

NorthWest Copper Announces Positive PEA for the Kwanika-Stardust Copper-Gold Project, Describing a Low CAPEX Project With Scale

05.01.2023 | [GlobeNewswire](#)

VANCOUVER, Jan. 05, 2023 - [Northwest Copper Corp.](#) ("NorthWest" or "the Company") (TSX-V: NWST) (OTCQX: NWCCF) is pleased to announce the results of the preliminary economic assessment ("2023 PEA"), conducted by Ausenco Engineering Canada Inc. ("Ausenco") and Mining Plus Canada Consulting Ltd ("Mining Plus"), on its 100% owned Kwanika-Stardust Project comprising the Kwanika and Stardust deposits (the "Project"). This represents the first technical and economic evaluation of the combined deposits outlining a robust project with manageable initial capital cost and multiple opportunities for project growth. NorthWest plans to continue to evaluate the possibility of further synergies with nearby deposits and the proposed Project infrastructure, with a particular focus on the nearby 100% owned Lorraine Project¹.

The 2023 PEA outlines a project that proposes mining approximately 96 million tonnes ("Mt") of material in a combination of open pit and underground operations from the Company's 100% owned Kwanika and Stardust deposits. The 2023 PEA contemplates a 22,000 tonnes per day ("tpd") process plant, producing high-quality copper concentrate with significant gold and silver by-product credits.

Highlights

- The 2023 PEA describes Kwanika-Stardust as a unique project combining manageable initial capital with a significant Cu-Au production profile:
 - Peak copper equivalent ("CuEq"²) production of 152.1 million pounds of copper ("Mlbs") per year (year 6) and life of mine ("LOM") CuEq average production of 90.6 Mlbs per year over 11.9 years;
 - Total LOM production of 694 Mlbs Cu, 803 koz Au, and 3,204 koz Ag (1,078 Mlbs CuEq)
 - Average cash operating costs³ of US\$1.58/lb CuEq (US\$0.44/lb Cu on a by-product⁴ basis);
 - Average all-in sustaining cost ("AISC")⁵ of US\$2.01/lb CuEq (US\$1.12/lb Cu on a by-product⁶ basis);
 - Initial capital of C\$567.9 M (US\$438.5 M⁷), with a construction period of two years;
 - Attractive economics with NPV (7%) of C\$440.1 M (US\$339.8 M) and IRR of 17.1% pre-tax and NPV (7%) of C\$215.0 M (US\$166.0 M) and IRR of 12.7% after tax⁸; and
 - At spot prices economics improve, with NPV (7%) of C\$665.6 M (US\$513.9 M) and IRR of 21.7% pre-tax and NPV (7%) of C\$363.3 M (US\$280.6 M) and IRR of 16.4% after tax⁹;
 - The 2023 PEA is preliminary in nature. It includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves and there is no certainty that the 2023 PEA will be realized.
- Mineral Resources include mineralized material from four sources:
 - Kwanika Central open pit:
 - 30.7 Mt of Measured Resources (0.31% Cu, 0.31 g/t Au, 1.05 g/t Ag);
 - 35.9 Mt Indicated Resources (0.22% Cu, 0.19 g/t Au, 0.80 g/t Ag); and
 - 4.1 Mt Inferred Resources (0.15% Cu, 0.15 g/t Au, 0.58 g/t Ag);
 - Kwanika Central underground block cave:
 - 25.6 Mt Measured Resources (0.50% Cu, 0.61 g/t Au, 1.62 g/t Ag); and
 - 11.3 Mt Indicated Resources (0.51 Cu%, 0.65 g/t Au, 1.56 g/t Ag);
 - Kwanika South open pit:
 - 25.4 Mt Inferred Resources (0.28 % Cu, 0.06 g/t Au, 1.68 g/t Ag);
 - Stardust underground:
 - 1.6 Mt Indicated Resources (1.49% Cu, 1.63 g/t Au, 30.1 g/t Ag); and
 - 4.1 Mt Inferred Resources (1.00% Cu, 1.38 g/t Au, 22.8 g/t Ag);
 - Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

- NorthWest is committed to working collaboratively with First Nations to ensure that sound cultural and environmental practices based on sustainability and shared value are incorporated into any mine development plans:
 - NorthWest will continue to engage based on open communication and collaboration to create benefits for First Nations;
 - The Project will look to minimize the development impact by using existing infrastructure and processing mineralized material from multiple sources in one central facility;
 - The Project plans to connect to the BC Hydro electrical grid and will thereby use primarily renewable electricity, reducing the Project's carbon footprint; and
 - The Project could contribute to British Columbia's and Canada's critical mineral supply by providing copper, a much-needed element for the green energy transition.

Table 1: Summary Project Metrics

	Production Per Year				ESG
	Cu (Mlbs)	Au (koz)	Ag (koz)	CuEq ¹⁰ (Mlbs)	Actual Operational ¹¹
LOM Average	58.31	67.43	269.12	90.56	\$2,022.08

"This study is a major step in demonstrating the value created by combining Kwanika and Stardust, the cornerstone deposits of the NorthWest portfolio," stated President and CEO Peter Bell. "We have been describing a project with manageable initial capital and significant copper production to the market since creating the Company in 2021. This PEA supports that vision. We are also now working towards advancing the Project including exploring whether the nearby 100% owned Lorraine Project, located approximately 40 km away, can be developed with the infrastructure contemplated in the Kwanika-Stardust PEA. Conducting the necessary studies to ascertain whether Lorraine can be incorporated into the Kwanika-Stardust project will be the main objective of the Company in 2023, as we believe that this will add further value to the strong project we have outlined with this PEA."

"The focus in Canada is turning to critical minerals, including copper," continued Mr. Bell. "Our project is extremely well located, has both meaningful scale and manageable capex, benefits from existing infrastructure, has access to renewable power and is in a Tier 1 jurisdiction making it rare and highly valuable. We look forward to working collaboratively with First Nations to advance the project as part of BC and Canada's push for critical Canadian copper production."

The Company will host a conference call and webcast on Thursday, January 5, 2023 at 11:30 AM Eastern time (8:30 AM Pacific time). Details to access the call can be found below.

Mineral Resources

Mineral Resources for Kwanika have been updated with parameters from the 2023 PEA. Stardust is also updated to reflect refined operating and capital costs. Mineral Resources at Kwanika Central are 95% in the Measured and Indicated categories, reflecting the amount of drilling and geological data that have been completed in this area. Kwanika South and Stardust represent areas for both further growth of Mineral Resources as well as conversion of Inferred Resources to Measured and Indicated Resources. The quantity of mineralized material was estimated and included in the mine plan using a Net Smelter Return ("NSR") threshold approach, alternately called economic cut off, rather than a copper cut-off grade.

Table 2: Combined summary resource estimate¹²

Kwanika Central									
	Economic Cut-Off US\$/t	Classification	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu (Mlbs)	Au (koz)	Ag (koz)
Open Pit	8.21	Measured	30.7	0.31	0.31	1.05	210.8	310.5	1,041.7
		Indicated	35.9	0.22	0.19	0.80	174.9	222.0	923.9
		M&I	66.6	0.26	0.25	0.92	385.7	532.5	1,965.6
		Inferred	4.1	0.15	0.15	0.58	13.8	20.1	77.3

	Economic Cut-Off US\$/t	Classification	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu (Mlbs)	Au (koz)	Ag (koz)
Underground	16.41	Measured	25.6	0.50	0.61	1.62	284.4	501.3	1,332.6
		Indicated	11.3	0.51	0.65	1.56	126.2	236.7	565.1
		M&I	36.8	0.51	0.62	1.60	410.6	738.0	1,897.8
		Inferred	-	-	-	-	-	-	-
Kwanika South									
	Economic Cut-Off US\$/t	Classification	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu (Mlbs)	Au (koz)	Ag (koz)
Open Pit	8.21	Inferred	25.4	0.28	0.06	1.68	155.0	52.4	1,373.9
Stardust									
	Economic Cut-Off US\$/t	Class	Tonnes (Mt)	%Cu	g/t Au	g/t Ag	Cu (Mlbs)	Au (koz)	Ag (koz)
Underground	88.00	Indicated	1.6	1.49	1.63	30.1	52.2	83.1	1,536.4
		Inferred	4.1	1.00	1.38	22.8	90.0	181.1	3,004.3

2023 PEA Summary

The 2023 PEA includes capital and operating costs for a potential Kwanika-Stardust mine; as well as recovery assumptions, metal prices and a mine plan for the combined Project. The 2023 PEA was developed in accordance with National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* ("NI 43-101") by Ausenco and Mining Plus, using historical and the latest 2022 metallurgical testing data performed by SGS Minerals, ALS Metallurgy, Bureau Veritas Commodities, and Base Metallurgical Laboratories Ltd ("Base Met"), with further details on the historic data used shown in the Database section below. The Company plans to file the complete 2023 PEA NI 43-101 technical report under the Company's SEDAR profile at www.sedar.com within 45 days of this news release.

The 2023 PEA will supersede the previous PEA on the Kwanika deposit¹³ and updates the previous Mineral Resource estimate on the Kwanika deposit¹⁴. The 2023 PEA also updates the previous Mineral Resource estimate on the Stardust deposit¹⁵. The table below summarizes the key findings of the 2023 PEA.

Table 3: 2022 PEA Economic Highlights

Base Case Economics	Units	Pre-Tax	After-tax
NPV (7%)	C\$M	\$440.10	\$215.04
NPV (7%)	US\$M	\$339.83	\$166.05
IRR	%	17.1%	12.7%
Initial Capital	C\$M	\$567.90	
Sustaining Capital	C\$M	\$282.43	
Growth Capital ¹⁶	C\$M	\$493.27	
Economic Assumptions	Units	Base Case	
Copper	US\$/lb	\$3.63	
Gold	US\$/oz	\$1,650.00	
Silver	US\$/oz	\$21.50	
Financial Metrics	Units	LOM	
Average Annual Revenue	C\$M	\$425.70	
Average Annual Operating Costs	C\$M	\$185.03	
Avg. Ann. Free Cash Flow (after tax)	C\$M	\$111.29	

The 2023 PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that the Project described in the 2023 PEA will be realized. Table 4 provides a summary of key operating metrics from the 2023 PEA:

Table 4: 2023 PEA Operating Highlights

Operating Statistics	Units	Avg. LOM
Mine Life	Years	11.9
Tonnes Processed	ktpa	7,967.3
Strip Ratio ¹⁷	W:O	1.79
Production (per year)		
Copper	MLbs	58.31
Gold	koz	67.43
Silver	koz	269.12
CuEq	MLbs	90.56
Recoveries - Open Pit		
Copper	%	84.3
Gold	%	60.0
Silver	%	57.8
Recoveries - Underground		
Copper	%	89.7
Gold	%	71.4
Silver	%	70.3
Operating Costs		
Cash Cost - Cu with by-products	US\$/lb	\$0.44
Cash Cost - CuEq	US\$/lb	\$1.58
AISC - Cu with by-products	US\$/lb	\$1.12
AISC - CuEq	US\$/lb	\$2.01

Economic Sensitivity

Tables 5 and 5a below summarizes the pre-tax and after-tax sensitivities of NPV and IRR to metal prices:

Table 5 - Economic Sensitivity to Metal Prices (C\$M, pre-tax)¹⁸

Metal Prices	NPV (5%)	NPV (7%)	NPV (10%)	IRR (%)
Spot	\$860.83	\$665.55	\$439.95	21.7%
52 Week high	\$1,490.45	\$1,207.90	\$878.64	31.9%
Base Case + 20%	\$1,281.04	\$1,027.91	\$733.40	28.6%
Base Case + 10%	\$940.35	\$734.01	\$495.28	23.0%
Base Case	\$599.67	\$440.10	\$257.16	17.1%
Base Case - 10%	\$258.99	\$146.19	\$19.04	10.6%
Base Case - 20%	-\$81.70	-\$147.72	-\$219.08	3.1%

Table 5a - Economic Sensitivity to Metal Prices (C\$M, after tax)

Metal Prices	NPV (5%)	NPV (7%)	NPV (10%)	IRR (%)
Spot	\$499.11	\$363.32	\$207.06	16.4%
52 Week high	\$904.75	\$715.05	\$494.60	24.7%
Base Case + 20%	\$769.84	\$598.31	\$399.37	22.0%
Base Case + 10%	\$550.47	\$407.87	\$243.51	17.5%
Base Case	\$329.13	\$215.04	\$84.88	12.7%
Base Case - 10%	\$104.23	\$18.12	-\$78.27	7.5%
Base Case - 20%	-\$129.04	-\$187.15	-\$249.39	1.9%

Sustainability

Advancement of the Kwanika-Stardust Project is aligned with supplying critical mineral production, especially copper, in Canada. Collaboration with First Nations is a key part of our effort. The Project would be designed

to have meaningful metal production while minimizing the Project's environmental footprint.

The Project is in an area of British Columbia with existing infrastructure, hydroelectric power and a local workforce supporting our programs. Environmental, social and governance (ESG) performance is core to NorthWest's longer-term goal to contribute to sustainable economies and encourage and promote cultural and environmental stewardship. The Company has taken a step towards our goals by completing a comprehensive 2021 ESG report¹⁹ in 2022, which gives NorthWest a strong baseline to track and demonstrate ESG progress.

Development of the Project may create many opportunities to bring needed resources to meet the demands of society and the changing economy. However, development of the Project will also impact the environment, First Nations and local communities. There are opportunities to build on traditional and local knowledge to manage these potential impacts and to put systems in place that support a better understanding of the land, and to encourage and support stewardship. In addition, by working collaboratively with First Nation communities and leadership we see opportunities to build and support the development of stronger local economies.

NorthWest envisions a future of shared values, where partnerships with local communities drive a new kind of mining where the rights of First Nations are recognized and stewardship of the environment and cultural heritage form the foundation of future development. As a Company we will strive to pursue best practices as we advance the Project beyond the 2023 PEA.

Next Steps

With completion of the 2023 PEA, NorthWest intends to continue to advance its portfolio of projects. Key next steps are expected to include:

- Conducting the necessary studies at both Kwanika-Stardust and Lorraine to ascertain whether the projects could potentially be combined. This will require further work, including metallurgical test work, transportation studies, general engineering and geological modeling before the Lorraine Project could be considered for combination with the Project. The Company anticipates completing metallurgical test work on both the Kwanika-Stardust and Lorraine projects, including:
 - Work at Kwanika-Stardust to optimize recovery with a focus on improving recovery of gold and silver; and
 - Work at the nearby Lorraine Project will focus on determining recovery and exploring the possibility of processing mineralized material from Lorraine at the proposed Kwanika-Stardust process facility;
- Exploration with a focus on Lorraine, including areas around the current resource area and on the larger property;
- Exploration at Kwanika-Stardust to test high-grade drill targets;
- NorthWest will continue to proactively engage with First Nations in our geographic area in support of the responsible development of the Project;
- Develop plans:
 - For baseline environmental testing and scoping work in advance of a potential future environmental assessment (EA) submission; and
 - To conduct an energy audit to ensure that the Project is employing current available technologies and best practices to drive lower carbon emissions. Items studied are expected to include electrification of the mine fleet and equipment, alternative methods of haulage and more energy efficient process plant operation.

Opportunities

In addition, to the next steps noted above, the Company is actively exploring several additional opportunities which the Company hopes will enhance Project value. These include:

- Potentially adding additional mineralized material to the mine plan at Kwanika-Stardust through additional exploration and drilling;
- Further metallurgical test work on mineralized material from Kwanika-Stardust to optimize metallurgical recoveries;
- Further engineering and trade-off studies on Kwanika-Stardust to reduce capital and operating costs and improve operating efficiency;

- Further analysis with respect to optimizing shipping and transportation costs;
- The Company anticipates relying, to the extent feasible, on clean electricity. Further studies exploring the potential for a 'net-zero' emissions mine at Kwanika-Stardust, resulting in a differentiated project with regulators, investors and local stakeholders;
- Molybdenum is present at Kwanika South at elevated concentrations²⁰. Further study is required to determine if the addition of a molybdenum circuit could add value to the Project.

Webcast Details

The Company will host a conference call on Thursday, January 5, 2023 at 11:30 AM Eastern time (8:30 AM Pacific time).

- Via telephone, by calling 1-604-638-5340 or 1-800-319-4610
- Via webcast at: <https://services.choruscall.ca/links/northwestcopper202301.html>

The webcast will be archived for 90 days following the call at the above-noted link.

Mining

Preliminary mine designs have been developed for the Project based upon the Mineral Resource estimates for Kwanika-Stardust. Resource models were imported to Minesight® mine planning software where a Lerch Grossman algorithm was applied to a NSR model to determine possible open pit limits.

The mine plan was developed to mine 95.6 Mt of mineralized material and 86.9 Mt of waste over the LOM (shown in Figure 1). Mineralized material will be mined from four areas: Kwanika Central open pit (years 1-4), Stardust underground (years 4-9), Kwanika Central underground block cave (years 4-12) and Kwanika South open pit (years 9-12). Further detail on the Kwanika Central open pit and underground is shown in Figures 2 and 3, the underground development plan at Stardust is shown in Figure 4, and detail on the Kwanika South open pit is shown in Figure 5.

Table 6: Key mining statistics

Metric	Units	Quantity
Mine Life	Years	11.9
Milling Rate	tpd	22,000
Strip Ratio ²¹	W:O	1.79
Total Tonnage Mined	kt	182,533
Total Mineralized Material Mined	kt	95,607
LOM Average Grades		
Copper	%	0.39
Gold	g/t	0.39
Silver	g/t	2.21
CuEq ²²	%	0.62%

Table 6a: Mining Detail

Description	Mineralized Material (Mt)	Waste (Mt)
Kwanika Central Open Pit	29.41	55.21
Kwanika South	19.05	31.71
Kwanika Block Cave	44.04	-
Stardust	3.11	-
Total	95.61	86.93

The total resources processed in the conceptual mine plan are shown in the following tables. The quantity of mineralized material was estimated and included in the mine plan using an NSR threshold approach, rather than a copper cut-off grade. Mine operating costs are summarized in Table 7.

Table 7: Mining Costs

Area	Kwanika Central Open Pit (C\$/t mined)	Kwanika Underground (C\$/t mined)	Stardust Underground (C\$/t mined)	Kwanika South Open Pit (C\$/t mined)
Total Mining Cost	2.88	10.62	111.32	2.95

Processing

The 2023 PEA contemplates a concentrator and related facilities processing mineralized material at a nominal rate of 22,000 tpd through a grinding circuit comprising one SAG mill and one ball mill, flotation facilities, regrind facilities, and thickening and filtration to produce copper concentrates for export (Figure 6). Gold and silver will report to the copper concentrate. Processing costs are summarized in Table 8 below.

Table 8: Mineral Processing

Area	Units	Unit Cost
Reagents & Consumables	C\$/t processed	4.19
Maintenance	C\$/t processed	0.32
Power	C\$/t processed	1.87
Labor	C\$/t processed	1.75
Total processing Cost	C\$/t processed	8.13

Tailing Storage Facility

The TSF has been designed to accommodate over 96.3 Mt of tailings produced over the life of mine. The proposed TSF will be located in a valley east of the Stardust Deposit and upstream of the process plant site. The site drains to the northwest and southeast requiring two embankments to contain slurry tailings. Runoff above the facility will be diverted around the facility in channels and perimeter access roads, which allows for simple access by the tailings deposition lines and water reclaim system. The TSF will be constructed using a shell of non-acid generating waste rock with an upstream impermeable layer. The construction of the TSF will utilize downstream construction methodology along with being built in multiple phases to ensure safety and long-term containment of the tailings. The facility is designed in accordance with Canadian Dam Association guidelines (2019) and Part 10 of the Health, Safety and Reclamation Code for Mines in British Columbia (2016).

Metallurgy

Metallurgical test work was undertaken in 2022 by BaseMet to test the viability of blending material from Kwanika and Stardust. Historical metallurgical testing data performed by SGS Minerals, ALS Metallurgy, and Bureau Veritas Commodities, was also included. Ausenco reviewed and interpreted the test work and incorporated the results into the process plant design criteria, flowsheet development, and process equipment selection. The design basis for the processing plant is 22,000 tpd at 92% availability. Design mineral grades to the process plant are estimated at 0.80% copper and 0.80 g/t gold to account for feed grade variability, and the estimated recoveries for open pit are 84.3% for copper, 60.0% for gold, and 57.8% for silver, and for underground are 89.7% for copper, 71.4% for gold, and 70.3% for silver.

Operating Cost Summary

The operating cost estimate for the 22,000 tpd operation was estimated at \$23.04/t. A breakdown of total site operating costs is summarized in Table 9:

Table 9: Total Site Operating Costs

Area	Units	Cost
Mining Cost	C\$/t processed	12.63
Processing	C\$/t processed	8.13
G&A	C\$/t processed	2.28
Total Site Operating Cost	C\$/t processed	23.04

Capital Cost and Infrastructure Summary

The capital cost estimate was developed by Ausenco using an EPCM project development approach. Ausenco estimated the initial and sustaining capital cost based on the mining costs provided by Mining Plus, major process equipment quotes from vendors, and other costs from an Ausenco database of historical projects. The mine plan and associated mine initial, growth and sustaining capital were prepared by Mining Plus using current equipment prices and leasing terms and conditions provided by a mine equipment procurement consultant retained by NorthWest. Growth Capital is capital associated with bringing new areas of mineralized material into production - namely the Kwanika underground block cave and Stardust underground. The process facilities and other related facilities were designed and estimated by Ausenco. The capital cost of these facilities was developed using budgetary quotes obtained for major process and infrastructure facility equipment requirements, and construction labour rates obtained from Ausenco's database of projects in British Columbia. The 2023 PEA capital cost estimate is summarized in Table 10 below.

Table 10: Capital Cost Summary (in millions)

Area	Initial Capital	Sustaining Capital	Growth Capital
	C\$	C\$	C\$
Mining	65.76	151.40	393.31
Process Plant	198.02	0.00	0.00
Additional Process Facilities	6.41	5.60	0.00
On-Site Infrastructure	21.61	4.90	0.00
Off-Site Infrastructure	82.53	78.50	0.00
Project Preliminaries	28.42	2.10	0.00
Project Delivery	50.36	2.10	0.00
Owner's Costs	33.68	27.34	99.96
Provisions	81.09	10.50	0.00
Total	567.90	282.43	493.27

Economic Analysis

Economic evaluations were generated incorporating forecasts for economic inputs using the Base Case and Spot Price. The Spot Price case is based on prices as of January 3, 2023. See Table 11 for the results of the economic analysis.

The 2023 PEA is preliminary in nature. It includes inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves and there is no certainty that the 2023 PEA will be realized.

Table 11: Project Economics

Parameter	Unit	Base Case	Spot Price	52 Week High
Copper Price	US\$/lb	\$3.63	\$3.83	\$4.94
Gold Price	US\$/oz	\$1,650.00	\$1,840.00	\$1,790.00
Silver Price	US\$/oz	\$21.50	\$23.97	\$23.30
CAD:USD Exchange Rate	US\$/CAD\$		0.77	
Average Annual Revenue	C\$ million	\$425.7	\$458.3	\$537.4
Economic Result (pre-tax)				
Avg. Free Cash Flow ("FCF")	C\$ million	\$148.1	\$180.6	\$259.8
NPV (5%)	C\$ million	\$599.7	\$860.8	\$1,490.4
NPV (7%)	C\$ million	\$440.1	\$665.6	\$1,207.9
NPV (10%)	C\$ million	\$257.2	\$439.9	\$878.6
IRR	%	17.1%	21.7%	31.9%
Payback	Years	5.99	5.55	4.67
Economic Result (after-tax)				

Avg. FCF	C\$ million	\$111.3	\$132.0	\$182.2
NPV (5%)	C\$ million	\$329.1	\$499.1	\$904.8
NPV (7%)	C\$ million	\$215.0	\$363.3	\$715.0
NPV (10%)	C\$ million	\$84.9	\$207.1	\$494.6
IRR	%	12.7%	16.4%	24.7%
Payback	Years	6.37	5.86	5.11

Database

The database used for the Kwanika Central Mineral Resource estimate comprises collar, survey, assay, lithology, alteration, density, and structural information for exploration drilling conducted between 2006 and 2021. Drilling on the Central Zone totaled 76,156m in 166 holes.

The database used for the Kwanika South Mineral Resource estimate comprises collar, survey, assay, lithology, alteration, density, and structural information for exploration drilling conducted between 2006 and 2021. Drilling on the South Zone totaled 19,099 m in 62 holes.

The database used for the Stardust Mineral Resource estimate contains 206 drill holes representing 74,253 m of drilling up to and including holes drilled in 2020. It comprises collar, survey, assay, lithology, alteration, density, and structural information. Fifty-eight of these holes (38,329 m) were completed between 2018 and 2020 by Sun Metals.

Quality Assurance and Quality Control (QA/QC)

Kwanika

An independent assay Quality Assurance/Quality Control (QA/QC) program has been in place throughout the drilling campaigns carried out by Serengeti and Northwest Copper since 2006. Control samples have included Certified Reference Materials (CRMs), pulp blanks, and quarter-core twin samples (field duplicates).

CRMs were prepared by CDN Resource Labs Ltd. (CDN) of Langley, BC or by Ore Research & Exploration P/L in Australia. Most of the standards used are certified for both copper and gold values. Two standards are not certified for gold and are deemed "Provisional". Blank material comprised packets of pulverized barren material. The 2020-2021 drilling campaign used a certified blank, also prepared by CDN. Pulp blanks are used to assess contamination during assaying. During 2021, a small number of coarse blanks (unmineralized garden stone) were used to assess contamination during preparation.

Twin samples were produced by cutting the initial core sample interval in half and leaving one half in the core box. The half to be sent to the laboratory for analyses was then quartered by cutting each piece in half again and putting one quarter of the core in one sample bag and the other quarter of the core in a separate sample bag. Twin samples are generally used to assess sampling precision and mineralization homogeneity.

A full report on QA/QC will be available in the 2023 PEA technical report.

Stardust

Diamond drill core samples had standard and blank reference material inserted into the sampling series at regular intervals. Field duplicates were also taken at regular intervals. In sections of high-grade mineralization, the frequency of insertion of reference material and field duplicates was increased. Additional reference material samples and field duplicates were also added at the discretion of the logging geologist on site. The results indicated no significant problems with the laboratory analysis.

Correlation between field duplicate core samples is generally strong. Increased variability is noted in returned gold and silver analytic results <1 ppm. Minor variability is noted in copper results throughout the range of returned results. These inconsistencies are interpreted to be due to the irregular nature of mineralization in skarn and CRD systems and local relative coarseness of commodity bearing minerals in these systems.

A full report on QA/QC will be available in the 2023 PEA technical report.

Technical Report and Qualified Persons

A technical report prepared in accordance with NI 43-101 with respect to the 2023 PEA will be filed under the Company's SEDAR profile at www.sedar.com within 45 days of this news release.

Technical aspects of this news release have been reviewed, verified, and approved by Tyler Caswell P.Geo., Vice President Exploration of NorthWest, who is a qualified person as defined by NI 43-101. Mr. Caswell confirms that there were no limitations from the Company in verifying the drilling and sample data underlying the Mineral Resource estimates which were verified through site visit observations and data review.

The following qualified persons contributed to the 2023 PEA:

- Cale DuBois, M.A.Sc, P.Eng , Mining Plus
- Jason Blais, P.Eng., Mining Plus
- John Caldbick, P.Eng., Mining Plus
- Jonathan Cooper, M.Sc., P.Eng, Ausenco
- Kevin Murray, P. Eng, Ausenco
- Peter Mehrfert, P.Eng, Ausenco
- Scott Elfen, Ausenco
- Scott Weston, MSc., PGeo., Ausenco
- Brian S. Hartman, M.S., P.Geo., Ridge Geoscience LLC
- Ronald G. Simpson, GeoSim Services Inc.

Figure 1: Mining Production Profile

<https://www.globenewswire.com/NewsRoom/AttachmentNg/477a394b-d06d-4e61-8922-7f79f373d31e>

Figure 2: Kwanika Central Open Pit

<https://www.globenewswire.com/NewsRoom/AttachmentNg/290fa02e-b821-4eb1-8a7e-9cd1200e40a8>

Figure 3: Kwanika Central Underground

<https://www.globenewswire.com/NewsRoom/AttachmentNg/e7b2935e-951b-45cc-833e-c960e6966757>

Figure 4: Stardust Underground

<https://www.globenewswire.com/NewsRoom/AttachmentNg/a24fdc06-3720-4ef3-82f6-f5662dbfae62>

Figure 5: Kwanika South Open Pit

<https://www.globenewswire.com/NewsRoom/AttachmentNg/2c29b2c6-be59-4d18-864e-13caaf2b0336>

Figure 6: Process Flow Diagram:

<https://www.globenewswire.com/NewsRoom/AttachmentNg/1540199d-0e7e-49af-9729-23c46f9ff469>

About NorthWest Copper:

NorthWest Copper is a new copper-gold explorer and developer with an exciting pipeline of projects in British Columbia. With a robust portfolio in a tier one jurisdiction, NorthWest Copper is well positioned to participate fully in a strengthening global copper market. We are committed to responsible mineral exploration which involves working collaboratively with First Nations to ensure future development incorporates stewardship best practices and traditional land use. Additional information can be found on the Company's website at www.northwestcopper.ca.

On Behalf of the Board of Directors of [Northwest Copper Corp.](http://www.northwestcopper.ca)

"Peter Bell"

Director, President and CEO

For further information, please contact:

Peter Lekich, Director Investor Relations

Tel: 604-697-4962

Email: plekich@northwestcopper.ca

Neither 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 release.

Notes to Mineral Resources

Kwanika Central (Open Pit and Underground) Notes

- The Mineral Resources have been compiled by Mr. Brian S. Hartman, M.S., P.Geo., Ridge Geoscience LLC, and subcontractor to Mining Plus. Mr. Hartman is a Registered Member of the Society for Mining, Metallurgy & Exploration, and a Practicing Member with Professional Geoscientists Ontario. Mr. Hartman has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined by NI 43-101.
- The Mineral Resource estimate has an effective date of January 4, 2023.
- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
- The totals contained in the above table have been rounded. Rounding may cause some computational discrepancies.
- Mineral Resources are estimated consistent with CIM Definition Standards and reported in accordance with NI 43-101.
- Open Pit Mineral Resources are reported on an in-situ basis at an NSR of US\$8.21 and constrained by an economic pit shell. Underground Mineral Resources are reported at an economic cut-off of US\$16.41 and constrained by a conceptual block cave shape. Cut-offs are based on assumed prices of US\$3.50/lb for copper, US\$21.50/oz for silver, and US\$1,650/oz for gold. Assumed metallurgical recoveries are based on a set of recovery equations derived from recent metallurgical test work. Maximum recoveries were limited to 95% for Cu, 85% for Au and 72% for Ag. Milling plus G&A costs were assumed to be US\$8.21/tonne, and underground mining and G&A costs are assumed to be US\$8.20/tonne.
- Actual SG measurements were interpolated into the block model, with an average SG of 2.74.
- The quantity and grade of reported Inferred Mineral Resources in the 2023 PEA are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as Indicated or However, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
- The estimate of Mineral Resources may be materially affected by geology, environment, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.

Kwanika South (Open Pit) Notes

- The Mineral Resources have been compiled by Mr. Brian S. Hartman, M.S., P.Geo., Ridge Geoscience LLC, and subcontractor to Mining Plus. Mr. Hartman is a Registered Member of the Society for Mining, Metallurgy & Exploration, and a Practicing Member with Professional Geoscientists Ontario. Mr. Hartman has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined by NI 43-101.
- The Mineral Resource estimate has an effective date of January 4, 2023.
- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
- The totals contained in the above table have been rounded. Rounding may cause some computational discrepancies.
- Mineral Resources are estimated consistent with CIM Definition Standards and reported in accordance with NI 43-101.
- Open Pit Mineral Resources are reported on an in-situ basis at an economic cut-off of US\$8.21 and constrained by an economic pit shell. Cut-offs are based on assumed prices of US\$3.50/lb for copper, US\$21.50/oz for silver, and US\$1,650/oz for gold. Assumed metallurgical recoveries are based on a set of recovery equations derived from recent metallurgical test work. Maximum recoveries were limited to 95% for Cu, 85% for Au and 72% for Ag. Milling plus G&A costs were assumed to be US\$8.21/tonne.
- Actual SG measurements were interpolated into the block model, with an average SG of 2.68.
- The quantity and grade of reported Inferred Mineral Resources in the 2023 PEA are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as Indicated or However, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
- The estimate of Mineral Resources may be materially affected by geology, environment, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.

Stardust (Underground) Notes

- The Mineral Resources have been compiled by Mr. B Ronald G. Simpson of GeoSim Services Inc. Mr. Simpson has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined by NI 43-101.
- The Mineral Resource estimate has an effective date of January 4, 2023.
- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
- The totals contained in the above table have been rounded. Rounding may cause some computational discrepancies.
- Mineral Resources are estimated consistent with CIM Definition Standards and reported in accordance with NI 43-101.
- Reasonable prospects for economic extraction were determined by applying a minimum mining width of 2.0 meter and excluding isolated blocks and clusters of blocks that would likely not be mineable.
- The base case cut-off of US\$88/t was determined based on metal prices of \$1,650/oz gold, \$21.50/oz silver and \$3.50/lb copper, underground mining cost of US\$64/t, transportation cost of US\$6/t, processing cost of US\$8.25/t, and G&A cost of US\$9.75/t. Recovery formulas were based on recent metallurgical test results. Maximum recoveries were limited to 95% for Cu, 85% for Au and 72% for Ag.
- Block tonnes were estimated using a density of 3.4 g/cm³ for mineralized material.
- Six separate mineral domains models were used to constrain the estimate. Minimum width used for the wireframe models was 1.5 m.
- For grade estimation, 2.0-meter composites were created within the zone boundaries using the best-fit method.
- Capping values on composites were used to limit the impact of outliers. For Zone 102, gold was capped at 15 g/t, silver at 140 g/t and copper at 7.5%. For all other zones, gold was capped at 6 g/t, silver at 140 g/t and copper at 5%.
- Grades were estimated using the inverse distance cubed method. Dynamic anisotropy was applied using trend surfaces from the vein models. A minimum of 3 and maximum of 12 composites were required for block grade estimation.
- Blocks were classified based on drill spacing. Blocks falling within a drill spacing of 30m within Zones 2, 3, and 6 were initially assigned to the Indicated category. All other estimated blocks within a maximum search distance of 100 m were assigned to the Inferred category. Blocks were reclassified to eliminate isolated Indicated resources within inferred resources.
- The quantity and grade of reported Inferred Mineral Resources in the 2023 PEA are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as Indicated or However, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
- The estimate of Mineral Resources may be materially affected by geology, environment, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.

Cautionary Statement Regarding Forward-Looking Information

This news release contains "forward-looking information" within the meaning of applicable securities laws. All statements, other than statements of historical fact, are forward-looking statements and are based on expectations, estimates and projections as at the date of this news release. Any statement that involves discussion with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance (often, but not always using phrases such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes" or variations (including negative variations) of such words and phrases, or state that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved) are not statements of historical fact and may be forward-looking statements. . In this news release, forward-looking statements relate, among other things, to statements with respect to: the development, operational and economic results of the 2023 PEA; adding the Lorraine Project to the Kwanika-Stardust Project; the Company's goals for 2022 and 2023; geological interpretations; the estimation of Mineral Resources; magnitude or quality of mineral deposits; anticipated advancement of mineral properties or programs; future operations; mine plans; future exploration prospects; the completion and timing of technical reports; future growth potential of NorthWest; and future development plans.

All statements, other than statements of historical fact, included herein, constitutes forward-looking information. Although NorthWest believes that the expectations reflected in such forward-looking information and/or information are reasonable, undue reliance should not be placed on forward-looking information since NorthWest can give no assurance that such expectations will prove to be correct. Forward-looking information involves known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking information, including the risks, uncertainties and other factors identified in NorthWest's periodic filings with Canadian securities regulators. Forward-looking information are subject to business and economic risks and uncertainties and other factors that could cause actual results of operations to differ materially from those contained in the forward-looking

information. Important factors that could cause actual results to differ materially from NorthWest's expectations include risks associated with the business of NorthWest; risks related to reliance on technical information provided by NorthWest; risks related to exploration and potential development of the Company's mineral properties; business and economic conditions in the mining industry generally; fluctuations in commodity prices and currency exchange rates; uncertainties relating to interpretation of drill results and the geology, continuity and grade of mineral deposits; the need for cooperation of government agencies and First Nation groups in the exploration and development of properties and the issuance of required permits; the need to obtain additional financing to develop properties and uncertainty as to the availability and terms of future financing; the possibility of delay in exploration or development programs and uncertainty of meeting anticipated program milestones; uncertainty as to timely availability of permits and other governmental approvals; and other risk factors as detailed from time to time and additional risks identified in NorthWest's filings with Canadian securities regulators on SEDAR in Canada (available at www.sedar.com).

Forward-looking information is based on estimates and opinions of management at the date the information are made. NorthWest does not undertake any obligation to update forward-looking information except as required by applicable securities laws. Investors should not place undue reliance on forward-looking information.

¹ See NI 43-101 technical report titled "Lorraine Copper-Gold Project NI 43-101 Report & Mineral Resource Estimate Omineca Mining Division, B.C.," dated September 12, 2022 with an effective date of June 30, 2022, filed under the Company's SEDAR profile at www.sedar.com.

² $\text{CuEq (lbs)} = \text{Cu (lbs)} + (\text{Au (koz)} * \text{Au (\$/oz)}) / \text{Cu (\$/lb)} / 1000 + (\text{Ag (koz)} * \text{Ag (\$/oz)}) / \text{Cu (\$/lb)} / 1000$, US\$3.63 Cu, US\$1,650 Au, US\$21.50 Ag

³ Cash operating cost on a Co-product basis, calculated with the following formula: $(\text{Site Operating Costs}) / \text{LOM CuEq (Mlbs)}$, Site Operating Costs = C\$23.04 (per tonne processed)*95,607 kt*0.77 (USD exchange rate).

⁴ Cash operating cost on a By-product basis, calculated with the following formula: $(\text{Site Operating Costs} - \text{LOM Gold Revenue} - \text{LOM Silver Revenue}) / \text{LOM Cu (Mlbs)}$, LOM Gold Revenue = US\$1,321.55M, LOM Silver Revenue = \$US 68.53M.

⁵ AISC Co-product basis, calculated with the following formula: $(\text{Site Operating Costs} + \text{Treatment, Refining, Transport Costs} + \text{Sustaining Capital} + \text{Closure Costs} - \text{Salvage Value}) / \text{LOM CuEq (Mlbs)}$, Treatment, Refining, Transport Costs = US\$220.96M, Sustaining Capital = C\$282.46M*0.77, Closure Costs = US\$32.26M, Salvage Value = US\$1.89M.

⁶ AISC By-product basis, calculated with the following formula: $(\text{Site Operating Costs} + \text{Treatment, Refining, Transport,} + \text{Sustaining Capital} + \text{Closure Costs} - \text{Salvage Value} - \text{LOM Gold Revenue} - \text{LOM Silver Revenue}) / \text{LOM Cu (Mlbs)}$

⁷ 0.77 US\$ per C\$1.00

⁸ Economics calculated at US\$3.63 Cu, US\$1,650 Au, US\$21.50 Ag

⁹ Spot price economics calculated at US\$3.83 Cu, US\$1,840 Au, US\$23.97 Ag (as at January 3, 2023)

¹⁰ $\text{CuEq (lbs)} = \text{Cu (lbs)} + (\text{Au (koz)} * \text{Au (\$/oz)}) / \text{Cu (\$/lb)} / 1000 + (\text{Ag (koz)} * \text{Ag (\$/oz)}) / \text{Cu (\$/lb)} / 1000$, US\$3.63 Cu, US\$1,650 Au, US\$21.50 Ag

¹¹ Operational after tax cash flow ("ATCF") is defined as Total Revenue - Site Operating Costs - Treatment, Refining, Transport Costs - Sustaining Capital - Growth Capital - Closure Costs - Taxes + Salvage Value, Total Revenue = C\$5,068.04M, Site Operating Costs = C\$2,202.87M, Treatment, Refining, Transport Costs = C\$286.96M, Sustaining Capital = C\$282.46M, Growth Capital = \$493.27M, Closure Costs = C\$41.90M, Taxes = C\$438.06M, Salvage Value = C\$2.46M.

¹² Please see end of the release for notes to the Mineral Resource Estimate. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability

¹³ See NI 43-101 technical report titled "NI 43-101 Technical Report for the Kwanika Project Preliminary Economic Assessment Update 2017," dated April 28, 2017 with an effective date of April 3, 2017, filed under the Company's SEDAR profile at www.sedar.com.

¹⁴ See NI 43-101 technical report titled "NI 43-101 Technical Report for the Kwanika Project Resource Estimate Update 2019," dated April 17, 2019, filed under the Company's SEDAR profile at www.sedar.com.

¹⁵ See NI 43-101 technical report titled "Stardust Project Updated Mineral Resource Estimate NI 43-101 Technical Report Omineca Mining Division, British Columbia," dated July 2, 2021 with an effective date of May 17, 2021, filed under the Company's SEDAR profile at www.sedar.com.

¹⁶ Growth Capital is capital associated with bringing new areas of mineralized material into production - namely Kwanika underground block cave and Stardust underground

¹⁷ Strip Ratio only accounts for the mineralized material and waste mined from the Kwanika Central open pit

and the Kwanika South open pit. The strip ratios including mineralized material mined from underground is 0.91.

¹⁸ Base Case Prices US\$ 3.63 Cu, US\$1,650 Au, US\$21.50 Ag, Spot Prices as at January 3, 2023 (US\$3.83 Cu, US\$1,840 Au, US\$23.97 Ag), 52 Week Cu press high (US\$4.94 Cu, US\$ 1,790 Au, US\$ 23.27 Ag)

¹⁹ The Company's 2021 ESG Report can be found here:

<https://northwestcopper.ca/investors/annual-esg-report/>

²⁰ See NI 43-101 technical report titled "NI 43-101 Technical Report for the Kwanika Project Resource Estimate Update 2019," dated April 17, 2019, filed under the Company's SEDAR profile at www.sedar.com.

²¹ Strip Ratio only accounts for the mineralized material and waste mined from the Kwanika Central open pit and the Kwanika South open pit. The strip ratios including mineralized material mined from underground is 0.91.

²² %CuEq is calculated for each year, then a weighted average is applied. Exact recoveries were used for the calculation, average recoveries are presented below for reference. Equation used: $\text{CuEq (\%)} = \text{Cu (\%)} + ((\text{Au (g/t)} / (\text{oz/g}) * \text{Au (\$/oz)} * \text{Au Recovery (\%)}) + (\text{Ag (g/t)} / (\text{oz/g}) * \text{Ag (\$/oz)} * \text{Ag Recovery (\%)}) / (\text{Cu (\$/lb)} * \text{Cu Recovery (\%)} * (\text{lbs/kg} * 10))$, oz/g = 31.103, lbs/kg = 2.20, Au (\\$/oz) = US\$1,650, Ag (\\$/oz) = US\$21.50, Cu (\\$/lb) = US\$3.50, Open Pit: Cu Recovery = 84.3%, Au Recovery = 60.0%, Ag Recovery = 57.8%, , Underground: Cu Recovery = 89.7%, Au Recovery = 71.4%, Ag Recovery = 70.3%

Dieser Artikel stammt von Rohstoff-Welt.de

Die URL für diesen Artikel lautet:

<https://www.rohstoff-welt.de/news/432088--NorthWest-Copper-Announces-Positive-PEA-for-the-Kwanika-Stardust-Copper-Gold-Project-Describing-a-Low-CAL>

Für den Inhalt des Beitrages ist allein der Autor verantwortlich bzw. die aufgeführte Quelle. Bild- oder Filmrechte liegen beim Autor/Quelle bzw. bei der vom ihm benannten Quelle. Bei Übersetzungen können Fehler nicht ausgeschlossen werden. Der vertretene Standpunkt eines Autors spiegelt generell nicht die Meinung des Webseiten-Betreibers wieder. Mittels der Veröffentlichung will dieser lediglich ein pluralistisches Meinungsbild darstellen. Direkte oder indirekte Aussagen in einem Beitrag stellen keinerlei Aufforderung zum Kauf-/Verkauf von Wertpapieren dar. Wir wehren uns gegen jede Form von Hass, Diskriminierung und Verletzung der Menschenwürde. Beachten Sie bitte auch unsere [AGB/Disclaimer!](#)

Die Reproduktion, Modifikation oder Verwendung der Inhalte ganz oder teilweise ohne schriftliche Genehmigung ist untersagt!
Alle Angaben ohne Gewähr! Copyright © by Rohstoff-Welt.de -1999-2026. Es gelten unsere [AGB](#) und [Datenschutzrichtlinien](#).