



June 23, 2014

**SOLITARIO ANNOUNCES INITIAL RESOURCE ESTIMATE  
FOR ITS BONGARÁ ZINC PROJECT, PERU**

Denver, Colorado: Solitario Exploration & Royalty Corp. (“Solitario;” NYSE MKT: **XPL**; TSX: **SLR**) is pleased to announce the initial NI 43-101 compliant resource estimate for its high-grade Bongará zinc project in northern Peru. The Mineral Resource Statement and Technical Report was prepared on behalf of Solitario by SRK Consulting (U.S.) Inc. (“SRK”), an independent and internationally recognized mining engineering firm. SRK verified and validated a comprehensive resource model previously developed by Solitario’s joint venture partner, Votorantim Metais (“Votorantim”). The full Technical Report has been filed on SEDAR and can be accessed [here](#).

**Highlights of the Bongará Resource Estimate:**

- **Measured and Indicated Resources total approximately 2.8 million tonnes grading 13.0% zinc; 1.9% lead and 19.3 g/t silver; or 15.5% zinc equivalent**
- **Inferred Resources total approximately 9.1 million tonnes grading 10.9% zinc, 1.2% lead and 12.2 g/t silver; or 12.4% zinc equivalent**

The resource was reported using Net Smelter Return (NSR) cutoff grades by material type determined by current metals prices (zinc and lead - \$0.95/lb. and silver \$20/oz.) and projected mining, processing, transport and smelting costs. The resource reported in this statement is contained within a footprint of drilling of approximately one by three kilometers, with opportunities for expansion through infill and step-out exploration both laterally and vertically.

Chris Herald, President and CEO of Solitario, stated, “We are extremely pleased with the results of this initial resource estimate for Bongará. It clearly demonstrates the high-grade nature of the Bongará deposit and confirms our belief that Bongará is an important new zinc deposit at a time of declining zinc production with many analysts forecasting zinc prices to rise over the next several years. This report also provides our shareholders and the investment community a much clearer basis to evaluate the quality of this asset and the potential value it holds for Solitario. We want to acknowledge the solid exploration and engineering work that our partner, Votorantim, has completed over the past several years.”

Zinc mineralization occurs as a Mississippi Valley Type (“MVT”) deposit and is contained in carbonate rocks of the Pucara rock formation, the host-rock for the many of Peru’s zinc mines. Peru is the third largest zinc producing country in the world. The Bongará resource estimate was based on a database that includes drilling campaigns of two different companies. A total of 82 drill holes were completed by Cominco totaling 24,781 meters drilled from 1997 to 2000, and 404 drill holes completed by Votorantim including 92,499 meters drilled from 2006 to 2013. The drill data were verified and validated by SRK in compliance with NI 43-101 guidelines. Additional project information is found at <http://www.solitarioxr.com/bongara.php>. The Mineral Resource Statement for the Bongará Zinc project is presented in Table 1. Cutoff grades and their derivation are provided in the resource table notes.

**Table 1: Mineral Resource Statement for the Bongará Zn-Pb-Ag Deposit, Amazonas Department, Peru, SRK Consulting (U.S.), Inc., June 5, 2014**

Category	Mass	Grade				Contained Metal (millions)				
		Zn	Pb	Ag	ZnEq	Zn	Pb	Ag	ZnEq	
	Mt	%	%	g/t	%	(lbs)	(lbs)	(oz)	tonnes	(lbs)
Measured	1.43	13.02	1.85	19.3	15.45	410.0	58.3	0.884	0.221	486.5
Indicated	1.35	12.51	1.71	17.1	14.74	372.6	50.9	0.744	0.199	438.8
<b>Measured + Indicated</b>	<b>2.78</b>	<b>12.77</b>	<b>1.78</b>	<b>18.2</b>	<b>15.10</b>	<b>782.5</b>	<b>109.2</b>	<b>1.628</b>	<b>0.420</b>	<b>925.3</b>
<b>Inferred</b>	<b>9.07</b>	<b>10.87</b>	<b>1.21</b>	<b>12.2</b>	<b>12.44</b>	<b>2,173.0</b>	<b>241.5</b>	<b>3.554</b>	<b>1.130</b>	<b>2,487.6</b>

Source: SRK, 2014

**Notes:**

1. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves;
2. Mineral resources are reported to a Net Smelter Return zinc-equivalent (ZnEq%) cut-off grade based on metal price assumptions\*, metallurgical recovery assumptions\*\*, mining costs, processing costs, general and administrative (G&A) costs, and NSR factors\*\*\*. Mining costs, processing, G&A, and transportation costs total US\$51.30/t.
  - i. \*Metal price assumptions considered for the calculation of metal equivalent grades are: Zinc (US\$/lb 0.95), Lead (US\$/lb 0.95) and Silver (US\$/oz 20.00),
  - ii. \*\*Cut-off grade calculations assume variable metallurgical recoveries as a function of grade and relative metal distribution. Average metallurgical recoveries for sulfide and oxide respectively are: Zinc (93.1%, 73%), Lead (84.8, 0%) and Silver (55.6%, 0%)
  - iii. \*\*\* NSR factors for calculating cutoff grades were:  $ZnEq\% = Zn\% * 1 + Pb\% * 0.74 + Ag\ g/t * 0.02$
3. **Resulting cutoff grades used in this resource statement were 4.1% ZnEq for sulfide, 5.0% ZnEq for oxide, and 4.5% ZnEq for mixed material types.**
4. Zinc equivalency for reporting in situ contained metal resources above was calculated using:  $ZnEq\ (\%) = Zn\ (\%) + 1.0 * Pb\ (\%) + 0.03 * Ag\ (g/t)$ .
5. Density was calculated based on material types and metal grades. The average density in the mineralized zone was 2.91 g/cm<sup>3</sup> as a function of the zinc and lead sulfide mineral content.
6. Mineral Resources as reported are undiluted.
7. Mineral resource tonnage and contained metal have been rounded to reflect the precision of the estimate, and numbers may not add due to rounding.

**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.

An important component of SRK’s Technical Report was to differentiate three types of mineralization present within the Bongará deposit defined to date. These are sulfide, mixed and oxide zinc mineralization. Sulfide mineralization dominates the currently estimated resources totaling approximately 63% of the resource, with oxide accounting for 28% and mixed resources making up the remaining 9%. In addition, SRK has acknowledged a significant amount of technical work completed by Votorantim, which has advanced the Project well into prefeasibility-level of study in some areas of development.

The Bongará Technical Report and Resource Statement was prepared by SRK Consulting (U.S.), Inc. and provides a classification of resources in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Mineral Reserves: Definitions and Guidelines, November 27, 2010. This release has been reviewed for accuracy by Mr. J. B. Pennington of SRK and for Solitario by Walter Hunt, Chief Operating Officer of Solitario, both of whom are “qualified persons” as that term is defined in NI 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 and air transportation companies and analyzed by ALS Chemex Inc., North Vancouver, Canada, an ISO9002 registered company.

## **Terms of the Bongará Joint Venture with Votorantim Metais**

Votorantim has funded 100% of project expenditures since inception of the joint venture in 2006. Votorantim can earn up to a 70% interest in the 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%, Votorantim has further agreed to finance Solitario's 30% participating interest for construction. Solitario will repay the loan facility through 50% of its net cash flow distributions.

### **About Votorantim Metais**

Votorantim Metais belongs to a privately held Brazilian business conglomerate that is a leader in every market segment in which it operates, including cement, pulp and paper, metals, chemicals, orange juice, and finance. The metals business division accounted for approximately one third of Votorantim’s consolidated revenues from production of zinc, nickel, steel and aluminum. Votorantim is the world's fifth largest primary zinc producer with three operating zinc smelters and two operating zinc mines. It owns the Cajamarquilla zinc smelter and is the majority shareholder of Milpo, both located in Peru. Votorantim also has operations in the United States and China.

### **About Solitario**

Solitario is a gold, silver, platinum-palladium, and base metal exploration and royalty company actively exploring in Brazil, Mexico, and Peru. Solitario’s main focus is on permitting, financing and constructing the Mt. Hamilton gold project in Nevada. Solitario controls an 80% interest in Mt. Hamilton and its joint venture partner, Ely Gold, controls the remaining 20% interest. Besides Solitario’s joint venture with Votorantim, Solitario also has significant business relationships with Anglo Platinum on its Pedra Branca platinum-palladium project in Brazil. Solitario is traded on the NYSE MKT ("XPL") and on the Toronto Stock Exchange ("SLR"). Additional information about Solitario is available online at [www.solitarioxr.com](http://www.solitarioxr.com).

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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 Bongará; the potential for confirming, upgrading and expanding zinc, lead and silver mineralized material at Bongará; future operating and capital cost estimates may indicate that the stated resources may not be economic; estimates of zinc, lead and silver grades provided are not diluted mining grades and the predicted or actual mining grade could be substantially lower; estimates of recovery rates for the three types of mineralization, sulfide, oxide and mixed could be lower than estimated for establishing the cutoff grade; and other statements that are not historical facts; risks associated with our funding partner's (Votorantim Metais) ability to finance continued development and potential construction of the Bongará 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 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 Bongará and other activities; uncertainties relating to obtaining approvals and permits from governmental regulatory authorities and country risks of operations outside of the United States; 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.*