

July 23, 2018

2018 FIELD PROGRAM BEGINS ON THE LIK ZINC PROJECT, ALASKA

Denver, Colorado: Solitario Zinc Corp. ("Solitario") (NYSE American: **XPL**; TSX: **SLR**) is pleased to announce that Teck American Incorporated ("Teck"), a wholly owned subsidiary of Teck Resources Limited (TSX: TECK.A and TECK.B, NYSE: TECK) has commenced a field program on the Lik high-grade zinc project in Alaska. The Lik project is held through a joint venture arrangement between Solitario (50%) and Teck (50%).

Solitario and Teck agreed that Teck will act as project operator for the 2018 field program to take full advantage of Teck's thirty years of successful exploration and operational experience in the world-class Red Dog mining district. The technical elements of the work program will consist of geologic mapping, relogging of existing Lik core and conducting a gravity geophysical survey over a substantial portion of the 6,075-acre property. This work, combined with a program of camp rehabilitation, will allow for future use of the established Lik infrastructure and provide essential information to assess what additional technical and environmental studies are required to advance the project. All permits necessary to conduct the 2018 program have been acquired.

Chris Herald, President and CEO of Solitario, commented, "We are excited to take advantage of Teck's long-term experience in the Red Dog zinc district. The 2018 work program will pave the way for planning the best path forward for the project. We are particularly excited about utilizing Teck's gravity survey expertise that has been a proven ore-finder in the surrounding Red Dog district. We expect to have the results of this program in the fourth quarter of 2018."

A total of 125,300 feet of core drilling in 229 holes has been completed on the Lik property which has defined a potentially open-pitable Indicated Resource of 17.3 million tonnes grading approximately 12% zinc equivalent and an additional 2.9 million tonnes of Inferred Resource at approximately 11% zinc-equivalent grade. The project is situated approximately 14 miles northwest of Teck's operating Red Dog mine, one of the world's largest zinc mines.

Lik Joint Venture

The terms of the Lik joint venture were previously outlined in the Lik Block Agreement signed on January 27, 1983. Through a series of third-party transactions, Teck currently holds a 50% interest in the project, and Solitario owns a 50% interest through its acquisition of Zazu Metals. Solitario and Teck are presently negotiating a new joint operating agreement that will update and clarify the original agreement and potentially modify its commercial terms.

About Solitario

Solitario is an emerging zinc exploration and development company traded on the NYSE American ("XPL") and on the Toronto Stock Exchange ("SLR"). Besides Solitario's 50% joint venture interest in the high-grade, open-pitable Lik zinc deposit in Alaska, Solitario also holds a 39% joint venture interest (Nexa Resources holds the remaining 61% interest) on the high-grade Florida Canyon zinc project in Peru, and a 7.6% equity interest in Vendetta Mining. Solitario's Management and Directors hold approximately 9.3% (excluding options) of the Company's 58.3 million shares outstanding. Solitario's cash balance and marketable securities stand at approximately US\$13.0 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, except in rare cases. 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, metallurgical recoveries and future metal prices are predicted and actual results could be substantially lower; 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. Other important risk factors that could cause actual results to differ materially from those in forward-looking statements are discussed in greater detail 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.