



## **Solitario Files New NI 43-101 Technical Report for Its Florida Canyon Zinc Project Detailing a Significant Increase in Mineral Resources**

**DENVER, CO** – April 7, 2021 - **Solitario Zinc Corp.** (“Solitario”) (NYSE American: **XPL**; TSX: **SLR**) is pleased to announce that it has filed on SEDAR the independent NI 43-101 Technical Report (the “Report”) detailing the updated Mineral Resource Estimate for the Florida Canyon Project located in northern Peru, as described in the Company’s news release dated [February 23, 2021](#). The Report was prepared by Gustavson Associates LLC (“Gustavson”), an independent international engineering firm specializing in mining and mineral exploration engineering and evaluation. The Report is available on SEDAR under the Company’s profile, and on the Company’s website at: [Florida Canyon NI 43-101 Technical Report](#).

The Report filed today incorporates technical information from 39 new drill holes completed at Florida Canyon in 2018 and 2019, along with information from 506 previously drilled core holes. The Report shows a substantial increase in inferred resources dominated by zinc sulfide mineralization. Highlights include the following:

- **Inferred zinc-equivalent (“Zn-Eq”) sulfide resource up 105% from 2017 estimate.**
- **Inferred Zn-Eq sulfide-mixed-oxide resource estimate up 64% from 2017 estimate.**
- **Total contained metal - Measured and Indicated: 0.65 billion pounds Zn-Eq.**
- **Total contained metal – Inferred: 3.39 billion pounds Zn-Eq at 10.9% Zn-Eq.**
- **Total contained silver – Inferred: 5.39 million oz.; Meas. & Ind: 1.2 million oz.**

Solitario’s joint venture partner, Nexa Resources S.A. (NYSE: NEXA; TSX: NEXA) (“Nexa”), completed the new resource estimate incorporating the results of the 2018/2019 drilling program and reinterpreting portions of the previous resource model. Solitario, through the work of Gustavson, verified Nexa’s resource estimate. Nexa is the world’s fourth largest zinc miner and operates three underground zinc mines in Peru, a major zinc smelter also in Peru and two zinc mines and two zinc smelters in Brazil.

The 2021 Mineral Resource Estimate is a mine plan constrained resource that takes into consideration various NSR cutoff grades and planned dilution, depending on mining method. All 2021 additions to the resource were in the Inferred Resource Category. The table below provides summary estimates for all resource categories.

## 2021 Florida Canyon Mineral Resource Estimate

Category	Tonnes Millions	Zinc %	Lead %	Silver g/t	ZnEq %	Contained Metal Zinc-Equivalent Billion Lbs.	Contained Silver Million Ozs.
<b>Measured</b>	<b>0.81</b>	<b>11.32</b>	<b>1.40</b>	<b>15.4</b>	<b>12.78</b>	<b>0.29</b>	<b>0.40</b>
<b>Indicated</b>	<b>1.63</b>	<b>10.28</b>	<b>1.31</b>	<b>14.9</b>	<b>11.66</b>	<b>0.42</b>	<b>0.78</b>
<b>M + I</b>	<b>2.44</b>	<b>10.63</b>	<b>1.34</b>	<b>15.05</b>	<b>12.04</b>	<b>0.65</b>	<b>1.18</b>
<b>Inferred</b>	<b>14.86</b>	<b>9.63</b>	<b>1.26</b>	<b>11.3</b>	<b>10.89</b>	<b>3.57</b>	<b>5.39</b>

### Notes to Mineral Resource Table:

1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources have an effective date as of February 2, 2021.
3. Mineral Resources are reported using mining cut off values of US\$41.40/t NSR for Sub-Level Stopping, US\$42.93/t for Cut and Fill and US\$40.61/t for Room and Pillar mining methods.
4. Forecast long term metal prices used for the NSR and Zn-Eq calculations are: Zn: US\$2,816/t (US\$1.27/lb); Pb: US\$ 2,249/t (US\$1.02/lb) and Ag: US\$19.40/oz. Zn-Eq calculations do not take into account metallurgical recoveries.
5. Minimum mining thickness is 3 meters for Sub-Level Stopping and Cut and Fill, and 4 meters for Room and Pillar mining methods.
6. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
7. Project Resources are reported on a 100% ownership basis.
8. Numbers may not add due to rounding.

### Inferred Sulfide Resource Doubles

The 2018/2019 drilling program was specifically designed to identify new NI 43-101 compliant sulfide resources at Florida Canyon. This objective was achieved with an overall 105% gain in Inferred Zn-Eq contained metal in sulfide resources compared to the 2017 Inferred Zn-Eq sulfide resource estimate. Approximately 78% of the Zn-Eq resources are sulfide-dominant in the overall 2021 resource estimate.

### Sulfide Mineralization is Important

The 2017 Preliminary Economic Assessment (“PEA” see SEDAR Filing dated August 8, 2017) demonstrated that mining and processing of Florida Canyon sulfide resources are much more profitable than for oxide and mixed resources. Cash flow estimates in the PEA for its 12.5-year mine life, based on the 2017 resource, illustrated that years 2-7 (mostly sulfide ore) generated approximately \$75 million in annual free cash flow, while years 8-12 (mostly oxide+mixed ore) averaged approximately \$30 million in annual free cash flow.

In addition to an increased mine life and cash flow, the current, larger resource will also provide the opportunity to assess increasing the production rate from the 2,500 tonnes per day assumed in the PEA, further improving project profitability.

## **Recommendations**

The Report contains several important recommendations for advancing the Florida Canyon Project. One of the more impacting recommendations, is to conduct new metallurgical testing on sulfide-dominant ores. The updated resource model demonstrates that the majority of mineralization at Florida Canyon is sulfide dominant, however, previously conducted metallurgy did not assess sulfide-only ore. The Report suggests that metallurgical zinc recoveries and zinc concentrate grades were underestimated in the 2017 Preliminary Economic Analysis. Higher zinc recoveries and concentrate grade, along with a larger resource base would substantially benefit project economics.

Another important recommendation includes additional surface and underground exploration. Included in this is 1,250 meters of underground tunnel development in two different zones, 15,000 meters of underground drilling and 10,000 meters of surface drilling. The objective of these programs is to increase the confidence level of a portion of the inferred resource to measured and indicated categories.

## **Signed by Qualified Persons:**

The technical information contained in the Report has been verified and approved by the following Gustavson Qualified Persons pursuant to the meaning of such terms in National Instrument 43-101 Standards of Disclosure for Mineral Projects.

Mr. Donald Hulse, P.E., SME-RM (Mining, Resources)  
Deepak Malhotra, PhD., SME-RM (Metallurgy)  
Mr. Simon Mortimer, MSc., MAIG (Geology)

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.

## **Terms of the Florida Canyon Joint Venture**

Solitario owns a 39% interest and Nexa owns a 61% indirect interest in the Florida Canyon project. Nexa can earn a 70% interest in the Florida Canyon project by continuing to fund all project expenditures and committing to place the project into production based upon a positive feasibility study. After earning 70%, and at the request of Solitario, Nexa has further agreed to finance Solitario's 30% participating interest for construction through a project loan. Solitario will repay the loan facility through 50% of its net cash flow distributions from production.

## **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 a 50% joint venture interest in the high-grade, open-pit table Lik zinc deposit in Alaska and a 39% joint venture interest (Nexa Resources holds the remaining 61% interest) in 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\$7.7 million. Additional information about Solitario is available online at [www.solitariozinc.com](http://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 Resources Estimate. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. 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.*

### **Cautionary Note to U.S. Investors concerning Estimates of Measured, Indicated and Inferred Resources**

*This news release has been prepared in accordance with the requirements of the securities laws in effect in Canada, which differ from the requirements of United States securities laws. Canadian reporting requirements for disclosure of mineral properties are governed by the Canadian Securities Administrators' National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101"). For this reason, information contained in this news release containing descriptions of the Company's mineral deposits may not be comparable to similar information made public by United States companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations thereunder.*