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# Northisle Announces Recoveries of 90% Gold and 80% Copper at Northwest Expo and accelerates 2024 Project Development Timeline

## Highlights:

- Strong gold recoveries averaging 89.8% from preliminary metallurgical testing at Northwest Expo using conventional flotation followed by cyanide leaching of the flotation tails
- Attractive copper recoveries averaging 80.2% with a 24.4% copper concentrate grade from locked cycle testing
- Low SAG milling and moderate ball milling energy requirements
- High quality copper concentrates, all penalty elements within allowable limits
- Initial mineral resource estimate for Northwest Expo completion on track for Q1 2024
- Review of project opportunities incorporating Northwest Expo, Red Dog and Hushamu underway

**Vancouver, B.C.** – Northisle Copper and Gold Inc. (TSX-V: NCX) ("Northisle" or the "Company") is pleased to announce preliminary metallurgical results from Northwest Expo which demonstrate combined flotation and leach recoveries for gold ranging from 88.7% to 92.6% and for copper from flotation ranging from 68.7% to 87.7%.

Sam Lee, President & CEO of Northisle stated "We are very pleased to receive these positive metallurgical results at Northwest Expo within the North Island Project. Gold recoveries were significantly higher than initially anticipated and the clean copper concentrate remains very attractive with low deleterious elements. These results are a significant step towards accelerating the consideration of this gold-rich zone within our large, richly endowed porphyry district in 2024."

## **2024 Project Development Timeline:**

Upon completion of the initial Northwest Expo mineral resource estimate during Q1 2024, the company will review opportunities to optimize the North Island Project during Q2 2024, including an evaluation of various combinations of the Northwest Expo, Red Dog and Hushamu deposits as standalone, combined or staged projects.

## **Summary of Metallurgical Testing Procedures and Results:**

The test program was developed and managed by Ausenco Engineering Canada ULC ("Ausenco") and K-met Consultants Inc. who are both independent of Northisle. Base Metallurgical Laboratories Ltd. ("BaseMet") performed the test work in Kamloops, BC and is also independent of Northisle.

Table 1 below summarizes the locked cycle flotation and leach results from tests conducted on chlorite-magnetite ("CMG") and silica-clay-pyrite ("SCP") composites. The average recoveries to be used in the mineral resource estimate are provided in the MRE Recoveries columns. Gold recoveries are significantly better than the Hushamu and Red Dog recoveries (see the Amended 2021 North Island Copper and Gold Project Preliminary Economic Assessment filed June 2022) both from flotation alone and including leaching, while locked cycle flotation copper recoveries for Northwest Expo are marginally lower compared to Hushamu recoveries (85% average), primarily due to lower average copper head grades.

Table 1: Summary of Metallurgical Tests on Northwest Expo 2023 Drill Core

Material	Primary Grind µm P80	Regrind µm P80	Feed Grades		Flotation Distribution			CN Leach Extraction	Net Au Recovery	Combined Au	MF Recov	
			Cu %	Au g/t	Stream	Cu %	Au %	Au %	%	Recovery %	Cu %	Au %
CMG	150	15	0.13	0.98	Con	76.7	64.8				- 72.7	90.6
					Clnr Tail	4.5	13.2	77.8	10.2	92.6		
					Ro Tail	18.8	22.1	79.6	17.6			
	150	19	0.12	0.87	Con	68.7	53.8					
					Clnr Tail	8.1	20.2	80.1	16.2	88.7		
					Ro Tail	23.2	26.0	72.0	18.7			
SCP	150	12	0.2	0.76	Con	87.7	64.8				87.7	88.9
					Clnr Tail	4.4	18.6	60.9	11.4	88.9		
					Ro Tail	7.9	16.6	77.1	12.8			
AVG (CMG and SCP) 0.16 0.84			0.84							80.2	89.8	

Copper concentrate grades averaged 21.6% in CMG and 27.2% in SCP.

The testing procedure was carried out on half core from drill holes NW23-9, NW23-11, NW23-12, NW23-13 and NW23-14 from the Northwest Expo 2023 drill program. A listing of the drill intervals used in the test program is presented in Table 2 below.

Table 2: Northwest Expo 2023 Drill Core Intervals Used in Test Program

Alteration	Hole ID	Interv	Received		
Aiteration	Tible ID	From	То	kg	
	NW23-09	269.7	305.1	66	
	NW23-09	343.3	370.0	56	
CMG	NW23-11	255	285.5	64	
CIVIG	NW23-12	360	384	43	
	NW23-12	387	416.7	66	
	NW23-14	387	414	57	
	NW23-11	198	228	50	
SCP	NW23-12	230	245	53	
302	NW23-12	315	345	58	
	NW23-13	317	347	58	
SCP/CMG	NW23-13	266	299	69	
3CF/CIVIG	NW23-13	224	245	45	

Further details of the drill holes noted above, including data verification and QA/QC can be found in Northisle's press release "Phase 2 Drilling at Northwest Expo Extends Strike of Gold-Enriched Zone 1 to 600m" dated November 27, 2023 found here: https://bit.ly/NWExpoPhase2.

The core was first crushed to -6 mesh and prepared into master composite and variability test charges. A series of bench scale rougher and cleaner flotation tests were then conducted on the samples (2 and 4 kg test charges) at primary grind sizes ranging from 75 to  $150\mu m$  P<sub>80</sub>. Flotation reagents used included 3418A, PAX and MIBC. The pH was varied from 6.6 to 11. Rougher concentrate regrind discharge sizes varied between 12 to  $19\mu m$  P<sub>80</sub> prior to three stages of cleaner flotation.

Rougher and cleaner tails were both subsequently leached using sodium cyanide by bottle roll methods to maximize gold extraction. The copper grades were sufficiently low in both the rougher and flotation tails and did not impact leaching performance. The rougher tails were leached for 24 hours as the gold extraction appeared to complete. The cleaner tails were pre-aerated with additional oxygen for 2 hours and subsequently leached for 48 hours, although the gold extraction was likely complete significantly earlier.

Comminution tests were also performed with average Axb values of 84 and 67 for CMG and SCP samples, respectively. The average Bond ball mill work index was 16.9 kWh/t for all samples. The samples have a lower resistance to breakage in a SAG mill than values measured on Hushamu and Red Dog samples, however the ball mill work index values are slightly higher.

Figure 1 below shows the process flowsheet applied in the test program.

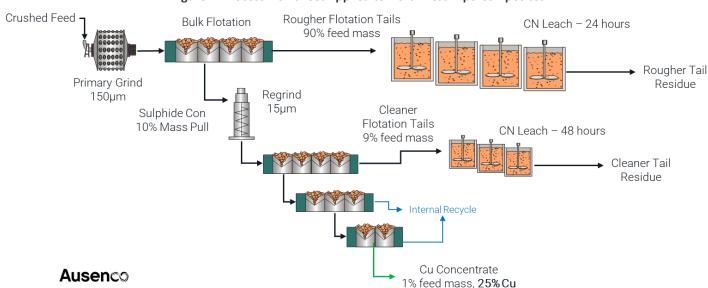


Figure 1: Process Flowsheet Applied to Northwest Expo Composites

The flotation portion of the flowsheet is very similar to that applied to Hushamu and Red Dog samples in earlier test programs.

### **Qualified Persons**

The scientific and technical information contained in this news release has been reviewed, verified, and approved by Northisle Copper and Gold's Vice President of Project Development, Ian Chang, P.Eng., who is considered a Qualified Person under National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101").

The information in this press release relating to metallurgical test work results has been reviewed and verified by Peter Mehrfert, P.Eng., (Ausenco Engineering Canada ULC., consultant to Northisle). Mr. Mehrfert is a Qualified Person under NI 43-101.

## Data Verification and QA/QC

Data verification consisted of the Qualified Persons listed above (the "QPs") ensuring that the samples selected came from within the area which is likely to be included in Northisle's planned resource estimate, and that the selected samples are generally consistent with the mineralized material to be incorporated in that estimate. The QPs checked that the sampling protocol used by BaseMet was applicable for the planned testwork. In the QPs' opinion, the testwork conducted was completed by a reputable metallurgical testing facility and used industry-standard methods. Peter Mehrfert, P.Eng., has visited the testwork facility. Internal QA/QC is performed by BaseMet as part of its testing protocols and Northisle has implemented QA/QC protocols for its drilling results as described further in Northisle's press release "Phase 2 Drilling at

Northwest Expo Extends Strike of Gold-Enriched Zone 1 to 600m" dated November 27, 2023 found here: https://bit.ly/NWExpoPhase2.

#### **About Northisle**

Northisle Copper and Gold Inc. is a Vancouver-based company whose mission is to become Canada's leading sustainable mineral resource company for the future. Northisle, through its 100% owned subsidiary North Island Mining Corp., owns the North Island Project, which is one of the most promising copper and gold porphyry projects in Canada. The North Island Project is located near Port Hardy, British Columbia on a more than 34,000-hectare block of mineral titles 100% owned by Northisle stretching 50 kilometres northwest from the now closed Island Copper Mine operated by BHP Billiton. Northisle completed an updated preliminary economic assessment for the North Island Project in 2021 and is now focused on continued advancement of the project while exploring within this highly prospective land package.

For more information on Northisle please visit the Company's website at www.northisle.ca.

On behalf of Northisle Copper and Gold Inc.

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## **Cautionary Statements regarding Forward-Looking Information**

Certain information in this news release constitutes forward-looking statements under applicable securities law. Any statements that are contained in this news release that are not statements of historical fact may be deemed to be forward-looking statements. Forward-looking statements are often identified by terms such as "may", "should", "anticipate", "expect", "intend" and similar expressions. Forward-looking statements in this news release include, but are not limited to, statements relating to anticipated timing of the company's activities, marketability of potential products from a potential future development, expectations regarding technical studies, timing of key catalysts; planned activities, including further drilling, at the North Island Project; the Company's anticipated exploration activities; and the Company's plans for advancement of the North Island Project. Forward-looking statements necessarily involve known and unknown risks, including, without limitation, Northisle's ability to implement its business strategies; risks associated with mineral exploration and production; risks associated with general economic conditions; adverse industry events; stakeholder engagement; marketing and transportation costs; loss of markets; volatility of commodity prices; inability to access sufficient capital from internal and external sources, and/or inability to access sufficient capital on favourable terms; industry and government regulation; changes in legislation, income tax and regulatory matters; competition; currency and interest rate fluctuations; and other risks. Readers are cautioned that the foregoing list is not exhaustive.

Readers are further cautioned not to place undue reliance on forward-looking statements as there can be no assurance that the plans, intentions, or expectations upon which they are placed will occur. Such information, although considered reasonable by management at the time of preparation, may prove to be incorrect and actual results may differ materially from those anticipated. Forward-looking statements contained in this news release are expressly qualified by this cautionary statement.

The forward-looking statements contained in this news release represent the expectations of management of Northisle as of the date of this news release, and, accordingly, are subject to change after such date. Northisle does not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as expressly required by applicable securities law.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this news release.