Tectonic Reports Gold Recoveries to 96.8% from Coarse Crush Bottle Rolls Warranting Investigation into Heap Leaching

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VANCOUVER, February 16, 2023 - Tectonic Metals Inc. (TSXV:TECT)(OTCQB:TETOF)(FSE:T15B) (the "Company" or "Tectonic") today announced metallurgical test results from the Company's Flat Gold Project ("Flat"), an intrusion-hosted, bulk tonnage gold system located in southwestern Alaska. As part of the Company's first year exploration program at Flat, metallurgical samples were selected by Tectonic from historically drilled diamond core determined to be representative of the known drilled mineralization and five composites comprising of four oxide and one fresh sulphide were formed. The composites were then subject to conventional bottle roll, gravity, combined gravity and bottle roll and flotation metallurgical test work with the goal of de-risking the project and to provide insight into what metallurgical processing methods might be ideal. The metallurgical results from the five composites returned gold recoveries averaging 95.6%, with one test returning a high of 99.1%, all with conventional cyanide leaching (bottle roll) of 75µm material. These exceptional results prompted Tectonic to conduct a follow-up bottle roll test at a coarser crush (6 mesh, 3360 µm), which potentially can be used as a proxy for heap leaching, and an average gold recovery of 88.5% was achieved with four of the five composites returning an average gold recovery of 94.0% and a high of 96.8%. The metallurgical results also demonstrate that the mineralization presently known at Flat is not grind sensitive, is extremely low in sulphur, non preg robbing and favourable to various gold extraction methods. The success of Tectonic' metallurgical program warrants investigating column leach testing as a next step to determine if the mineralization at Flat is amenable to heap leaching.

Tony Reda, Tectonic President & CEO, commented: We are very pleased with the results of our initial metallurgical testing at Flat, which undoubtedly demonstrates the non-refractory nature of known mineralization to date as evidenced by the exceptionally high gold recoveries through bottle roll testing with minimal cyanide consumption. The baseline test work clearly de-risks the Flat project with respect to metallurgy and gives Tectonic confidence to aggressively explore for and develop resources on the project. Most importantly, the high gold recoveries from the 6 mesh bottle rolls coupled with the fact that mineralization begins at surface significantly endorses the potential amenability for open-pit, heap leachable mineralization at Flat. Heap leaching is a processing and extraction technology becoming increasingly popular over recent years due to the potential cost advantages and lower environmental impact it can offer to miners especially as the average grade of gold deposits has decreased over the past decade. Tectonic is excited to evaluate heap leaching as a viable metallurgical processing method at Flat as the next value creating opportunity."

Metallurgical Highlights

- Conventional bottle roll tests with 48-hour leach kinetics of material ground to a K_{80} of 75 µm yields an average gold recovery of 95.6% with a range of 88.3% to 99.1%
- Conventional gravity + bottle roll tests with 48-hour leach kinetics of material ground to a K_{80} of 75µm yield an average gold recovery of 97.2% and a high of 98.7% across the 5 composites. The fresh sulphide composite yielded a highly favourable gold recovery of 94.7%
- Given the initial favourable results, Tectonic then elected to do a coarser crush (6 mesh coarse crush, K_{100} of 3360µm) bottle roll test on all five composites with leach kinetics over a 192-hour period as a proxy for heap leach amenability ahead of future column leach testing. Bottle roll testing on this coarser crush material achieved an average gold recovery of 88.5% with 4 of the 5 composites averaging 94.0% at 3360µm vs 97.5% at 75µm indicating the majority of the tested material is not grind sensitive
- Strong and rapid leach kinetics demonstrated throughout the various metallurgical tests
- Very low cyanide consumption with an average of 0.22 kg/t for both the 75µm bottle and 3360µm coarse bottle rolls tests
- Low sulphur content with 4 of 5 composites averaging 0.02% and 0.06% in the fifth composite
- No preg robbing identified
- The various metallurgical tests and their positive results indicate that Tectonic may have several metallurgical processing options available at Flat

- To learn more about the metallurgical program and view accompanying maps and images please click here. Please also see Tectonic's news release of September 07, 2022

Flat Metallurgical Program - Composites

Tectonic's Metallurgical Test Work Program focused on Flat's primary target known as the Chicken Mountain Zone ("CMZ") comprised of intrusion-related gold mineralization hosted within a zoned monzonitic intrusion, which forms part of the more extensive Late Cretaceous Flat volcano-plutonic complex intruding Cretaceous-aged Kuskokwim sediments. 55 drill holes (diamond and reverse circulation) were historically drilled at CMZ, all of which encountered gold mineralization. Five composites (four oxide and one fresh non-oxidized sulphide) derived from 41 samples collected from 9 drill holes for a total weight of 119 kilograms were formed and determined to be representative of the known gold mineralization at Flat. The five composites were then subject to an array of metallurgical testing, including bottle roll testing at various crush sizes, gravity testing, combined bottle roll + gravity testing and flotation testing, to provide insight on what metallurgical processing methods might be ideal going forward.

In total 5 composites were created from historic drill core samples taken from representative examples of mineralization from various intrusive phases, alteration assemblages and oxidation profiles within the two main historically drilled areas on Chicken Mountain. Composites were blended following geochemical characterization, fire assaying and cyanide shake tests of each individual sample. Table 1 summarizes each composite.

Table 1: Flat Metallurgy Composites

Composite	Zone	Samples	Drill Hole	Drill Hole Sample depth range (m)	Host Rock	Mineralization T
UFA	Upper Flat	11	3	30-49	Biotite Syenite	Oxide
UFB	Upper Flat	9	3	70-119	Biotite Syenite	Oxide
HCA1	Main Chicken Mtn	7	1	4-64	Quartz Monzonite	Oxide
HCA2	Main Chicken Mtn	6	2	26-41	Quartz Monzonite	Oxide
HCB	Main Chicken Mtn	8	1	120-132	Quartz Monzonite	Fresh-Sulphide

Flat Metallurgical Program - Baseline 75um Metallurgical Test Work

Following gold (Au), sulphur (S) and carbon (C) head grade characterization of the 5 composites, aliquots were ground to K_{80} at 75µm and subjected to 1Kg tests for cyanide (CN) gold extraction (bottle roll), gravity concentration, combined gravity bottle roll and flotation recovery. Results of the 75µm test work are summarized in Tables 2, 3 and 4 below.

Table 2: 75µm grind 48 hr bottle roll tests

Composite	Mineralization Type	Calculated Head Grade	Consumption (kg/t)		Au Recovery % Leach Kinetics (hour)				
		Au g/t	NaCN	Ca(OH)2	2	6	24	48	Total
UFA	Oxide	1.66	0.24	2.57	90.9	98.1	99.4	96.7	96.7
UFB	Oxide	0.68	0.19	1.23	90.4	98.8	101.6	97.1	97.1

HCA1	Oxide	0.75	0.28	2.91	58.0	76.0	96.0	99.1	99.1
HCA2	Oxide	1.05	0.17	2.89	84.5	96.7	95.8	97.0	97.0
HCB	Fresh-Sulphide	1.32	0.23	0.92	74.8	83.7	88.2	88.3	88.3

Bottle roll results in Table 2 above and below in Figure 1 show excellent Au recoveries through CN leaching for composites UFA, UFB, HCA1 and HCA2 which averaged 97.5% Au extraction after the 48-hour test. Composite HCB achieved a slightly lower Au extraction of 88.3%. Cyanide consumption for all 5 tests was low averaging 0.22 kg/tonne milled.

Figure 1. 48 Hour leach kinetics of 75µm grind bottle roll tests. Gold recoveries averaged 95.6% with a range of 99.1-88.3%.

Table 3: 75µm gravity gold concentration

Composite	Mineralization Type	Calculated Head Grade	Gravity Concentrate	
		Au g/t	Au g/t	Au Recovery %
UFA	Oxide	1.16	192	35.8
UFB	Oxide	0.79	62	15.2
HCA1	Oxide	0.61	81	12.7
HCA2	Oxide	1.05	20	5.5
HCB	Fresh-Sulphide	1.13	409	43.7

Gravity Au recovery (Table 3) for composites UFA, UFB, HCA1 and HCA2 was low averaging 17.3% with an average gravity concentrate grade of 89 g/t Au. Composite HCB showed good gravity Au recovery of 43.7% with an excellent concentrate grade of 409 g/t Au.

Table 4: 75µm flotation

Composite	Mineralization Type	Calculated Head Grade	Concentrate Specs			Recovery %	
		Au g/t	Wt. %	Au g/t	Ag, g/t	Au Rec %	S Rec %
UFA	Oxide	1.19	27.5	3.66	1.09	84.8	45.0
UFB	Oxide	0.81	16.4	3.52	3.43	71.1	27.9
HCA1	Oxide	0.52	17.7	2.19	0.61	74.6	42.7
HCA2	Oxide	1.06	10.7	5.39	1.45	54.3	41.8
HCB	Fresh-Sulphide	1.33	14.6	8.87	1.90	97.4	76.3

Flotation test work (Table 4) for UFA, UFB, HCA1 and HCA2 returned an average of 71.2% Au recovery and 39.3% S recovery, which suggests flotation may not be the best processing option for Flat oxide mineralization given the high gold recoveries obtained through conventional bottle roll and the combined gravity and bottle roll testing. Composite HCB, which comprised fresh sulphide mineralization, returned 97.4% Au recovery with 76.3% S recovery indicating excellent amenability for gold recovery through flotation of Flat sulphide mineralization.

Further test work of the K_{80} 75µm grind comprising gravity concentration followed by bottle roll cyanide extraction of gravity tails was conducted specifically to address the high gravity recovery and lower bottle roll recoveries in composite HCB. Results of the combined gravity - bottle roll tests are summarized in Table 5.

Table 5: 75µm gravity + bottle roll

Composite	Mineralization Type	Calculated Head Grade	Gravity Concentrate		Bottle Roll Consumption (kg/t)		Au Recovery (%) Leach Kinetics (hour)			
		Au g/t	Au g/t	Recovery %	NaCN	Ca(OH)2	2	6	24	48
UFA	Oxide	1.11	127	17.8	0.2	3.23	76.3	82.7	82.5	80.8
UFB	Oxide	0.94	52.1	10.0	0.16	2.74	73.3	80.8	83.5	86.2
HCA1	Oxide	0.77	81.5	18.2	0.11	2.57	79.3	80.3	83.4	80.5
HCA2	Oxide	1.13	12.9	2.4	0.14	1.79	82.4	90.2	96.8	95.4
HCB	Fresh-Sulphide	1.12	200	34.3	0.17	1.2	58.1	60.2	59.6	60.4

Results indicate that high recoveries at a K_{80} of 75µm grind utilizing gravity pre-concentration followed by cyanide leaching are attainable for Flat sulphide mineralization with composite HCB returning a total of 94.7% gold recovery. Composites UFA, UFB, HCA1 and HCA2 showed a marginal increase in recovery utilizing gravity prior to leaching with the four composites averaging 97.9% gold recovery versus 97.5% gold recovery in the 75µm bottle roll only test.

Flat Metallurgical Program - 6 mesh (3360µm) Metallurgical Test Work

As a proxy for and to investigate the amenability of further column leach testing of Flat mineralization, bottle rolls were conducted on all five composites on 6 mesh coarse crush (K_{100} of 3360µm) material with leach kinetics over a 192-hour period. Results are summarized in Table 6 below.

Table 6: 6 mesh (3360µm) gravity +bottle roll.

Composite	Mineralization Type	Calculated Head Grade	Consumption (kg/t)		Au Recovery (%) Leach Kinetics (hour)					
		Au g/t	NaCN	$Ca(OH)_2$	24	48	72	96	192	Total
UFA	Oxide	1.50	0.24	4.02	71.4	81.4	88.6	88.6	92.8	92.8
UFB	Oxide	0.65	0.28	3.20	87.5	88.7	88.3	88.3	94.2	94.2
HCA1	Oxide	0.50	0.19	3.16	90.0	97.3	95.5	95.5	96.8	96.8
HCA2	Oxide	1.01	0.19	2.08	87.3	87.0	91.1	91.1	92.3	92.3
HCB	Fresh-Sulphide	0.97	0.19	1.34	58.9	64.8	65.6	65.6	66.5	66.5

Gold recovery averaged 88.5% for all five composites with composites UFA, UFB, HCA1 and HCA2 (oxidized mineralization) averaging 94%, while sulphide mineralization represented by composite HCB achieved an Au recovery of 66.5% at 6 mesh.

Results of the 6-mesh bottle roll clearly demonstrate that column leach testing of the Flat mineralization is

clearly warranted to test the overall amenability to heap leaching, particularly in the oxide portions of the deposit. Additional column leach testing of sulphide bearing mineralization is also warranted due to the low sulphide content, low cyanide consumption and non-preg robbing nature.

Flat Metallurgical Program - Metallurgist and Laboratory

The metallurgical test work was undertaken by Base Metallurgical Laboratories (Base Met Labs), Kamloops, British Colombia, under the supervision of Jake Lang, Principal Metallurgist. Additionally, the program was conducted under the guidance of Tectonic's consulting Metallurgical Advisor, Jeet Basi, who has over 15 years of technical leadership experience in global public mining companies, including Newmont, Goldcorp and Teck Resources. Base Metallurgical Laboratories is a fully integrated mineral processing laboratory located in Kamloops BC. The facility incorporates metallurgical, mineralogy and analytical capabilities. Base Met Labs is backed by experienced metallurgists with regards to flotation and cyanidation process flowsheet development and interpretation of mineralogical analyses.

About The Flat Gold Project

The Flat Gold Project is an intrusion-hosted, bulk tonnage gold project located in southwestern Alaska, just 40km north of the giant Donlin Gold Project, which is owned equally by Barrick and NOVAGOLD.

Flat consists of 92,160 acres of mostly Native-owned land belonging to Doyon, Limited, a leading Alaska's Native Regional Corporation and the largest private landholder in the State of Alaska. Doyon and Tectonic have formed a mutually beneficial mineral lease property agreement covering all aspects of exploration through to production, including royalties and ESG provisions. The resulting agreement aligns the interests and expectations of both parties involved, reduces risk, and creates a process that can advance a project from discovery through development and production to final reclamation.

Flat represents a rare opportunity in a tier one jurisdiction:

- A large scale, intrusion-hosted gold system with mineralization
- Documented as the 4th largest placer mining district in Alaska with over 1.4Moz of recorded gold produced via placer mining*
- 55 historical drill holes, all of which hit mineralization and 25 of which bottomed in mineralization
- Mineralization begins at surface, average drill depth is only 100m vertical, open in all directions
- Located in close proximity to a world-class gold deposit (Donlin)
- +4km long, +200ppb gold-in-soil anomaly (open for expansion)
- Historical mineralized trenches, some of which remain untested by drilling
- Situated predominantly on Native Owned Land with a full scale mineral lease property agreement covering all aspects of exploration through to production, including royalties and ESG provisions

To learn more about Tectonic's Flat Gold Project, click here.

End Note: *Mineral Occurrence and Development Potential Report, Locatable and Salable Minerals, Being Sea-Western Interior Resource Management Plan, BLM-Alaska Technical Report 60, prepared by the U.S. Department of the Interior, Bureau of Land Management, November 2010

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.Geo., Tectonic's Vice President Exploration, who serves as a Qualified Person under the definition of National Instrument 43-101.

To learn more about Tectonic, please click here.

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 Tony Reda, President & CEO of Tectonic, or Bill Stormont, Investor Relations, at toll-free 1.888.685.8558 or by email at info@tectonicmetals.com.

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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.

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