

Stillwater Critical Minerals Completes Property-Wide Geophysical Survey and Demonstrates Continuity of Mineralization Across 9.5 Kilometers in First-Ever 3D Geologic Model of the Lower Stillwater Igneous Complex in Montana, USA

October 16, 2024 - Vancouver, B.C., Stillwater Critical Minerals Corp. (TSX.V: PGE | OTCQB: PGEZF | FSE: JOG) (the “Company” or “Stillwater”) is pleased to announce the completion of a property-wide geophysical airborne survey and a breakthrough in 3D geologic modeling of the lower Stillwater Igneous Complex. This new data will drive continued advancement of the project including drill campaigns and the expansion of mineral resources, among other objectives at its flagship Stillwater West Ni-PGE-Cu-Co + Au project in Montana.

Highlights

- Property-wide geophysical surveys completed in September 2024 informed the first-ever detailed 3D geologic model of the lower Stillwater Igneous Complex;
- The model demonstrates continuity of mineralization across the 9.5-kilometer length of lower Stillwater Igneous Complex which hosts the Company’s current resources in five deposits at Stillwater West project;
- Historically, continuity of mineralization across the entire surface expression of the magmatic layers of the Stillwater Igneous Complex has been demonstrated primarily by Sibanye-Stillwater’s J-M Reef deposit, a high-grade PGE-bearing nickel-copper sulphide deposit that spans more than 40km and supports the highest-grade palladium-platinum mines in the world, and;
- Stillwater’s current resources of 1.6 billion pounds of nickel, copper and cobalt, and 3.8 million ounces of palladium, platinum, rhodium, and gold are hosted in five deposits that remain open for expansion along trend and at depth across 9.5-kilometers at the center of the 61-square-kilometer Stillwater West project, which is adjacent to Sibanye-Stillwater along approximately 32km of strike within the Stillwater Igneous Complex.

Stillwater’s President and CEO, Michael Rowley, said “The team’s work this year regarding both the airborne survey and also the detailed geologic model confirm the expansion potential we see in several possible mining scenarios at Stillwater West and inform our campaigns to reach that objective. Together we have successfully leveraged a substantial database including approximately 40,000 meters of drilling to date to complete the first ever geologic model of the lower part of this famously productive and metal-rich American mining district, with a focus on magmatic nickel-copper sulphide mineralization. That wealth of data, combined with Glencore plc’s backing and in-house expertise from similar geology in South Africa’s Bushveld Igneous Complex, has positioned us exceptionally well with robust inventories of nickel, copper, cobalt, platinum group elements and chromium in an active American mining district at a time when the US is aggressively looking to diminish the current heavy import reliance of nine of the commodities we have inventoried.”

“We look forward to further announcements with a focus on continued expansion at Stillwater West while also turning our attention to various studies relating to potential production scenarios. Updates on other initiatives, including pursuit of government funding, monetization of non-core assets, CO2 sequestration and geologic hydrogen studies are also expected.”

Property-Wide Airborne Geophysical Survey

Expert Geophysics Ltd. has completed the geophysical surveys over the Stillwater West project as announced July 18, 2024. The surveys, designed and executed in collaboration with Glencore plc via the Stillwater West technical committee, totaled approximately 1,170 line-kilometers and included test surveys over the Chrome Mountain resource area for the purpose of comparing the TargetEM26 time-domain electromagnetic (“EM”) survey with the MobileMTm magneto-telluric (“MMT”) survey. Evaluation of these test surveys alongside the first generation DIGHEM airborne EM survey flown over the project in 2000, together with smaller surveys and extensive ground-based Induced Polarization (“IP”) and magnetic/VLF by the Company, resulted in the decision

to fly the property-wide survey using the MMT system. The decision was based on the MMT system’s demonstrated ability to better distinguish and define multiple conductive targets, and to greater depths.

Stillwater, along with input from Glencore, is now fine-tuning multiple large-scale priority conductive drill targets across the 12-kilometer main resource area in addition to ranking additional large, untested conductive targets across the broader 61-square-kilometer property based on preliminary results of the 2024 survey. Detailed results of the approximately 178 and 992 line-kilometer EM and MMT (respectively) surveys, plus related VLF and magnetic surveys completed by Expert, will be the subject of a subsequent news release as final results become available.

Geologic Model

The development of a new 3D geologic model of Stillwater West is a major milestone in the advancement of the project as it is the first time the lower portion of the iconic Stillwater Igneous Complex has been modeled in detail. Developed by the Company from over 40,000 meters of drill data in addition to recent mapping and geophysical surveys, it effectively connects the east and west ends of a large and world-class district and provides a roadmap to expansion of the Company’s resources and advancement of the overall project, which is focused on the lower Stillwater Igneous Complex.

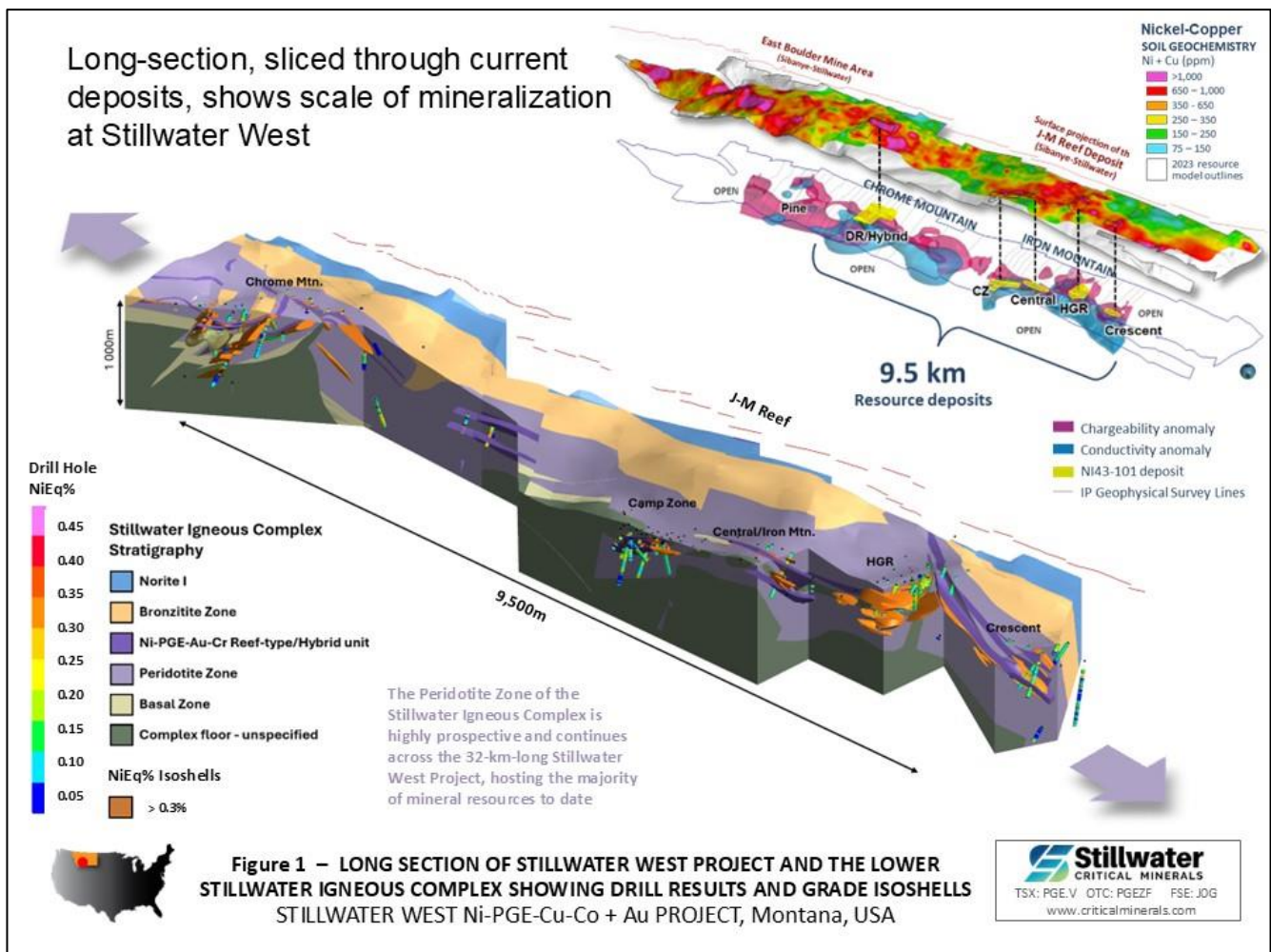


Figure 1 presents a long section view of the 3D model, focused on 9.5 kilometers in area of the current resources, within the core of the 32-kilometer-long Stillwater West project. The highly prospective Peridotite Zone is shown hosting all deposits from the January 2023 Mineral Resource Estimate and demonstrating the expansion potential that remains untested to date in all directions: between deposits, down dip, and along strike. Strong correlations are shown between the Peridotite Zone, geophysical anomalies, and geochemical soil anomalies across the Stillwater West project, demonstrating exceptional expansion potential.

The surface expression of the J-M Reef deposit is also shown. In production since 1986, the J-M Reef deposit is a 40-kilometer-long high-grade PGE-bearing nickel and copper sulphide reef-type deposit that is located stratigraphically above Stillwater West. Currently mined in three locations by Sibanye-Stillwater, the J-M Reef is known as the highest-grade palladium-platinum deposit in the world. It has been drilled and mapped extensively since its discovery in the early 1970s and is an indicator of the continuity of mineralization across the parallel magmatic layers of the Stillwater Igneous Complex, including the adjacent Stillwater West project.

Vice-President of Exploration Dr. Danie Grobler, said, “Recent breakthroughs in our detailed geological model show pronounced continuity of the mineralized zones along strike in the layered Stillwater Igneous Complex. This is further enhanced by our understanding of the geometry and orientation of these units at depth, improving our confidence in completing successful intersections in future drill campaigns. Preliminary results from the latest geophysical airborne survey – which was designed to provide comprehensive coverage of the prospective lower Stillwater Igneous Complex - indicates strong electromagnetic anomalies along the footwall contact zone of the Stillwater West project which are consistent with the massive sulphide and contact-style Ni-Cu sulphide-rich bodies that we targeted with the survey. These anomalies form important Platreef-contact-style targets for testing in planned upcoming drill campaigns.”

Dr. Grobler continued, “It is further anticipated that the survey will open the remainder of the strike length held by the Company for exploring high confidence discovery targets in the future. This season also included a follow-up confirmatory investigation by our technical advisor, Professor Wolfgang Maier, who is in the process of completing a detailed collaborative scientific paper on the Peridotite Zone of the Stillwater Igneous Complex, as first author. This work has enhanced our understanding of the geochemistry and mineralization styles and controls of the lower Stillwater Igneous Complex stratigraphy.”

Government Funding

The Company is now partner to USD 2.75M in funding from the U.S. Department of Energy (“DOE”) via two grants under the Advanced Research Projects Agency program via collaborations with Cornell University and Lawrence Berkeley National Laboratory, as announced February 14, 2023, and August 15, 2024, in addition to work with the US Geological Survey and state organizations.

The Company has been partnered with the US Geological Survey at Stillwater West for over six years, continuing their multi-decade interest in the Stillwater Igneous Complex.

Stillwater is pursuing additional US government funding, including recent applications in response to announced opportunities available through the Department of Energy and the Department of Defense.

Parallels With the South Africa’s Bushveld Complex

The Stillwater Igneous Complex is well-known to parallel South Africa’s Bushveld Igneous Complex, and developments at the Stillwater complex have generally paralleled those at the Bushveld, highlighting their significant geologic similarities. For example, Sibanye-Stillwater’s high-grade J-M Reef deposit was discovered by the direct application of geologic models developed during discovery of the high-grade Merensky reef deposit in the Bushveld.

More recent developments on the Bushveld have focused on the Platreef deposits, in the northern limb of the Bushveld, which depart from the conventional narrow reef-type mines that dominate global platinum group element mining with the occurrence of thick mineralized horizons that support bulk mining techniques and include much higher battery metal content. The mines of the Platreef are among the largest and most profitable in the world, and their mix of commodities offers an attractive internally hedged suite of in-demand critical minerals that is globally very rare. Starting with ¹Anglo American’s PGE-Ni-Cu Mogalakwena mines in 1993 and continuing today with ²Ivanhoe’s underground Platreef mine, these mines have demonstrated the world-class nature of these bulk-tonnage, critical mineral systems within the Bushveld complex. With more than 20 billion pounds of nickel and copper in sulphide mineralization, and over 200 million ounces of platinum group metals

and gold, these two mines are known primarily as platinum group element mines yet are also the largest nickel mines in South Africa.

Platreef-style deposits also compare very favorably in an environmental sense as they contain nickel sulphide mineralization that is capable of producing nickel metal with a much smaller footprint than nickel recovered from laterite deposits, which currently provides the majority of global nickel supply. Additional environmental benefits are possible through reaction of atmospheric carbon dioxide with certain ultramafic rocks present in Platreef-style deposits, and the production of hydrogen from those rocks. Testwork is underway to evaluate the potential for commercial-scale carbon sequestration and hydrogen production during a possible mining operation Stillwater West.

Footnote 1. Anglo American Mineral Resources and Reserves Report 2022: Measured and Indicated Mineral Resources: 1,665.40 MT at 2.29 4E g/t, Inferred Mineral Resources: 423.8 MT at 2.18 4E g/t.

Footnote 2. Ivanhoe Mines Ltd, Platreef Feasibility Study, March 2022: Indicated Mineral Resources; 2 g/t Cut-off 3PE+Au 346 MT at 1.68 g/t Pt, 1.70 g/t Pd, 0.28 g/t Au, 0.11 g/t Rh, 0.16% Cu, 0.32% Ni Inferred Mineral Resources; 2 g/t Cut-off 3PE+Au 506 MT at 1.42 g/t Pt, 1.46 g/t Pd, 0.26 g/t Au, 0.10 g/t Rh, 0.16% Cu, 0.31% Ni.

Upcoming Events

Stillwater's President and CEO, Michael Rowley, will be available for meetings and presenting at the following events:

- 1) Red Cloud Fall Mining Showcase – Toronto, ON, October 16-17. To register, [click here](#).
- 2) Commodities Global Expo 2024 – Fort Lauderdale, FLA, October 20-21. For more information and registration, [click here](#).
- 3) Precious Metals Summit – Zurich, CH, November 11-12, 2024. For more information, [click here](#).
- 4) 121 Mining Events – London, UK, November 14-15. For more information, [click here](#).

About Stillwater Critical Minerals Corp.

Stillwater Critical Minerals (TSX.V: PGE | OTCQB: PGEZF | FSE: J0G) is a mineral exploration company focused on its flagship Stillwater West Ni-PGE-Cu-Co + Au project in the iconic and famously productive Stillwater mining district in Montana, USA. With the addition of two renowned Bushveld and Platreef geologists to the team and strategic investments by Glencore plc, the Company is well positioned to advance the next phase of large-scale critical mineral supply from this world-class American district, building on past production of nickel, copper, and chromium, and the on-going production of platinum group, nickel, and other metals by neighboring Sibanye-Stillwater. An expanded NI 43-101 mineral resource estimate, released January 2023, positions Stillwater West with the largest nickel resource in an active US mining district as part of a compelling suite of nine minerals now listed as critical in the USA. To date, five Platreef-style nickel and copper sulphide deposits host a total of 1.6 billion pounds of nickel, copper and cobalt, and 3.8 million ounces of palladium, platinum, rhodium, and gold at Stillwater West. All of these deposits remain open for expansion along trend and at depth.

Stillwater also holds the high-grade Black Lake-Drayton Gold project adjacent to Nexgold Mining's development-stage Goliath Gold Complex in northwest Ontario, currently under an earn-in agreement with Heritage Mining, and the Kluane PGE-Ni-Cu-Co critical minerals project on trend with Nickel Creek Platinum's Wellgreen deposit in Canada's Yukon Territory.

FOR FURTHER INFORMATION, PLEASE CONTACT:

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Quality Control and Quality Assurance

Mr. Mike Ostenson, P.Geo., is the qualified person for the purposes of National Instrument 43-101, and he has reviewed and approved the technical disclosure contained in this news release.

Forward-Looking Statements

This news release includes certain statements that may be deemed "forward-looking statements". All statements in this release, other than statements of historical facts including, without limitation, statements regarding potential mineralization, historic production, estimation of mineral resources, the realization of mineral resource estimates, interpretation of prior exploration and potential exploration results, the timing and success of exploration activities generally, the timing and results of future resource estimates, permitting time lines, metal prices and currency exchange rates, availability of capital, government regulation of exploration operations, environmental risks, reclamation, title, and future plans and objectives of the company are forward-looking statements that involve various risks and uncertainties. Although Stillwater Critical Minerals believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in the forward-looking statements. Forward-looking statements are based on a number of material factors and assumptions. Factors that could cause actual results to differ materially from those in forward-looking statements include failure to obtain necessary approvals, unsuccessful exploration results, changes in project parameters as plans continue to be refined, results of future resource estimates, future metal prices, availability of capital and financing on acceptable terms, general economic, market or business conditions, risks associated with regulatory changes, defects in title, availability of personnel, materials and equipment on a timely basis, accidents or equipment breakdowns, uninsured risks, delays in receiving government approvals, unanticipated environmental impacts on operations and costs to remedy same, and other exploration or other risks detailed herein and from time to time in the filings made by the companies with securities regulators. Readers are cautioned that mineral resources that are not mineral reserves do not have demonstrated economic viability. Mineral exploration and development of mines is an inherently risky business. Accordingly, the actual events may differ materially from those projected in the forward-looking statements. For more information on Stillwater Critical Minerals and the risks and challenges of their businesses, investors should review their annual filings that are available at www.sedar.com.

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