



Solitario Discovers New High-Grade Gold Mineralization With 20.1, 17.6 and 7.9 GPT Gold on its Golden Crest Project

DENVER, CO – April 5, 2022 - Solitario Zinc Corp. (“Solitario”) (NYSE American: XPL; TSX: SLR) is pleased to report that it has received new assay results for select surface grab samples (see table below) from a new area called Sunrise, located on the Company’s Golden Crest property in South Dakota. The three highest-grade rock grab samples contained 20.1, 17.6 and 7.9 grams per tonne (“gpt”) gold. In addition, highly anomalous sample results were received for the Treasure Vault and Log Jam prospects, further confirming the potential of these two areas.

Sampling results from the Sunrise area suggests a zone of anomalous to high-grade gold mineralization that extends for at least 900 meters (3,000 feet) in a northwest-southeast trending zone that is up to 200 meters (675 feet) wide ([see this map](#)). Additional sampling is planned at Sunrise to better define this zone.

Chris Herald, President and CEO of Solitario, commented: “We are thrilled to make another discovery of greater than 10 grams per tonne gold at surface right on the heels of our Downpour announcement (see news release dated March 1, 2022). Assays like these are rare, and even more so in a virtually unexplored area located in the shadow of a Super Giant gold deposit. We believe we are more at the beginning of our discovery process, rather than nearing the end. The 2022 exploration season is nearly upon us, and we expect much more positive news to come.”

Composite Surface Grab Sample Assay Results*¹

Prospect Area	Sample Number	Gold ppb		Prospect Area	Sample Number	Gold ppb
Sunrise	2596	105		Treasure Vault	2575	563
	2597	20,100			2576	92
	2598	52			2577	114
	2599	171			2578	7
	2600	52			2579	<5
	2601	7,890			2580	<5
	2602	18		2581	16	
	2603	17,600		Log Jam	2582	701
	2604	49			2583	394
	2605	13			2584	309
				Other Areas	2623	47
					2624	197

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

In total, 25 new assay results are reported from five different areas within the Golden Crest property position. Significant assay values from surface grab samples were received for the Treasure Vault and Log Jam prospect areas, as well as single samples from two new prospect areas. These assays, combined with previous results, point to the potential expansion of the surface expression of mineralization at these emerging prospects.

Chris Herald, President and CEO of Solitario, stated: “We now have 15 areas with anomalous gold values in surface rock samples. Six of these areas display gold values in excess of 3.0 gpt. This reinforces our belief that the bedrock underlying our Golden Crest property position has been subjected to a profound hydrothermal mineralizing event that has deposited gold in favorable carbonate rocks over large areas in excess of fifteen square kilometers and stratigraphic thicknesses greater than 300 meters (1,000 feet). It is important to remember that the majority of gold hosted in Paleozoic carbonate formations within the Homestake-Wharf mining areas immediately east of Solitario’s Golden Crest property occur in the lower Deadwood Formation. This rock formation is believed to be situated about 300-400 meters below the surface at Golden Crest.

Gold Prospects: Summary Assay Table

Prospect	No of Samples	Au ppb (max)* ¹	Au ppb (avg)* ²	Ag ppm (max)
Buena Vista	24	3,246	215	1
Yellow Jacket	26	132	33	1
Shoofly	33	64	14	<1
Treasure Vault	44	3,990	516	3
Matchstick	183	8,740	276	2
Whirlwind	201	7,990	367	1,040
Citadel	60	30	13	11
11th Hour Gulch	12	10	7	20
Maurice	10	349	85	20
Lockout	6	61	25	11
Downpour	27	126,000	19,051	37
Log Jam	17	807	231	2
Dustbowl	7	62	62	1
Land's End	41	382	76	1
Sunrise	29	20,100	2,460	23

*¹ ppb = parts per billion; 1,000 ppb = 1.0 part per million or 1 gram per tonne

*² Average gold content of samples above detection limit (0.005 gpt gold)

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 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 results 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. 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 Lead Mining District that has produced 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 a mining lease 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, open-pit mineable 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\$8.3 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.

For More Information Please Contact:

Valerie Kimball	Christopher E. Herald
-----------------	-----------------------

Director – Investor Relations (720) 933-1150 (800) 229-6827	President & CEO (303) 534-1030, Ext. 14
---	--

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.