



Solitario Discovers Three New Multi-Gram Gold Zones - Final 2023 Surface Assay Results at Golden Crest

DENVER, CO – May 15, 2024 - Solitario Resources Corp. (“Solitario”) (NYSE American: XPL; TSX: SLR) is pleased to announce the discovery of three new zones of high-grade surface gold on its Golden Crest project. These zones are named Holland, Top Dollar and Wildcat. Assay results from reconnaissance rock sampling of outcrop, sub-crop and float yielded **gold values as high as 57.9, 50.2, 42.7, 32.3 and 21.1 grams per tonne (“gpt”) gold within the three zones.**

These three zones occur within an area approximately four-square kilometers in size ([see Map](#)), between the Downpour and Sleeping Beauty targets. Assay results from these three zones total 203 samples and represent the final surface grab rock samples collected in the 2023 field season. Notable high-grade samples are presented in Table One below. Additionally, 51 of these samples contain >0.2 g/t Au while 27 contain >1 g/t Au.

Table 1: Assay Highlights for Holland, Top Dollar and Wildcat Surface Grab Samples

Gold Zone	Sample Number	Gold Grade grams/tonne		Gold Zone	Sample Number	Gold Grade grams/tonne
Wildcat	5590	57.9		Holland	5597	10.5
Top Dollar	5732	50.2		Holland	5596	10.5
Wildcat	5589	42.7		Wildcat	5591	9.85
Top Dollar	5731	32.3		Holland	5570	8.69
Holland	5580	21.1		Top Dollar	5728	7.94
Holland	5595	11.65		Top Dollar	5726	7.08
Holland	5575	11.15		Holland	5581	6.77

Chris Herald, President and CEO of Solitario, stated: *“These are among the highest-grade samples collected during a first pass sampling program at a newly discovered target zone in the history of Golden Crest. It’s amazing that after three field seasons, we are still discovering high-quality drilling targets displaying super high-grade gold values on the surface. We think there is a high probability that these three zones may coalesce into a single massive zone with additional work, just like the Geyser, Spur and Zig Zag zones came together. We now look forward to our drilling program at Golden Crest that is anticipated to begin in the first part of June.*

All of these samples were collected from an arcuate belt of outcropping favorable Mission Canyon Limestone 3.5 km long and up to 1.0 km across. This belt is interpreted to ring the northern flank of a central structural dome cored by the underlying Lodgepole Limestone in the highly mineralized Geyser-Sleeping Beauty zone. This dome is disrupted by a large normal fault on its

western margin that may be continuous with the Downpour-Wild Rose fault further north and a prominent fault cutting the Geyser zone to the south. Further mapping and sampling of this structural zone will be a priority in the 2024 field season as it appears to influence the distribution of very high-grade gold mineralization over eight kilometers of strike length.

Golden Crest Drill Hole Permitting and Project Overview

The newly discovered Holland, Top Dollar and Wildcat Gold zones, as well as the Sleeping Beauty and Geyser gold zones are located on Solitario's new Ponderosa Plan of Operations (POO) in the easternmost portion of Solitario's consolidated Golden Crest property. The Ponderosa area is a contiguous group of mineral claims separate from and not covered by the original Golden Crest POO but is a part of Solitario's 100%-owned Golden Crest project area in South Dakota. The new Ponderosa POO proposes low-impact core drilling to test these new gold targets.

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 and contains another 30 million ounces in historical resources (not SK-1300 or NI-4301 compliant). 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.

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

The reported Holland, Top Dollar and Wildcat rock samples are all surface rock grab/float samples consisting of near-bedrock float samples, and to a lesser extent, bedrock and sub-crop composite grab samples. All float samples are thought to be derived from the underlying bedrock within the immediate sampled area. All sampling reported in this release was supervised by project geologists, including chain of custody. Rock samples are reconnaissance select grab samples that display alteration, usually silicification and hydrothermal brecciation.

The significance of these results is limited to determining whether gold, or trace elements usually associated with gold, are present within rocks affected by hydrothermal alteration fluids. Assay results may not be representative of, nor verify economically mineable mineralization. Samples were analyzed by ALS Laboratories in Reno, NV, a laboratory accredited in accordance with the standards of ISO 17025:2017. The samples were crushed and pulverized, and sample pulps were analyzed using industry standard fire assay methods. A certified reference sample or duplicate was inserted at least every 20th sample.

Walter Hunt, COO of Solitario, is a qualified person as defined by NI 43-101, Standards of Disclosure for Mineral Projects, responsible for approving the scientific and technical information contained in this news release.

About Solitario

Solitario is a natural resource exploration company focused on high-quality Tier-1 gold and zinc exploration projects. 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 61%) on the high-grade Florida Canyon zinc project in Peru. At Florida Canyon, Solitario is carried to production through its joint venture arrangement with Nexa. Solitario’s Management and Directors hold approximately 9.3% (excluding options) of the Company’s 81.3 million shares outstanding. Solitario’s cash balance and marketable securities stand at approximately US\$9.6 million. Additional information about Solitario is available online at www.solitarioresources.com.

Solitario has a long history of committed Environmental, Social and Responsible Governance (“ESG”) of its business. We realize ESG issues are also important to investors, employees, and all stakeholders, including communities in which we work. We are committed to conducting our business in a manner that supports positive environmental and social initiatives and responsible corporate governance. Importantly, we work with joint venture partners that not only value the importance of ESG issues in the conduct of their business on our joint venture projects but are leaders in the industry in this important segment of our business.

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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. Solitario's Golden Crest land position does not cover any of the areas of historical gold production or historical unmined resources. Certain historical information concerning exploration and gold production in the Black Hills region has been obtained through both public and private sources and are believed to be substantially factual, but Solitario can give no assurances of the accuracy of such information. The existence of historic mines and resources adjacent to Solitario's land position do not necessarily support the existence economic mineral deposits on Solitario's land position. 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; risks relating to the impacts of pandemics or similar epidemics; as well as those factors discussed in Solitario's filings 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.