

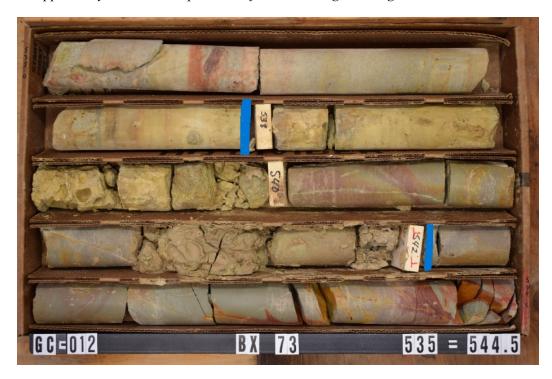
Solitario Intersects 1,445 Grams/Tonne Silver Over 1.2 Meters; Completes Phase 1 Drilling Campaign at Golden Crest; Awaiting Drilling Permits to Begin Phase 2 Drilling at Ponderosa

DENVER, CO – September 15, 2025 - Solitario Resources Corp. ("Solitario" or the "Company") (NYSE American: XPL; TSX: SLR) is pleased to announce that it intersected 1,445 grams per tonne silver (46.5 oz) in drill hole GC-012. This high-grade interval represents an unrecognized style of precious metal mineralization not only for the Golden Crest project, but unique compared to mineralization in the historic Homestake and Wharf mining areas.

The high-grade silver intercepted in hole GC-012 between 164.0 to 165.2 m (538 and 542 feet, see photo below) appears to be associated with a clay-rich alteration zone of the Winnipeg Formation. Core above and below this mineralized intercept is currently being assayed.

Chris Herald, President and CEO of Solitario, stated: "We were surprised to intersect this very high-grade silver intercept in GC-012. The mineralized core interval, although clay-altered, was not visually that impressive to host such high-grade mineralization. We are reviewing adjacent core holes to sample potentially similar mineralization.

As we await approval of the Ponderosa drilling permit, Solitario is launching a gravity survey that will cover Ponderosa and several other targets at Golden Crest. This work is designed to sharpen our understanding of the geologic architecture of the district and prioritize the most compelling drill targets as we prepare to resume drilling with two core rigs. Ponderosa continues to demonstrate the strongest and largest surface gold mineralization on the property, and our well-positioned drill sites provide an exceptional opportunity to unlock the potential of these exciting new target areas."

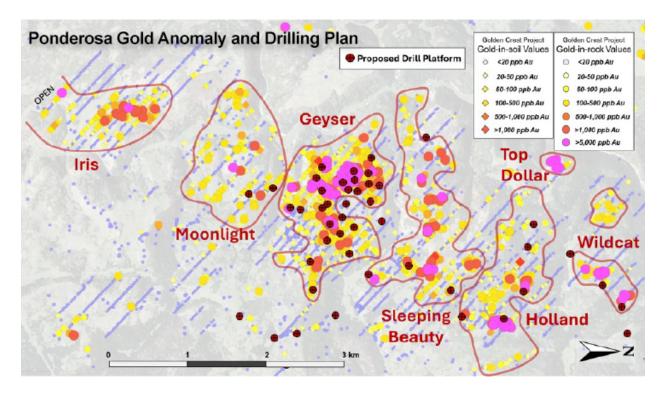


Phase 1 Drilling Completed at Golden Crest

With the seven holes completed during the 2025 summer field season (2,653 meters), a total of 18 holes (7,000 meters) have now been drilled on the Golden Crest property. Seven of the first 15 holes intersected significant mineralization. Most of the drilling was widespread, mainly over the western portion of the property. Assays are pending for the final three holes. Besides the high-grade silver intercept in GC-012; GC-012X and GC-013 had multiple intervals in excess of 30 ppb gold, grading up to 0.57 g/t Gold, with highly elevated pathfinder elements, indicating that gold deposition was active throughout most of the western portion of the property.

Phase 2 Drilling at Ponderosa

Phase 2 drilling on the Ponderosa side of the Golden Crest property is set to begin as soon as permits are received. We are awaiting the U.S. Forest Service's final decision and are targeting a late-October start. With drilling permitted between May 15 and December 15, the upcoming program will provide an excellent opportunity to further advance Golden Crest. Building on the strong results from Phase 1, the Ponderosa Plan of Operations includes more than 40 drill hole locations (see map below), offering significant potential for new discoveries.



Sample Type, Sampling Methodology, Chain of Custody, Quality Control and Assurance

All Golden Crest exploration core samples have been prepared and analyzed at the American Assay Laboratories in Reno, Nevada, which is independent from Solitario. Thorough QA/QC protocols are followed on the Project, including insertion of duplicate, blank and standard samples in the assay stream for all drill holes. The samples are collected directly from the drill rig, logged, photographed, split into two samples, and half of each sample submitted directly to American Assay Labs through secure chain of custody protocols. All activities prior to shipment are directly supervised by Solitario geologists. Samples are pulverized from a 250g sample to 85% passing 75 mesh. Approximately 225g of pulp sample is prepared for fire assay. Assays are based on a 30g fire assay aliquot for gold with Atomic Absorption finish. If the gold value from Atomic Absorption is >10g/t, or >100g/t Ag, an additional 30g of pulp sample is fire assayed for gold and/or silver using a gravimetric finish.

Qualified Person

The scientific and technical information contained in this news release has been reviewed and approved by Walter Hunt, a qualified person as defined by NI 43-101, Standards of Disclosure for Mineral Projects.

About Solitario

Solitario is a natural resource exploration company focused on high-quality Tier-1 gold and zinc projects. Solitario's 100%-owned Golden Crest properties in South Dakota constitute strategic land holdings along the western and southwestern extensions of the Homestake-Wharf mining district that has produced approximately 52 million ounces of gold. The project area is located in a safe jurisdiction with highly developed infrastructure, an unbroken 150-year record of continuous gold mining, a skilled mining workforce, and a history of high-grade, underground mineable gold deposits.

The Company is traded on the NYSE American ("XPL") and on the Toronto Stock Exchange ("SLR"). In addition to its South Dakota property holdings, Solitario holds a 50% joint venture interest (Teck Resources 50%) in the high-grade Lik zinc deposit in Alaska and a 39% joint venture interest (Nexa Resources holds the remaining 61% interest) on the high-grade Florida Canyon zinc project in Peru. Solitario is carried to production through its joint venture arrangement with Nexa.

Solitario's Management and Directors hold approximately 8.4% (excluding options) and Newmont Corporation owns 9.4% of the Company's 90.3 million shares outstanding. Solitario's cash balance and marketable securities stand at approximately US\$8.0 million. Additional information about Solitario is available online at www.solitarioresources.com.

For More Information Please Contact:

Christopher Herald, President and CEO	303-534-1030 Ext. 1

Cautionary Statement Regarding Forward Looking Information

This press release contains forward-looking statements within the meaning of the U.S. Securities Act of 1933 and the U.S. Securities Exchange Act of 1934, and as defined in the United States Private Securities Litigation Reform Act of 1995 (and the equivalent under Canadian securities laws), that are intended to be covered by the safe harbor created by such sections. Forward-looking statements are statements that are not historical facts. They are based on the beliefs, estimates and opinions of the Company's management on the date the statements are made and address activities, events or developments that Solitario expects or anticipates will or may occur in the future, and are based on current expectations and assumptions. Forward-looking statements involve numerous risks and uncertainties. Consequently, there can be no assurances that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Such forward-looking statements include, without limitation, statements regarding the Company's expectation of the projected timing and outcome of engineering studies; expectations regarding the receipt of all necessary permits and approvals to implement a mining plan, if any, at any of its mineral properties. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, among others, risks relating to risks that Solitario's and its joint venture partners' exploration and property advancement efforts will not be successful; risks relating to fluctuations in the price of zinc, gold, lead and silver; the inherently hazardous nature of mining-related activities; uncertainties concerning reserve and resource estimates; availability of outside contractors, and other activities; uncertainties relating to obtaining approvals and permits from governmental regulatory authorities; the possibility that environmental laws and regulations will change over time and become even more restrictive; and availability and timing of capital for financing the Company's exploration and development activities, including uncertainty of being able to raise capital on favorable terms or at all; as well as those factors discussed in Solitario's filings and reports with the U.S. Securities and Exchange Commission (the "SEC"), including Solitario's latest Annual Report on Form 10-K and its other SEC filings (and Canadian filings) including, without limitation, its latest Quarterly Report on Form 10-Q. The Company does not intend to publicly update any forward-looking statements, whether as a result of new information, future events, or otherwise, except as may be required under applicable securities laws.