loop10_1	466947	8172552	155	018	-60
ST22-10	Loop7_2	464323	8174299	382.6	180	-68.4

#### **DRILLING PROGRAM SUMMARY**

Table 4: Drill hole details.

#### FINAL DRILL HOLE DETAILS

Drill holes ST22-06 and ST22-07 were drilled in the western part the 2750N Zone and successfully encountered thick intervals of copper sulphides (Figure 5).

The mineralisation encountered in these two holes is similar to that observed in other drill holes in this area and, importantly, is strongly chalcocite dominant. The typical copper zonation model strongly suggests that the centre of the mineralised system may be close to these drill holes, and potentially located just to the west of the known mineralisation in the 2750N Zone.

Drill holes ST22-03, ST22-04 and ST22-08 are all located in the eastern portion of the 2750N Zone.

ST22-04 was drilled on the same section as ST22-05 and encountered strong copper mineralisation, including 2m @ 4.04% Cu and 1m @ 8.29% Cu within a broader interval of 10m @ 2.36% Cu from 53m downhole.

The assay results for ST22-03 and ST2208 shows intervals of lower grade copper, which is a function of the fined grained/veinlet style of the mineralisation encountered in these drill holes.

The assays also indicate that some mineralisation initially logged within ST22-03 and ST22-08 is sooty pyrite and marcasite, not chalcocite, and this would support the interpretation that this may be a marginal part of the ore system in this zone. Mineralisation at Storm is typically zoned, displaying a core of copper-rich chalcocite and bornite with a margin of pyrite, chalcopyrite, sphalerite, and galena.

Another interpretation is that the mineralisation in the east may be offset by a series of north-south oriented faults. This type of structure was observed in drill hole ST22-02, as was the presence of strong pyrite, and the sinuous nature of the surficial expression of the zone may indicate some potential for offsets to the mineralisation.



Table 5 summarises the significant intersections in drill holes ST22-03, ST22-04, ST22-06, ST22-07 and ST22-08. Intersections are expressed as downhole widths and are interpreted to be approximately 90% of true width. A cut-off grade of 0.5% copper is used to define a significant intersection and is based on ore mineralogy, mineralisation habit and expected beneficiation performance.

Hole ID	From (m)	To (m)	Width	Cu %	<b>Zn</b> %	Ag g/t
ST22-03	11	12	1	0.97	-	-
	96	98	2	0.55	-	-
	106	108	2	0.81	-	-
ST22-04	39	41	2	0.63	-	-
	53	63	10	2.36	-	-
Including	57	59	2	4.04	-	-
And	61	62	1	8.29	-	-
	71	72	1	0.56	-	-
	79	86	7	1.08	-	-
ST22-06	53	54	1	1.33		
	58	77	19	2.08	-	-
Including	70	72	2	15.98	-	-
	83	86	3	0.54	-	-
	95	97	2	0.58	-	-
ST22-07	13	14	1	5.75	-	-
	17	23	6	0.52	-	-
	36	38	2	1.81	-	-
	40	47	7	1.00	-	-
Including	44	45	1	3.89	-	-
ST22-08	55	56	1	2.05	-	-
	65	66	1	0.51	-	-
	69	70	1	0.57	-	-

Table 5: Summary of significant drilling intersections for drill holes ST22-03, ST22-04, ST22-06, ST22-07 and ST22-08 (>0.5% Cu).





Figure 6: Massive bornite from approximately 50.9m downhole in 2022 drill hole ST22-05

## **RESOURCE DEFINITION AND EXPANSION**

The footprint of near-surface, high-grade copper mineralisation at Storm has been defined over an area of 400,000m<sup>2</sup>, with an average thickness of mineralisation of 24m @ 2.15% Cu (weighted average grade from 32 drill holes). Four main zones of mineralisation have been identified to date (Figures 7 & 8).

The recent drilling at the 2750N Zone has highlighted the continuity of the copper zones, and the nearsurface mineralisation remains a focus for resource drilling due to its high grades, shallow nature and potential to provide a significant resource base for an initial low-cost open-pit mining scenario.

Outside of the 2750N Zone, the areas of immediate interest are the 2200N and 4100N Zones, where thick intervals of copper mineralisation have also been defined over a broad area. The planned drilling is designed to expand and test the continuity of these zones with a view to significantly increase the resource potential of the high-grade copper mineralisation.

A Reverse Circulation (RC) drill rig will be used for the first time at the Storm Project during 2023. The drill rig is capable of drill depths up to 200m, ideally suited to shallow resource definition and will work in parallel with the diamond drill rigs currently onsite.

The RC rig is expected to work until September and has the potential to complete over 10,000m of drilling during the 2023 program.



#### 2200N Zone

The 2200N Zone is located approximately 540m to the south of the 2750N Zone. The zone is characterised by extensive outcropping copper gossans over several hundred metres and is located within an area of strong faulting related to the main graben structures, which are an important control on mineralisation.

Historical drilling has intersected bornite and chalcocite mineralisation including **6.4m @ 7.38% Cu** from surface and **22.35m @ 1.56% Cu** from 22.9m downhole (ST97-03). The mineralogy and style of mineralisation are similar to that of the 2750N Zone. Drill hole and geochemical data indicate that the main part of the 2200N Zone may be up to 300m long, 60m wide and 40m thick, giving strong encouragement for further drilling success in this area.

Potential extensions to this zone are supported by the presence of a shallow and strong Fixed Loop Electromagnetic (FLEM) anomaly that was defined in the 2021 survey completed by American West Metals (see ASX announcement dated 14 December 2021: *Outstanding growth potential confirmed at Storm Copper Project*), and historical Induced Polarisation (IP) data.

Both the 2750N and 2200N Zones are located above a large, flat lying and deeper 1,800m x 1,000m Fixed Loop Electromagnetic (FLEM) anomaly that was also identified in the 2021 EM program. This feature is coincident with strong gravity anomalism between the major graben faults , which is an ideal location for the accumulation of sedimentary copper mineralisation.



Figure 7: Plan view of the 2200N and 2750N Zones showing copper grade distribution within drilling, shallow and deep EM anomalies, outcropping copper mineralisation overlaying regional geology.



### 4100N Zone

The 4100N Zone is a blind zone of mineralisation defined by a historical Versatile Time domain Electromagnetics (VTEM) anomaly that is over 1km long, and multiple untested shallow FLEM anomalies that were defined in the 2021 surface EM program. Given the lack of false-positive anomalies encountered in drilling of EM targets to date, and extensive copper mineralisation in historical holes, these untested EM conductors have excellent potential to represent further occurrences of massive copper sulphides.

Historical drilling at the 4100N Zone includes intersections such as **15m @ 3.88% Cu** from 72.4m downhole (ST99-47), and **4.8m @ 3.7% Cu** from 20.3m and **5.8 @ 3.6% Cu** from 38.6m downhole (ST99-53). The copper mineralisation intersected to date is dominantly chalcocite, which occurs in steeply dipping veins and breccias.

The 4100N offers considerable room for expansion. The known mineralisation in the zone extends over an area of at least 1,000m x 400m and is open to the north, east and west, with potential for deep extensions to the mineralisation across a fault on the south side of the Zone. Seventeen holes have been drilled at spacings of 100m to 200m, and all have encountered copper mineralisation. The mineralisation drilled to date is extensive and lies at a predictable stratigraphic position, providing an opportunity for close-spaced drilling to define further significant mineralisation.



Figure 8: Plan view of the 4100N Zone showing copper grade distribution within drilling, shallow/deep EM anomalies and faults overlaying regional geology. The 4100N Zone has drill hole copper intersections supported by untested EM anomalies over 1km of strike.



### EXPLORING THE EMERGING SEDIMENTARY COPPER SYSTEM

The recent discovery in drill hole ST22-10 (see ASX announcement dated 28 September 2022: *New copper system confirmed at the Storm Project, Canada*) suggests that known copper prospects at Storm may be related to a large, sediment hosted style copper system below the near-surface deposits (Figure 9).

The interpretation of the geochemical and geological data from drill hole ST22-10 indicates that the hole has intersected the margins of a mineralised system (The conceptual location of drill hole is indicated in Figure 9). This interpretation is supported by a series of coincident electromagnetic (EM), induced polarization (IP) and gravity anomalies that are over 5km long, and are associated with the 4100N Zone (Figure 10).

The other near-surface copper occurrences at Storm (2750N, 2200N and 3500N Zones) are also associated with large geophysical anomalies, which further supports the potential association between the two types of mineralisation.



Figure 9: Conceptual geological and exploration targeting model for the Storm Project, showing depth of current drilling and conceptual location of discovery drill hole ST22-10.







Figure 10: Plan view of the Storm Prospect area showing drilling, major graben faults, deep electromagnetic plates and induced polarization anomalies overlaying regional Fourier gravity image (Falcon). Note that the coincident IP, EM and strong gravity anomalies lay adjacent to, or between the major graben faults – favourable locations for the accumulation of sedimentary copper mineralisation.

## **EXPANSION OF EXPLORATION INTO NEW AREAS**

New high-resolution geophysical surveys will commence during March, and will involve a closely spaced ground gravity survey and moving/fixed loop EM surveys. The surveys will cover the known prospects to better define the existing Falcon airborne gravity and FLEM targets, and extend into new, previously untested areas with the aim of expanding the prospective footprint of copper mineralisation at the project.

These new areas include the Blizzard, Tornado and Tempest Prospects. The Tempest Prospect is located approximately 40 kilometres to the south of the Storm deposits, and it contains a large (>250m long) copper gossan exposed at surface that has assayed up to 32% Cu (Figure 11 & 12). Its location and distance from Storm highlight the extensive nature of the prospective copper horizon within the Project area.





Figure 11: Map showing the planned surface geophysical surveys for 2023, highlighting the expansion of activities into the Tornado, Blizzard, and Tempest Prospects.

### PRELIMINARY ECONOMIC EVALUATION ON DSO

Work is continuing to progress the potential near-surface mine development pathway for the Storm Project, in parallel with the accelerated exploration and delineation program.

Beneficiation and metallurgical test work on drill core from the 2022 field season (ST22-02) will create a definitive processing flow sheet for a direct shipping ore (DSO) product from the representative nearsurface Storm mineralisation. Previous test work on these ore types has produced a >53% copper DSO product using a full-scale ore sorter and with no further processing or optimisation (see our ASX Release dated 11 April 2022 – Over 53% Cu Direct Shipping Ore Generated at Storm Copper).

The potential to produce a high value and high margin DSO product at Storm could present an opportunity to provide a short lead time, potential pathway to generating revenue for the Company. Ausenco has been engaged and has commenced work on defining and initiating the permitting pathway for this style of operation at Storm.

This work will also include the commencement of environmental baseline studies during Q2 2023 within the Storm Prospect area and a newly defined transport corridor between the Storm Prospect area and the coast.







Figure 12: Prospect location map of the Nunavut Project highlighting the main prospective copper and zinc stratigraphic horizons.



# **Copper Warrior Project, Utah**

The Copper Warrior Project covers an area of outcropping Dakota and Lower Burro Canyon sandstone with widespread occurrences of disseminated and fracture-controlled copper mineralisation (Figure 14 & 15). Surface exposures in the project area look very similar to those at the Big Indian Copper Mine that abuts Copper Warrior and the Lisbon Valley Copper Mine located 15km to the south (Figure 13).

The copper mineralisation at Copper Warrior is comprised of disseminated chalcocite within the sandstone units, and chalcocite, azurite and malachite where the mineralisation is outcropping (Figure 14). Vein-style and higher-grade mineralisation is common in the project area close to the Lisbon Valley Fault, which is the main source of copper bearing fluids.

These types of mineralisation are highly amenable to detection with electrical geophysical methods including Induced Polarisation (IP).

## **IP SURVEY HIGHLIGHTS EXCEPTIONAL DRILL TARGETS**

The IP survey completed by American West Metals was the first of its type at the Project. The survey was designed to test the response of the known mineralised units at the Big Indian Mine that extend into the Copper Warrior project area, and to screen the remainder of the project area for similar features.

A total of 11 dipole-dipole lines at 100m array spacings were completed over the prospective stratigraphy for a total of 251 stations. The results from the survey were recently reprocessed and interpreted in 3D to provide inversion data and better depth constraints for drill targeting.

The survey has identified a series of coincident chargeable and conductive anomalies that are in compelling geological locations (Figure 2). The 3D inversion work has revealed two distinct chargeable layers that are interpreted to represent both the Dakota and Lower Burro Units (Figure 5).

Given the resistive nature of the host sandstone units, the interpretations suggest that the chargeable features may be related to the presence of disseminated and vein-style copper sulphide mineralisation within these target horizons.

Importantly, a very large IP anomaly (Anom 3 - over 3.5km long) is located around the existing Big Indian and Blue Jay pits, and could represent extensions to the south and east of the known mining units. One of the new IP anomalies (Anom 1) with dimensions of approximately 850m x 570m is located in an area of outcropping copper mineralisation with assays up to 3.3% Cu (For details of the geochemical sampling program see our Quarterly Activities Report for the quarter ended 31 March 2022).

The size and distribution of the IP anomalies suggests that there is potential for a number of Lisbon Valley sized deposits within the Copper Warrior Project area.





Figure 13: Project outline, faults and surface geochemistry points overlaying IP image (chargeability) at 1,900mRL Red colours indicate strong IP anomalism.



Figure 14: Coarsely disseminated copper oxides (in this case azurite – brilliant blue in colour) are widespread in outcrop throughout the Copper Warrior Project area.



#### **DRILL PROGRAM PLANNED**

A maiden drilling program has been designed to test the high-priority IP anomalies and other stratigraphic targets. The drilling program will consist of 15-20 reverse circulation (RC) drill holes for approximately 3,000m, with a maximum drill depth of approximately 150-200m.

Permitting is currently underway with an aim to complete in the program in conjunction with planned RC drilling at the West Desert Project.



Figure 15: Schematic SW-NE geological section through the Copper Warrior Project (See Figure 3 for section location). The Dakota (Kd13) and Lower Burro Canyon (Kbc15) Formations are also found at the nearby Lisbon Valley Copper Mine and are the main hosts to economic copper mineralisation in the area.



Figure 16: Pseudo section along IP Line 6 (same approximate section as the above geological section) showing resistivity data. Note the conductive features at surface (Interpreted to be outcropping Dakota Formation – Kd13) and broad, flat lying feature at depth (interpreted Lower Burro Canyon Formation – Kbc15).



# CORPORATE

## DAN LOUGHER JOINS AMERICAN WEST

Dan Lougher joined the Board of American West Metals as a Non-Executive Director from 9 November 2022 and will transfer to Non-Executive Chairman from 1 April 2023.

In a distinguished career spanning 40 years, Mr Lougher has established industry leading credentials for the development and operation of large-scale mining assets in the base and precious metals sector. He has successfully built multiple mines, managing all facets of project development from resource definition, feasibility studies, project financing, mine construction and the negotiation of off-take contracts.

Mr Lougher joined Western Areas in 2006 and occupied the roles of General Manager, Operations and Projects, followed by an appointment to the Board as Executive Director – Operations and rising to the position of Managing Director and Chief Executive – a role he occupied from 2012 until the takeover of Western Areas by IGO in 2022 for \$1.3 billion.

The Board believes that Dan's experience and successful track record in project development, mine construction and corporate growth will provide great value to American West Metals as the Company continues to advance its mining projects and develops into a leading clean energy metals mining company.

## SUCCESSFUL CAPITAL RAISING

On 1 November 2022, the Company announced a private placement of shares to raise \$3.4 million (before costs). A total of 27,395,663 new shares at \$0.125 per share ("Placement") were issued on 8 November 2022. Subscribers under the Placement also received one free-attaching option for every two shares subscribed for and issued under the Placement, with the options having an exercise price of \$0.20 and an expiry date of 20 September 2024 ("Options").

The Company also accepted a Chairman's List commitment of \$300,000 under the same terms as the Placement, which included 160,000 shares and 80,000 Listed Options to Director Dan Lougher. The issue of the Chairman's List was subject to shareholder approval. Shareholder approval was received on 14 December 2022 and the shares and options were issued on 12 January 2023.

The Company currently has securities on issue as at the date of this Report of:

AW1 Security	Amount Issued
Fully paid ordinary shares listed on ASX <sup>1</sup>	212,433,413
Listed options	29,624,207
Unlisted options <sup>2</sup>	5,790,550
Performance Rights <sup>3</sup>	20
Performance Options <sup>3</sup>	3,700,000

- 1. 58,224,999 ordinary shares are escrowed
- 2. Various exercise prices
- 3. Various milestones attached



# **TENEMENT INFORMATION**

Details of the Company's tenement holdings are listed below.

## WEST DESERT PROJECT, UTAH

American West Metals has ownership of 330.275 acres of private land which includes interests of 100% of 15 patented claims, 87.5% ownership of the Last Chance No.2 patented claim, 83.3% of the Mayflower patented claim, 66.6% of Emma and Read Iron patented claims, and 41.6% of the Ogden patented claim.

American West Metals has 100% ownership of 336 unpatented lode claims (Crypto-Zn 150-151, 154-160, 164-178, 186-201: Crypto 1-211: Pony 9-16, 21-64, 100-127, 200-214).

American West Metals is 100% owner of the leasehold interest of State of Utah Metalliferous Minerals Lease ML48312.

## STORM/SEAL PROJECT, NUNAVUT

American West Metals has an option agreement with Aston Bay Holdings over 117 Mineral Claims (AB 44-47, 49-50, 56-60, 63-66, 68, 70-72, 74-79, 84-96, 98-111, 113-124: Ashton 2, 3, 5, 7-10: Aston 1, 4, 6), and 6 Prospecting Permits (P29-31).

American West Metals has 100% interest in 32 claims held under a staking agreement with APEX Geoscience Ltd (S 1-32).

### **COPPER WARRIOR PROJECT, UTAH**

American West Metals has an Exploration and Option Agreement with Bronco Creek Exploration Inc. over 61 unpatented lode claims (Big Indian 2-25: Copper Warrior 1-37).

## **APPENDIX 5B**

An Appendix 5B – Quarterly Cash Flow Report for the quarter ended 31 December 2022, accompanies this Activities Report.

American West Metals provides the following information in relation to payments to related parties and their associates, as required by section 6.1 of the Appendix 5B. During the quarter ended 31 December 2022, a total of \$265,000 was paid to the Directors of the Company as remuneration.

# ASX LISTING RULE 5.3.4 – 31 DECEMBER 2022

**American West Metals Limited (ASX:AW1)** for the purposes of ASX Listing Rule 5.3.2 confirms there was no mining production and development activities undertaken during the quarter.

The Company provides the below information in accordance with ASX Listing Rule 5.3.4, a comparison of American West's actual expenditure since listing against the "use of funds" statement outlined in the prospectus dated 29 October 2021:



Allocation of Funds	Use of Funds per IPO Prospectus Dated 29 October 2021 (Two Years) ('000) <sup>(i)</sup> \$	Actual Expenditure for 15 months ended 31 December 2022 ('000) \$	Variance <sup>(ii)</sup> ('000) \$	
Acquisition of West Desert Project	2,794	2,879	(85)	
Exploration Expenditure	7,125	11,811	(4,686)	
Administration Costs	580	1,215	(635)	
Expenses of the offer	1,070	830	240	
Working Capital	431	431	-	
Total	12,000	17,166	(5,166)	

(i) Adjusted for \$12.0 million in funds raised under the initial public offering.

During the quarter the Company raised additional funds to those raised under the IPO Prospectus. These funds have been used to, amongst other things, expedite exploration at Storm and West Desert and to fund additional activities necessary to achieve the Company's objectives.

The Company has expended \$11,811,000 in exploration expenditure since listing in December 2021. This is ahead of the proposed IPO Prospectus budget of \$7,125,000. The Company has expedited campaigns for Storm and West Desert and incurred costs higher than originally budgeted as a result of the weakening Australian Dollar to the US Dollar.

The Board has reviewed expenditure incurred since the Company's admission to the ASX and is satisfied that the expenditure has been both necessary and reasonable.

### 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 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 <u>https://www.americanwestmetals.com/site/content/</u>:

29 October 2021 Prospectus



#### **Competent Person Statement**

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.

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

- 24 January 2023 Storm Exploration Set to Accelerate
- 22 November 2022 New Copper Targets at Copper Warrior
- 9 November 2022 US Federal Grant for West Desert Critical Metals Study
- 3 November 2022 High-Grade Hits Continue at Storm
- 1 November 2022 \$3.4M Raised to Advance Copper and Zinc Projects
- 25 October 2022 Dan Lougher Appointed Chairman
- 19 October 2022 Excellent Metallurgical Results at West Desert

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

#### For enquiries:

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### **ABOUT AMERICAN WEST METALS**

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

Our portfolio of copper and zinc projects include significant existing resource inventories and highgrade 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.

# Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity				
American West Metals Limited				
ABN	Quarter ended ("current quarter")			
74 645 960 550	31 December 2022			

Consol	idated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(2,635)	(5,611)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(447)	(817)
	(e) administration and corporate costs	(316)	(596)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	2	3
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	(32)	(116)
1.9	Net cash from / (used in) operating activities	(3,428)	(7,137)

2.	Cas	h flows from investing activities
2.1	Pay	ments to acquire or for:
	(a)	entities -
	(b)	tenements -
	(c)	property, plant and equipment -
	(d)	exploration & evaluation -
	(e)	investments -
	(f)	other non-current assets -

Conse	blidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	(20)
2.6	Net cash from / (used in) investing activities	-	(20)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	3,424	6,105
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(247)	(424)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	3,177	5,681

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	870	2,095
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(3,428)	(7,137)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	(20)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	3,177	5,681

#### Appendix 5B Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Conse	olidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	619	619

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	619	870
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	619	870

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	265
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
Note: i such p	if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a descript ayments.	ion of, and an explanation for,

7.	<b>Financing facilities</b> Note: the term "facility' includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	Total financing facilities	-	-
7.5	Unused financing facilities available at quarter e	end	-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		
	Not Applicable		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(3,428)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(3,428)
8.4	Cash and cash equivalents at quarter end (item 4.6)	619
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	619
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)	0.2
	Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A" Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.	
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
	8.8.1 Does the entity expect that it will continue to have the current leve	l of net operating cash

- flows for the time being and, if not, why not?
- Answer: The expenditure is expected to fall significantly for Q1 2023, with major drill campaigns not scheduled to recommence until Q2 2023.
- 8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?
- Answer: Subsequent to the quarter end the Company received \$300,000 from the Chairman's List Placement participants, please see ASX release dated 1 November 2022 for more information. The Company has received several proposals from third parties, including unsolicited proposals, to assist with funding requirements. The Company is confident that ongoing discussions regarding these proposals will result in additional funding being secured for its operations.

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Yes, the Company is expected to be able to continue its operations and to meet its business objectives.

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

#### **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 31 January 2023

Authorised by: Sarah Shipway, Company Secretary (Name of body or officer authorising release – see note 4)

#### Notes

- 1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
- 2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
- 4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
- 5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's Corporate Governance Principles and Recommendations, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.