



Solitario Zinc Reports That Exploration Work Has Commenced on the Lik Zinc Project, Alaska

DENVER, CO: July 8, 2021 - Solitario Zinc Corp. (“**Solitario**”) (NYSE American: **XPL**; TSX: **SLR**) is pleased to announce that exploration work has commenced on the Lik zinc project in Alaska. Joint Venture partners Solitario (50%) and Teck American Incorporated (50%), a wholly owned subsidiary of Teck Resources Limited (“Teck”), recently approved a jointly funded budget for the 2021 work program that consists of surface geochemical sampling, induced polarization (“IP”) geophysics, and at least 2,000 feet of core drilling to test new exploration concepts and expand resources. Teck is one of the world’s largest producers of mined zinc.

The Lik project hosts a potentially open-pitabile Indicated Resource of 17.3 million tonnes grading 12.0% zinc equivalent and an additional 2.9 million tonnes of Inferred Resource grading 12.1% zinc-equivalent. Potentially underground mineable mineralization also occurs on the property. The project is situated approximately 14 miles northwest of Teck’s operating Red Dog mine, one of the world’s largest, highest grade and lowest cost zinc mines.

Chris Herald, President and CEO of Solitario, commented, “This is clearly an exciting new phase in the advancement of the Lik project, including the first exploration drilling program in ten years. It comes at a time of increased zinc demand and elevated zinc prices. The drilling program is focused on expanding the Lik resource in three different areas of the existing deposit, while the surface work targets potential new mineralization on trend to the northeast of the Lik deposit.”

To take full advantage of Teck’s thirty-five years of successful exploration and operational experience in the world-class Red Dog mining district, Solitario and Teck mutually agreed that Teck will act as project operator for the 2021 program. Geochemical sampling has begun with geophysics expected to begin by mid-July. Core drilling is expected to begin in July/August, pending the receipt of final drill permits. The current-year work will consist of the following components:

- Systematic geochemical soil sampling over a 2.5-mile trend to the northeast of the Lik deposit expanding recent favorable results.
- A geophysical program will consist of a new IP survey and will augment geologic and geochemical data in recently identified prospective areas on trend with Lik to the northeast. IP geophysics have been demonstrated to be very effective in locating zinc mineralization in the Red Dog District.
- Core drilling consisting of at least three holes totaling 2,000 feet (650 meters) will test resource expansion potential in three different parts of the currently defined Lik deposit.

The Lik Zinc-Lead Deposit

The Lik deposit is a large sediment-hosted zinc-lead-silver deposit in the Red Dog mining district. As presently defined, the Lik South deposit has a surface footprint of about 3,600 feet long and about 2,000 feet wide. The Lik South deposit remains open down dip. The Lik North deposit has a surface footprint of about 2,300 feet long and about 1,150 feet wide. The Lik North deposit remains open

down-dip and to the north. A total of 125,300 feet of drilling in 229 holes has been completed on the Lik property to date.

About Solitario

Solitario is an emerging zinc exploration and development company traded on the NYSE American (“XPL”) and on the Toronto Stock Exchange (“SLR”). Solitario holds 50% joint venture interest in the high-grade, open-pitable 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’s Management and Directors hold approximately 9.6% (excluding options) of the Company’s 58.4 million shares outstanding. Solitario’s cash balance and marketable securities stand at approximately US\$6.9 million. Additional information about Solitario is available online at www.solitariozinc.com

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Cautionary Note to U.S. Investors concerning estimates of Resources: This news release uses the terms “Measured, Indicated and Inferred Resources.” The Company advises U.S. investors that while these terms are recognized and required by Canadian regulations, the SEC does not recognize the terms. U.S. investors are cautioned not to assume that any part or all of Measured or Indicated Mineral Resources will ever be converted into Reserves. Inferred Resources have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Mineral Resource will ever be upgraded to a higher category. Under Canadian rules, estimates of Inferred Mineral Resources may not form the basis of feasibility or pre-feasibility studies. U.S. investors are cautioned not to assume that any part or all of a *measured, indicated or inferred* resource exists, or is economically or legally minable.

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 fact. 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. The Company would like to specifically caution the reader that the Lik preliminary economic assessment (“PEA”) that supports the technical feasibility or economic feasibility of the Lik zinc deposit, respectively, including the marketability of the concentrate, mining methods, cost, recoveries of metals and any other technical aspects related to the deposits, are preliminary in nature and there is no certainty that the economic estimates in the PEA will be realized. 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. 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 Lik or Florida Canyon; the potential for confirming, upgrading and expanding 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 for 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; risks associated with our partner, Teck Resources Ltd., ability to finance continued development and potential construction of the Lik project could have a materially negative impact on the timing of project development, and such project development may never occur. 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, lead and silver; the inherently hazardous nature of mining-related activities; uncertainties concerning reserve and resource estimates; availability of outside contractors in connection with Lik, 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; 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.