

Hercules Metals Achieves Strong Phase I Metallurgical Results with Recoveries of 90% Copper and Over 80% Silver

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Toronto, December 3, 2024 - [Hercules Metals Corp.](#) (TSXV: BIG) (OTCQB: BADEF) (FSE: C0X) ("Hercules Metals" or the "Company") is pleased to announce results from its first phase of initial metallurgical testing at the Hercules Project in western Idaho ("Hercules" or the "Property"). Metallurgical testing was conducted on four composite samples, each weighing over 50 kilograms, including samples of oxide and sulfide silver from the near surface epithermal system, as well as copper mineralization from the underlying porphyry system. Conventional flotation of porphyry copper mineralization achieved a strong recovery of $\pm 87\%$ in initial open cycle tests, with ongoing locked cycle testing now projected to recover $\pm 90\%$. A straightforward two-step leaching process on the near-surface silver delivered impressive recoveries of 86% for oxide mineralization and 82% for sulfide mineralization.

Highlights

- Initial copper recoveries of $\pm 87\%$ were achieved in the first pass open cycle tests, with ongoing locked cycle testing now projected to recover $\pm 90\%$.
- Minimal deleterious elements in concentrate.
- Overall silver recoveries of 86% (oxide) and 82% (sulfide) for the near surface silver mineralization, utilizing a sulfurous acid leach followed by conventional cyanidation. Approximately 60% of silver is free milling.
- Phase I metallurgical scoping tests were completed at Forte Dynamics ("Forte"), by Deepak Malhotra, PhD, with experience in many large silver deposits, and recipient of the AIME James Douglas Award, the Gaudin Award and Arthur C. Daman Lifetime Achievement Award by the Society of Mining and Metallurgy and Exploration Engineers.
- Next steps include Cu-Mo separation analysis, optimization of the two-step leaching process for silver, and optimization of locked cycle flotation of copper.

Chris Paul, CEO and Director of the Company, noted: "These initial recovery values exceeded our expectations and highlight that a commercial-grade clean concentrate can be produced, without deleterious elements like arsenic or antimony. Moving forward, we anticipate that future optimization studies will work to further enhance these strong initial numbers from our phase I study.

Perhaps most encouraging are the exceptionally strong silver recoveries achieved on the near-surface epithermal mineralization. By developing a simple two-step leaching process, Deepak and his team at Forte have improved on historical recoveries by over 20%. This alone may have a profound impact on the future development of the Property, as the ability to implement low-cost leaching of the near surface silver mineralization not only enhances its viability, but also strongly positions us to unlock the underlying porphyry system."

Silver Recoveries

Forte initially completed a review of historical met work completed in the 1980's prior to proposing a new process which had potential to improve on the historical recoveries. Composite samples were prepared on both the silver oxide and sulfide mineralization from 2023 drill core assay rejects.

Initial bottle roll tests demonstrated that approximately $\pm 60\%$ of the silver in both composites was directly

cyanide soluble, reflective of the free-milling silver component. To improve on this, a two-step recovery process was implemented. The first step involved a sulfurous acid leach, which liberated silver bound to manganese minerals, enhancing its availability for subsequent recovery. The second step, a cyanide leach of the acid-treated material, delivered recoveries of $\pm 86\%$ for the oxide composite and $\pm 82\%$ for the sulfide composite, representing a remarkable 22-26% improvement from the initial single-step cyanidation tests. Results are shown in Table 1 below.

Table 1: Cyanide Leach Test Results After Sulfurous Acid Leading

Sample	Extraction Residue		Head	Reagent Consumption kg/t	
	% Ag	g/t Ag		g/t Ag NaCN	Lime
Oxide	86.2	28.0	202.5	1.738	6.5
Sulfide	82.1	17.0	94.8	1.124	2.0

Copper-Molybdenum Recoveries

Rougher flotation tests were performed at varying grind sizes. The test results indicated that both copper and molybdenite recoveries were independent of the grind sizes tested. The results also indicated that 12 minutes of flotation time recovered $\pm 95\%$ of copper and $\pm 84\%$ of molybdenite in the rougher concentrate at a fairly coarse grind of P80 of 100 mesh (Table 2).

Table 2: Cu-Mo Rougher Flotation Results at Varying Grind Sizes

Primary Grind Size (mesh)	Flotation Time, min	Recovery % Wt	Recovery %		Concentrate Grade %	
			Cu	Mo	Cu	Mo
100	12	9.97	95.8	84.0	8.8	0.07
150	12	10.01	95.4	83.7	8.4	0.10
200	12	9.86	95.0	83.2	8.6	0.10

A large scale (10 kg) flotation test was then carried out to produce a rougher concentrate on which cleaner flotation could be carried out. The large-scale rougher concentrate recovered $\pm 8\%$ of the weight, $\pm 96\%$ of the Cu, and $\pm 64\%$ of the Mo, assaying $\pm 10\%$ Cu and 0.1% Mo.

Table 3: Large Scale (10 kg) Rougher Flotation Test Results at P80 of 100 Mesh

Product	Recovery %		Concentrate Grade %	
	Wt	Cu Mo	Cu	Mo
Rougher Concentrate	8.2	95.8 64.1	10.3	0.0998
Rougher Tailing	91.8	4.2 35.9	0.04	0.005

Open cycle cleaner flotation tests were run in two stages on the rougher concentrate. Copper recoveries were 93.6% after the first stage and 90.5% after the second stage. Locked cycle tests are underway with projected cleaner recoveries of $\pm 95\%$. A concentrate grade of $\pm 22\%$ Cu was achieved without regrind of the rougher concentrate and Forte is projecting $\pm 24\%$ Cu in the locked cycle tests, demonstrating that a marketable grade copper concentrate can be produced with a simple conventional flowsheet.

Table 4: Open Circuit Cleaner Flotation Test Results without Regrind

Product	Flotation Time, min	Recovery % Wt	Recovery %		Concentrate Grade %	
			Cu	Mo	Cu	Mo
Cleaner 2 Con 1	1	27.6	69.4	62.6	22.52	0.21
Cleaner 2 Con 2	1	7.4	16.0	15.9	21.36	0.18
Cleaner 2 Con 3	1	2.8	5.1	5.5	19.28	0.15
Cleaner 2 Tail	-	8.8	3.1	5.5	6.24	0.03
Cal Cleaner 1 Con 4	-	46.4	93.6	89.6	-	-
Cleaner 1 Tail	-	53.6	6.4	10.4	1.94	0.01
Cal. Rougher Con. -	-	100	100	100	9.92	0.08

Outlook

With the early arrival of seasonal winter conditions, Hercules has initiated a shutdown of the Phase III program to ensure the safe demobilization of personnel and equipment. The Phase IV drill program is anticipated to commence as soon as weather conditions permit, with preparations already underway.

Drill results from the remaining Phase III holes are still pending, and these, along with other exploration updates, are expected to be released through to early 2025.

The Phase III program has successfully expanded the enrichment zone to 1.6 km by 1.1 km, demonstrating significant continuity which remains open in all directions. The Company has also identified a number of other new targets which will be further discussed in a coming news release. Notably, the recent identification of a new zone of shallow porphyry mineralization to the southeast, a zone of increasing grade to the north, and the discovery of a new hydrothermal breccia, all demonstrate the strong potential for near-term discovery of additional porphyry centers.

Qualified Person

The scientific and technical information in this news release, including the sampling, &Irm;&Irm; analytical and test data underlying the information has been reviewed and approved for disclosure by Deepak Malhotra SME-RM, Director of Metallurgy, of Forte Dynamics. Mr. Maholtra is a "Qualified Person" independent of the Company within the meaning of National Instrument 43-101 - Standards of Disclosure for Mineral Projects.

About Hercules Metals Corp.

Hercules Metals Corp. (TSXV: BIG) (OTCQB: BADEF) (FSE: C0X) is an exploration Company focused on developing Idaho's newest copper and silver district.

The 100% owned Hercules Project located northwest of Cambridge, hosts the newly discovered Leviathan porphyry copper system, one of the most important discoveries in the region to date. The Company is well positioned for growth through continued drilling, supported by extensive historical and current exploration and a strategic investment by Barrick Gold.

With the potential for significant scale, the Company's management and board of directors aims to build on its proven track record which includes the discovery and development of numerous precious metals projects worldwide.

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