



Solitario Adds to Golden Crest Surface Trenching Results With 30.0 Meters Grading 11.1 GPT Gold

DENVER, CO – August 24, 2022 - Solitario Zinc Corp. (“Solitario”) (NYSE American: XPL; TSX: SLR) is pleased to report that it has received assay results for an additional 19 surface trench samples for its Golden Crest Project, South Dakota (see [Downpour Zone Image](#) for a detailed map depicting the relative orientation of all four trenches). Trenching highlights include:

- **Trench 1:**
27.0 meters (90.0 ft.) @ 15.0 grams per tonne gold (“gpt”)
Additional new sampling at the western margin of Trench 1 increased the average grade significantly and added to its length by 3.0 meters from the previously reported (March 1, 2022) 24.0 meters @ 9.69 gpt gold. Assays are pending for an additional extension of 6 meters of trenching immediately west of Trench 1.
- **Trench 2:**
30.0 meters (101.1 ft.) @ 11.1 gpt gold
Trench 2 is oriented roughly north-south and perpendicular to Trench 1. Assay results in this trench consist entirely of newly reported assay intervals.
- **Trench 3:**
12.0 meters (40.4 ft.) @ 0.56 gpt gold
Trench 3 is situated 30 meters south of Trench 2. Assays are pending for the thirty meters between Trench 2 and 3.
- **Trench 4:**
9.0 meters (30.3 ft.) @ 2.61 gpt gold
Trench 4 is situated about 9 meters east of Trench 1. Soil cover is too deep between Trench 1 and 4 to obtain a representative sample. Results are pending for 7 samples (21.0 meters) east of Trench 4.

Assays for the 26 three-meter trench samples received to date at Downpour (18 new assay results reported in this release and 8 previously reported assays from the March 1, 2022 release) are provided in Table 1 and on the attached map (see [Downpour Zone Image](#)).

Chris Herald, President and CEO of Solitario, stated: “We’re off to a terrific start for the 2022 field season. These trench results are the first gold assays collected and received from the 2022 field season and significantly expand the footprint of high-grade gold mineralization discovered at the Downpour prospect last year. The continuity of the higher-grade material is remarkable. Approximately 250 additional rock and trench samples from other prospects have been collected over a widespread area on Solitario’s land position. These samples are in-process for gold

assays, including another 69 meters of trenching samples at Downpour. We look forward to reporting significant new gold results for the remainder of the year.”

Table 1: Downpour Zone Trench Assay Results

Sample Number	From/To Meters	Length Meters	Gold GPT		Sample Number	From/To Meters	Length Meters	Gold GPT
Trench 1*¹					Trench 2			
2722	0.0 – 3.0	3.0	57.80		2708	0.0 – 3.0	3.0	18.30
2628	3.0 – 6.0	3.0	6.45		2709	3.0 – 6.0	3.0	27.0
2629	6.0 - 9.0	3.0	4.78		2710	6.0 - 9.0	3.0	6.96
2630	9.0 – 12.0	3.0	7.47		2711	9.0 – 12.0	3.0	8.24
2631	12.0 – 15.0	3.0	12.00		2712	12.0 – 15.0	3.0	19.50
2632	15.0 – 18.0	3.0	20.70		2713	15.0 – 18.0	3.0	4.17
2633	18.0 – 21.0	3.0	3.13		2714	18.0 – 21	3.0	13.65
2634	21.0 – 24.0	3.0	13.80		2715	21.0 – 24.0	3.0	1.44
2635	24.0 – 27.0	3.0	9.15		2716	24.0 – 27.0	3.0	6.15
					2717	27.0 – 30.0	3.0	5.57
Average	0.0 - 27	27.0	15.0		Average	0.0 – 30.0	30.0	11.1
Trench 3					Trench 4			
2718	0.0 – 3.0	3.0	0.46		2723	0.0 – 3.0	3.0	3.66
2719	3.0 – 6.0	3.0	0.44		2724	3.0 – 6.0	3.0	0.26
2720	6.0 - 9.0	3.0	0.93		2725	6.0 - 9.0	3.0	3.92
2721	9.0 – 12.0	3.0	0.40					
Average	0.0 - 12	12	0.56		Average	0.0 – 9.0	9.0	2.61

*¹ samples 2628-2635 were previously reported in Solitario’s news release dated March 1, 2022

True width/ thickness of mineralization cannot be determined because of the lack of sufficient outcrop.

Sampling Methodology, Chain of Custody, Quality Control and Assurance

The collection of all trenching samples reported in this release was supervised by project geologists, including chain of custody. Trench samples were systematically collected using non-mechanized hand tools. Continuous sampling was conducted along the length of each trench at three-meter intervals. Samples were then categorized into one of the following three categories:

1. **Bedrock:** >75% is fresh massive bedrock with <25% weathered subcrop
2. **Weathered Bedrock:** +60% is blocky subcrop with minor fresh bedrock ribs and soil
3. **C-Horizon Soil + Weathered Bedrock:** +60% is rocky soil with up to 40% weathered bedrock blocks

Bedrock and weathered bedrock were sampled by the chip channel method to the extent possible and are judged to be representative of bedrock mineralization. All samples were analyzed by

ALS USA Inc., 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.

Drill Hole Permitting and Project Overview

Drill hole permitting has advanced significantly since its initiation in the spring of 2022, when a Plan of Operations was filed with the U.S. Forest Service. Environmental baseline studies in support of permitting documents required for drilling are currently in progress. Core drilling is scheduled to begin in the second quarter of 2023.

Solitario's exploration programs in 2021 and 2022 have consisted of surface prospecting and a pilot level induced polarization geophysical survey. Surface prospecting has included sampling of bedrock, float rocks and soils. Future plans include additional geophysical surveys, geologic mapping and continued surface sampling. Permitting has been initiated for a core drilling program scheduled to be conducted next spring and summer.

The 28,000-acre Golden Crest property is located in southwestern South Dakota. Solitario's property position constitutes a 100%-owned strategic land position along the western extension of the Homestake-Wharf mining district that has produced approximately 52 million ounces of gold with another 30 million ounces in historical resources. Approximately 60% of the land position is subject to mining leases with a private party. The project area is in a safe jurisdiction with highly developed infrastructure, an unbroken 145-year record of continuous gold mining, a skilled mining workforce, and a history of high-grade, underground mineable gold deposits.

About Solitario

Solitario is a natural resource exploration and development company focused on high-quality Tier-1 gold and zinc projects. The Company is traded on the NYSE American ("XPL") and on the Toronto Stock Exchange ("SLR"). In addition to its Golden Crest project, Solitario holds 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 9.3% (excluding options) of the Company's 62 million shares outstanding. Solitario's cash balance and marketable securities stand at approximately US\$6.5 million. Additional information about Solitario is available online at www.solitariozinc.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 pledged to operate our business in a manner that supports environmental and social initiatives and responsible corporate governance. Importantly, we selected 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.

For More Information Please Contact:

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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 a number of 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 Covid-19 or similar variants; 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.