



Solitario Cuts 24.0-Meter Channel Sample Grading 9.69 GPT Gold and Reports Additional High-Grade Grab Samples*¹ Up to 126 GPT Gold on its Golden Crest Project

DENVER, CO – March 1, 2022 - Solitario Zinc Corp. (“Solitario”) (NYSE American: XPL; TSX: SLR) is pleased to report that it has received assay results for 24 meters (78.8 feet) of continuous rock chip-channel sampling for its Downpour Zone - Golden Crest Project, South Dakota. The grade of the entire 24-meter interval averaged 9.69 grams per tonne (“gpt”) gold. Importantly, gold mineralization, defined by the channel samples, is open in all directions. Assay results for each of the eight three-meter chip-channel samples are provided in Table 1 and the attached google earth image (see [Downpour Zone Image](#)).

In addition to the channel samples, results for 14 new composite grab samples were received. Highlights of this sampling include 126.0, 83.5, 52.3, 30.1, 23.3, 19.4 and 15.2 gpt gold. Results of all 14 new samples and 11 previously reported Downpour composite grab samples are reported in Table 2 (see [Downpour Zone Image](#)).

Chris Herald, President and CEO of Solitario, stated: “We have had an absolutely amazing start to this exciting project. These chip-channel results confirm that our initial high-grade surface results at Downpour represent significant bedrock mineralization. Starting in mid-2021 from virtually ground zero, our geologic team has learned a lot about the nature of mineralization at Golden Crest. The results here are just the beginning of our planned aggressive 2022 exploration program to discover new areas of mineralization, further define known drill targets, and exploration drilling, pending permitting.”

Table 1: Downpour Zone Chip-Channel Assay Results

Sample Number	From Meters	To Meters	Total Width*² Meters	Gold Grams/Tonne	Silver Grams/Tonne
2629	0.0	3.0	3.0	4.78	1.3
2628	3.0	6.0	3.0	6.45	2.3
2630	6.0	9.0	3.0	7.47	3.2
2631	9.0	12.0	3.0	12.00	7.1
2632	12.0	15.0	3.0	20.70	7.6
2633	15.0	18.0	3.0	3.13	0.8
2634	18.0	21.0	3.0	13.80	0.4
2635	21.0	24.0	3.0	9.15	0.3
Average	0.0	24.0	24.0*	9.69	2.9

**²True width/ thickness of mineralization cannot be determined because of the lack of sufficient outcrop.*

Please join President and CEO, Chris Herald on Thursday, March 3rd at 1:00 PM EST for a corporate update, featuring the Golden Crest project.

Register for the Solitario Zoom meeting here: [REGISTER](#)

Initial assay results at the high-grade Downpour Zone were not received until late in the 2021 field season. Immediately after receiving the first high-grade samples, Solitario’s exploration crews laid-out 105 meters of chip-channel sampling in rocks that appeared mineralized. Unfortunately, a significant snowstorm occurred early in this program and only 8 samples were collected before road closures prematurely terminated sample collection. Completing this chip-channel sampling program will be a priority early in the 2022 field season.

Table 2: Downpour Composite Surface Grab Sample Assay Results¹

New Assay Results				Previously Released Assay Results		
Sample Number	Gold gpt	Silver gpt		Sample Number	Gold gpt	Silver gpt
2585	0.01	0.2		2399	12.20	8.9
2586	1.44	0.1		2400	50.20	2.6
2587	52.30	0.3		2401	47.70	18.4
2588	15.20	0.6		2402	0.27	16.9
2589	126.00	1.6		2403	2.82	6.5
2590	23.30	0.3		2404	7.20	28.9
2591	4.07	0.2		2405	1.71	2.0
2592	12.30	0.6		6055020	8.13	<0.1
2593	30.10	0.2		6055021	5.90	<0.1
2594	0.11	<0.1		6055022	0.45	1.6
2595	83.50	1.1		6055023	1.65	<0.1
2620	0.10	0.5				
2621	19.40	26.1				
2622	7.82	36.6				

¹Reconnaissance rock grab samples are selective in nature, and therefore reported mineralization and assay results may not be representative nor reflect economic viability.

14 Target Zones Discovered to Date

In addition to the Downpour Zone, Solitario has identified another 13 separate zones of gold-bearing mineralization (see news release dated February 14, 2022; Table 2), many of which contain surface gold grades in excess of 1.0 gpt gold. Nine of these zones are clustered within an area measuring seven by five kilometers in size. We anticipate reporting another 25 additional composite grab sample results within the next several weeks.

Chris Herald, President and CEO of Solitario, commented further, “As I’ve stated before, we firmly believe that the Golden Crest project could emerge into one of the most important greenfield exploration projects in North America. Collecting multi-gram gold samples in the shadow of a +70-million-ounce gold district, in an area with virtually no evidence of any past exploration, is truly remarkable.”

***2 Sampling Methodology, Chain of Custody, Quality Control and Assurance**

The collection of all surface grab rock samples was supervised by project geologists, including chain of custody. Rock grab samples were reconnaissance select composite samples that usually displayed alteration, typically silicification, and hydrothermal brecciation. These samples were derived mainly from residually weathered rock fragments, sub-crop, and less commonly, outcrop. The significance of these samples is limited to determining whether gold, or trace elements usually associated with gold, are present within rocks affected by hydrothermal alteration fluids and assay results may not be representative of, nor verify economically mineable mineralization at depth. Chip-channel samples were more systematically collected as a measured continuous sample of bedrock. The chip channel assays are thought to be more representative of bedrock mineralization in comparison to grab samples. Samples were analyzed by Skyline Assayers & Laboratories in Tucson, AZ, 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.

Golden Crest Property

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 well in excess of 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, our joint venture partners not only value the importance of ESG issues in the conduct of their activities on our projects, they are also industry leaders on these important issues.

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; the potential for confirming, upgrading and expanding gold, zinc, lead and silver mineralized material; future operating and capital cost estimates may indicate that the stated resources may not be economic; estimates of zinc, lead and silver grades of resources provided are predicted and actual mining grade could be substantially lower; estimates of recovery rates could be lower than estimated for establishing the cutoff grade; and other statements that are not historical facts could vary significantly from assumptions made in the PEA for the Florida Canyon zinc project. Although Solitario management believes that its expectations are based on reasonable assumptions, it can give no assurance that these expectations will prove correct. 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.