



## **Solitario Significantly Expands the Downpour Gold Zone to Over 800 X 500 Meters on its Golden Crest Project**

DENVER, CO – November 3, 2022 - Solitario Zinc Corp. (“Solitario”) (NYSE American: XPL; TSX: SLR) is pleased to report that it has significantly expanded the Downpour high-grade gold zone on its Golden Crest Project, South Dakota. Several new areas with multi-gram gold values have been discovered to the north (highest value: 20.4 grams per tonne (“gpt”) gold), southeast (highest value 87.3 gpt gold), and west (highest value: 41.7 gpt gold). In total, the footprint of these newly discovered areas, including the original Downpour Central discovery, constitute an area measuring 800 meters in length in a north-south trend, and 500 meters in width in an east-west direction. Significantly, this zone remains open to expansion to the north and west.

Presented in the table below are all the new rock grab sample assay results for the Downpour area. These results, and previously reported trench samples from Downpour Central, can be viewed by clicking [Downpour Zone Image](#).

**New Rock Grab Sample Assay Results for the Expanded Downpour Zone<sup>1</sup>**

<b>Downpour Central</b>		<b>Downpour North</b>		<b>Downpour SE</b>		<b>Downpour West</b>	
<b>Sample #</b>	<b>Gold gpt</b>	<b>Sample #</b>	<b>Gold gpt</b>	<b>Sample #</b>	<b>Gold gpt</b>	<b>Sample #</b>	<b>Gold gpt</b>
2684	34.4	1529	3.59	2692	3.55	2683	0.32
2685	0.74	2697	1.41	2693	1.03	2828	41.7
2686	0.55	2698	1.18	2694	0.38		
2687	121.0	2699	0.28	2695	9.84		
2688	29.1	2700	4.85	2696	87.3		
2689	4.7	2701	2.08	2727	0.05		
2690	8.13	2702	2.14	2728	0.21		
2691	4.45	2703	2.51	2729	3.01		
2730	7.68	2704	20.4	2735	0.76		
2731	0.13	2705	1.78				
2732	1.50	2706	3.01				
2733	0.15	107101	0.02				
2734	.002	2829	2.88				

<sup>1</sup>Reconnaissance rock grab samples are selective in nature, and therefore reported mineralization and assay results may not be representative nor reflect economic viability (gpt + grams per tonne gold).

### **Geology and Geometry of the High-Grade Downpour Gold Zone**

With the additional work that has been completed at Downpour, it now appears that this mineralized high-grade zone occurs in a flat lying stratigraphic horizon that has undergone

significant brecciation and hydrothermal alteration. Mineralization has most likely been caused by ascending gold-rich hydrothermal fluids that traveled vertically from below. The original Downpour central discovery area may have formed near one of these vertical feeder structures resulting in its higher grades of gold. Importantly, on a regional scale, the brecciation of this favorable stratigraphic horizon is often seen to be five to fifteen meters in thickness, and intermittently mineralized with gold. This style of gold mineralization has the potential to create a very significant gold deposit.

There are several stratigraphic horizons below the Downpour zone that are also known to be very favorable for the deposition of gold. The largest and best known of these horizons is the Deadwood Formation that has produced over six million ounces of recovered gold from historic and modern workings of the Wharf-Bald Mountain district situated about six kilometers northeast of the Downpour Zone. At Golden Crest, the depth to the Deadwood Formation is relatively shallow, estimated to be between 250 and 400 meters.

**Chris Herald, President and CEO** of Solitario, stated: *“Surface assay results at Downpour continue to impress, not only in grade, but now in the size of the overall Downpour gold system. With these new results and geologic information collected at Downpour, we now believe more than ever, that Downpour has the potential to host a major gold system. As good as these surface results are, we also believe the most favorable horizons for gold mineralization occur stratigraphically below the Downpour zone. Our continuing work elsewhere on the Golden Crest property suggest that other similar gold systems exist at surface and at depth. We anticipate reporting on these other emerging areas in the near future.”*

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

The collection of all surface rock samples was supervised by project geologists, including chain of custody. Rock samples were reconnaissance select grab samples that display alteration, usually 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. 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.

### **Drill Hole Permitting and Project Overview**

Drill hole permitting continues to advance since its initiation in February 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 nearly complete. The final Environmental Assessment for core drilling is scheduled to be completed 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.

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. 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\$5.5 million. Additional information about Solitario is available online at [www.solitariozinc.com](http://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 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 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.*