



**Solitario Intersects 48.9 Meters Grading 6.19%
Zinc Equivalent at Florida Canyon, Peru**

DENVER, CO – August 1, 2019 - **Solitario Zinc Corp.** (“Solitario”) (NYSE American: **XPL**; TSX: **SLR**) is pleased to provide initial 2019 drilling results for its Florida Canyon zinc project in Peru. The highlight of the first phase of drilling was drill hole PEBGD-000010 that intersected 48.9 meters grading 6.19% zinc-equivalent (“Zn-Eq”), including 17.5 meters that graded 13.7% Zn-Eq. This hole was critically important in demonstrating a new mineralized zone as discussed in more detail below. The Florida Canyon high-grade zinc project located in northern Peru that is joint ventured with the world’s fourth largest zinc miner, Nexa Resources S.A. (NYSE: NEXA; TSX: NEXA) (“Nexa”).

With the exception of hole PEBGD-000010, all of the first phase of core holes were drilled in the northern area of the Florida Canyon deposit where mineralization tends to be narrower, flat lying (“mantos”) but often high grade. This style of mineralization was intersected in six of the drill holes reported in the table below. One of the ten holes did not reach its target depth due to drilling difficulties and two holes did not intersect significant mineralization.

Drill hole PEBGD-000010 was very important in that it intersected what is interpreted to be a replacement body similar to the San Jorge structure to the south. The hole was a 90-meter offset of a previously drilled core hole V-21, that intersected 92 meters of 7.26% Zn-Eq, including two intervals that graded 24.13% Zn-Eq over 10.2 meters and 19.24% zinc over 11.0 meters (this potential new area is considered the “V-21 zone”). A section showing the relationship between mineralization intersected in the two holes can be seen [here](#). Follow-up drilling of the V-21 zone is underway and could potentially add mineralization comparable to the size and grade of the San Jorge zone, that constitutes approximately 40% of the known resource at Florida Canyon.

Highlights of Florida Canyon Drilling Results

Drill Hole Number	From (m)	To (m)	Interval (m)	Zinc (%)	Lead (%)	Silver (g/t)	Zinc-Eq* (%)
PEBGD-000002	322.9	323.9	1.0	4.4	9.5	25.6	12.9
	329.8	331.0	1.2	11.7	0.1	43.3	12.7
PEBGD-000003	443.1	444.4	1.3	42.7	15.0	83.0	56.9
PEBGD-000004	463.5	465.0	1.5	16.1	0.5	6.2	16.7
	472.1	473.4	1.3	40.5	0.0	4.8	40.6
PEBGD-000006	393.8	396.2	2.4	7.3	0.7	4.0	8.0
PEBGD-000007	372.7	373.1	0.4	13.6	1.3	12.9	15.0
PEBGD-000008	275.1	279.5	4.4	16.8	1.1	32.1	18.3
PEBGD-000010	365.9	414.8	48.9	5.2	0.9	11.5	6.2
including	380.8	398.3	17.5	11.3	2.2	25.4	13.7
including	408.1	409.3	1.2	9.3	1.9	46.5	20.0
including	412.8	414.8	2.0	3.5	0.4	18.1	10.0

*Zn-Eq was calculated using the following price assumptions: Zn=\$1.10/lb., Pb=\$0.91lb., Ag=\$16.50/oz. Reported intervals are estimated to be at least 80% of the true thickness. Numbers in this table may not add exactly as numbers have been rounded to the nearest decimal.

Current and Future Drilling Plans

The four-rig drilling program is transitioning from the northern part of the property to the southern half where the San Jorge zone is located, except for one drill rig that will further test the V-21 zone. The San Jorge zone is open in all directions. Visual results from the first hole (PEBGD-000015) targeting the southern extension of San Jorge structure intersected strong zinc mineralization (sphalerite) over approximately 11 meters. No assays are available yet for this interval. At least three additional holes are planned to offset PEBGD-000015. In addition, drilling will begin to test the northern extension of the San Jorge zone as well as the up-dip extension.

Chris Herald, President and Chief Executive Officer of Solitario, commented, “We are very pleased with our initial assay results, especially drill hole PEBGD-000010 that suggests we have discovered a new replacement body that could develop into a significant new zone with additional drilling. We have also demonstrated that the San Jorge zone continues to the south with the positive visual results from drill hole PEBGD-000015. With the program now focused on extensions of the San Jorge zone to the north, south and up-dip, we see the potential for a series of strongly mineralized drill holes.”

Hydroelectric Power Plant Receives Permit

Energoret SAC., a private Peruvian company that designs and builds small-to medium-scale hydroelectric power plants in Peru, has received approval of the Water Use Plan and the Authorization for the Execution of Water Works necessary to build the Tingo Power Plant, a medium-sized hydroelectric power plant situated within ten kilometers of the Florida Canyon project area. Nexa, on behalf of the joint venture, has signed a non-binding Memorandum of Understanding (“MOU”) with Energoret to secure low-cost hydroelectric power for the Florida Canyon project. The MOU calls for Energoret to construct power lines from the power plant to the project area and deliver 8 megawatts to the project site. Energoret estimates that the power plant will be completed in 2022. This power plant is considered a significant economic benefit to project operations.

Drill hole information contained within this release is reported under Nexa’s quality control program reviewed by Mr. Walt Hunt, COO for Solitario Zinc Corp., who is a qualified person as defined by National Instrument 43-101. Samples are derived from 50% splits of HQ and NQ (2.5 and 1.9 inch) diameter core. Samples are then shipped via secured third-party land transportation companies and analyzed by ALS Chemex Inc., in Lima, Peru.

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-pitabile 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 also holds a 7.6% equity interest in Vendetta Mining. Solitario’s Management and Directors hold approximately 9.2% (excluding options) of the Company’s 58.4 million shares outstanding. Solitario’s cash balance and marketable securities stand at approximately US\$10.0 million. Additional information about Solitario is available online at www.solitariozinc.com

FOR MORE INFORMATION ABOUT SOLITARIO, 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 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. 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. 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, 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.