

Tectonic Metals Achieves 96% Gold Recovery from First-Ever Heap Leach Column Tests

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on A Mix of Oxidized and Non-Oxidized Fresh Mineralized Rock from Flat Gold Project

HEAP LEACHING SUCCESSFULLY VALIDATED USING COARSE 3/4 INCH MATERIAL PAVING WAY FOR POTENTIAL RUN-OF-MINE/UNCRUSHED HEAP LEACHING

VANCOUVER, September 19, 2024 - [Tectonic Metals Inc.](#) (TSX-V:TCT)(OTCQB:TETOF)(FSE:T15B) (the "Company" or "Tectonic") is excited to announce the results from the Company's first-ever scoping metallurgical heap leach column tests, which achieved impressive gold recoveries of 96% and 91%. These tests were conducted on coarse ¾-inch material comprising both oxidized and non-oxidized fresh mineralized drillcore from Tectonic's flagship Flat Gold Project ("Flat") in Alaska. The exceptional gold recoveries not only confirm the Project's heap leach potential but also set the stage for advancing towards run-of-mine heap leach processing.

Tony Reda, Tectonic President & CEO, commented:

"Our initial heap leach results mark a major milestone for the Flat Gold Project, a bulk-tonnage gold system showing continued strong geological similarities to Kinross Gold's Fort Knox Mine. In just two years of exploration at Flat, we have performed an extensive range of metallurgical tests-including heap leach column, conventional bottle roll, gravity separation, combined gravity and bottle roll, and flotation. These tests are crucial for evaluating and optimizing mining processing methods and de-risking the project as we advance it towards a viable economic mining opportunity. Our results clearly demonstrate that the gold mineralization at Flat is not grind-sensitive, extremely low in sulphur, non-preg-robbing and well-suited to various gold extraction techniques. Crushing and grinding typically are the largest capital cost and significant consumers of power at an operating mine, and therefore, the most expensive operational cost significantly impacting a mine's all-in sustaining costs (AISC). With that in mind, we are now more than ever excited to explore the potential for run-of-mine heap leaching, similar to the Fort Knox Mine. These metallurgical results underscore the potential for a cost-effective, large-scale mining operation in a stable jurisdiction, further establishing the Flat Project as a key asset in Tectonic's portfolio and the broader mining industry."

Key Findings and Highlights

- **Exceptional Gold Recovery:** 96% and 91% gold recoveries from coarse ¾ inch material, representing a mix of oxidized and non-oxidized fresh mineralization from 9 drill holes from the Chicken Mountain Intrusion. The drill hole collar locations from which the column test samples were collected are shown in Figure 1.

Figure 1: 2024 Column Test Drill Hole Collar Locations

- **Rapid Leach Kinetics:** Over 80% gold recovery was achieved within 29 days for the higher gold grade composite column and within 36 days for the slightly lower gold grade composite column.
- **Heap Leach Validated:** Column test results confirm the potential for heap leach processing at Flat, including both oxidized and non-oxidized fresh mineralization.

- Non-Oxidized Fresh Mineralized Rock Demonstrates Amenable to Heap Leaching: Results indicate that gold recoveries are not significantly influenced by the presence or absence of oxides, depth of mineralization, and non-oxidized mineralization demonstrates amenability to heap leaching.
- No Agglomeration Required: Tests confirmed that agglomeration was not necessary, which has the potential to further enhance processing efficiency and lower costs.
- Potential for Run-of-Mine Heap Leaching: Metallurgical testing, including bottle rolls and column tests, indicates that the mineralization at Flat is not grind sensitive. Similar to the mineralization at the Fort Knox Mine, gold at Flat is fracture-controlled, enabling efficient leach solution access and faster gold recovery even on coarse material. This style of gold mineralization is well-suited for heap leaching, presenting a cost-effective extraction opportunity, particularly if uncrushed run-of-mine material is amenable to heap leaching as it is at Fort Knox.

Flat Metallurgical Program - Scoping Column Heap Leach Tests

Composite gold grades calculated (assay) and extracted along with metallurgical results are presented in Table 1 and Figure 2.

Table 1: Column test leach kinetics of Flat Higher Grade ("FHG") and Flat Lower Grade ("FLG") composites

Composite	Crush Size inches	Calculated Head Grade Au g/t	Extracted		Consumption	
			Grade	Gold Recovery	Days Leached	NaCN
			Au g/t	%		Kg/t
FHG *	0.75	1.15	1.10	95.7	70	0.87
FLG **	0.75	0.99	0.90	90.9	70	0.80

- FHG: High grade composite, ** FLG: Low grade composite

Figure 2: Rapid Leach Kinetics Chart

Flat Metallurgical Program - Composites Sample Data

For the phase one column test work, two composites representing general lower and higher-grade material were selected from a historic 1/2 NQ-sized drill core from gold mineralized Chicken Mountain Intrusion. The lower-grade composite comprises 25 sample intervals selected from six different drill holes for 91.70 kg while the higher-grade composite includes 22 sample intervals from nine different drill holes for a total of 83.90 kg. The selected sample intervals for both composites comprised a mix of oxidized and non-oxidized fresh drillcore. Table 2 summarizes each composite sample. Material for each composite was blended and crushed to 100% passing 3/4 inch screen.

Table 2 FHG and FLG Composite Details

Composite	Intrusion Target	Column Samples	Drill Holes	Drill Hole	Sample Depth Range (m)	Host Rock	Minera
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FHG	Chicken Mtn	22	6	8-175	Quartz Monzonite Mixed
FLG	Chicken Mtn	25	9	35-173	Quartz Monzonite Mixed

More on the Flat Metallurgical Program

The metallurgical test work was conducted by Base Metallurgical Laboratories, under the supervision of Tectonic's Technical Advisor, Mr. Fred Lightner, P.E., a metallurgical engineer from the Colorado School of Mines with over 50 years of industry experience (+25 projects) specializing in heap leach gold project evaluation, consultation, feasibility, construction and operations. Base Metallurgical Laboratories is a fully integrated mineral processing laboratory located in Kamloops, British Columbia.

Previous Metallurgical Studies at Flat

Initial metallurgical characterization test work on the Chicken Mountain mineralization was conducted by Tectonic in 2023 and complete results can be found here. These initial positive results of the various metallurgical tests indicate that Tectonic may have several metallurgical processing options for oxide and non-oxide fresh/sulphide mineralization present at Flat.

About Heap Leaching and Column Tests

Heap leaching is a widely used extraction method for minerals, including copper, gold, silver, etc. Using data compiled by Mining Intelligence, MINING.COM states that there are currently 286 heap leach mines operating worldwide.

Heap leach column metallurgical tests are critical in evaluating the feasibility and efficiency of heap leaching for specific ore bodies. The purpose of heap leach column tests is to simulate the heap leaching process on a smaller scale in a controlled laboratory environment. These tests allow for the assessment of key parameters such as leach solution flow rates, heap permeability, leach kinetics, and recovery rates. By understanding these factors, mining engineers and metallurgists can optimize the heap leaching process, improving mineral recovery and making the process more economically viable.

About Tectonic Metals Inc.

Tectonic Metals Inc. is a gold exploration company founded by the same key executives who transformed Kaminak Gold from a \$3 million venture into a \$520 million success story. These leaders raised \$165 million to fund the acquisition, discovery, and advancement of the Coffee Gold Project in the Yukon Territory, including the completion of a bankable feasibility study, before selling the multi-million-ounce gold project to [Goldcorp Inc.](#) (now Newmont) for C\$520 million in 2016.

Success with the Coffee Gold Project is only one example, as each member of the Tectonic team has a significant track record of success in all facets of exploration and mining, including over 30 Moz of gold discoveries, 18 feasibility studies, 20 projects permitted, over \$3 billion in M&A transactions and over \$2 billion in capital raising.

Tectonic's mission statement is "to be the number one mineral exploration company in the world." The Company applies a disciplined, up-front de-risking strategy to address the economics, community benefits, and sustainability of its projects and refers to this as the "Shift in the Game." The Tectonic team is focused on demonstrating tier-1 mining opportunities, not drill plays.

Whether at home or at work, the Tectonic team is grounded on the following core values: passion, integrity, patience, focus, perseverance, honesty, fairness, accountability, respect and a big mindset. The Company's vision is to create transformational wealth for our shareholders by identifying, discovering and developing world-class gold districts in North America with a commitment to high standards of environmental stewardship and maximizing social and economic benefits to the communities in which they live and operate.

To learn more about Tectonic Metals or to Subscribe to our email list, click [Here](#)

Tour the Flat Gold Project

Tectonic invites you to take a virtual tour of our Flat Gold Project with both the CEO of Tectonic and one of Alaska's largest for-profit Native Regional Corporations, Doyon, by clicking here:
<https://bit.ly/FlatProjectSiteTour>

To be a part of "The Shift," follow us on social media:

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Qualified Person?

Tectonic's disclosure of a technical or scientific nature in this press release has been reviewed, verified, and approved by Peter Kleespies, M.Sc., P.Geol., Tectonic's Vice President of Exploration, who serves as a Qualified Person under the definition of National Instrument 43-101.??

On behalf of Tectonic Metals Inc.,

Tony Reda

President and Chief Executive Officer

For further information about Tectonic Metals Inc. or this news release, please visit our website at www.tectonicmetals.com or contact Jesse Manna, M.Sc., Investor Relations, at toll-free 1.888.685.8558 or by email at jesse@tectonicmetals.com.

Cautionary Note Regarding Forward-Looking Statements

Certain information in this news release constitutes forward-looking information and 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 and include, but are not limited to, the potential for mineralization at Tectonic's projects, any future exploration activities and the size; the receipt of any regulatory approvals, including the final approval of the TSXV.

Forward-looking information is not a guarantee of future performance and is based upon a number of estimates and assumptions of management at the date the statements are made including, among others, assumptions about future prices of gold and other metal prices, currency exchange rates and interest rates, favourable operating conditions, political stability, obtaining governmental and other approvals and financing on time, obtaining required licenses and permits, labour stability, stability in market conditions, availability of equipment, accuracy of any mineral resources, successful resolution of disputes and anticipated costs and

expenditures. Many assumptions are based on factors and events that are not within the control of Tectonic, and there is no assurance they will prove to be correct.

Although Tectonic considers these beliefs and assumptions to be reasonable based on information currently available to it, they may prove to be incorrect, and the forward-looking statements in this release are subject to numerous risks, uncertainties and other factors that may cause future results to differ materially from those expressed or implied in such forward-looking statements. Forward-looking statements necessarily involve known and unknown risks, including, without limitation: the Company's ability to implement its business strategies; risks associated with mineral exploration and production; risks associated with general economic conditions; adverse industry events; 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 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. Although Tectonic has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking information. Tectonic does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

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

SOURCE: Tectonic Metals Inc.

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