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SOLITARIO EXPLORATION & ROYALTY REPORTS EXCEPTIONAL HIGH-GRADE DRILLING RESULTS ON ITS BONGARÁ ZINC PROJECT, PERU

Denver, Colorado: Solitario Exploration & Royalty Corp. (NYSE Amex: **XPL**; TSX: **SLR**) announced that it has received all assay results for its 2009 drilling program at its Bongará zinc project in Peru. Thirteen core holes totaling 3,611 meters were completed, eleven in the San Jorge Zone and two in the Karen-Milagros zone. All thirteen holes intersected significant mineralization. The ten best intercepts were:

Drill Hole Number	Intercept* (meters)	Zinc %	Lead %	Zinc+Lead %
V-168	2.0	27.5	1.8	29.3
V-169	51.6	7.1	0.7	7.8
V-171	6.3	20.0	2.0	22.0
V-172	9.0	20.5	1.5	22.0
V-173	4.0	14.1	0.3	14.4
V-173	13.7	9.8	4.9	14.7
V-177	2.7	11.0	1.8	12.7
V-178	5.1	8.6	1.3	9.9
V-178	5.2	10.2	1.1	11.4
V-178	3.0	30.0	7.3	37.4

* True thickness has not been estimated for each individual intercept, but in all cases are thought to represent at least 85% of true thickness

The program was managed and entirely funded by Solitario's joint venture partner Votorantim Metais. The Bongará project hosts the Florida Canyon zinc deposit where high-grade zinc mineralization has been intersected over a four square kilometer area. The deposit is open to expansion in all directions. A complete listing of all assay results for these 13 drill holes are appended below and a drill hole map can be accessed at <http://www.solitarioxr.com/art/BongaraDrillHole0909.pdf>. Additional project information is found at <http://www.solitarioxr.com/bongara.html>.

The eleven core holes drilled in the San Jorge Zone continue to demonstrate excellent zinc grades and thicknesses with good internal continuity of mineralization within the central part of the zone, which has now been extended a further 400 meters north towards the Karen-Milagros zone. The two Karen-Milagros zone holes (V-179 and V-180) tested a rather large 200 by 200 meter area previously undrilled in the southern part of that area. There are now strong indications that the San Jorge and Karen-Milagros zones are interconnected.

Chris Herald, President and CEO of Solitario commented, "These are some of the best drilling results we have ever generated on the project and continue to validate our belief that the Bongará zinc project is an excellent deposit that could ultimately be developed into one

of the world's most important new zinc mines, with significant silver and lead credits. Votorantim is already in the planning stages of and aggressive new program of engineering/infrastructure related studies and continued exploration drilling. With zinc prices up nearly 60% since the beginning of the year, from approximately US\$0.50 to US\$0.85 per pound, the economics of this attractive project are further enhanced."

The drill hole information contained within this release is reported under a quality control program reviewed by Mr. Walt Hunt, COO for Solitario Exploration & Royalty 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 and air transportation companies and analyzed by ALS Chemex Inc., North Vancouver, Canada, an ISO9002 registered company.

Bongará Agreement with Votorantim Metais

Votorantim Metais can earn up to a 70% interest in the project by committing to place the project into production based upon a positive feasibility study and spending a minimum of \$18.0 million on exploration and development. After earning 70%, Votorantim Metais has further agreed to finance Solitario's 30% participating interest for construction. Solitario will repay the loan facility through its 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 29% of revenues from production of zinc, nickel, steel and aluminum. Votorantim Metais 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 a major shareholder of Milpo, both located in Peru. Votorantim Metais also acquired US Zinc, a zinc recycling company based in the USA with a plant located in China.

About Solitario

Solitario recently announced (August 24, 2009) that it and Metallic Ventures Gold Inc. (TSX-TO:MVG) ("Metallic Ventures") had entered into a definitive arrangement agreement whereby Solitario will acquire, through a friendly plan of arrangement, all outstanding shares of Metallic Ventures. Solitario is a gold, silver, platinum-palladium, and base metal exploration and royalty company actively exploring in Brazil, Mexico, and Peru. Besides Votorantim, Solitario has significant business relationships with Newmont Mining and Anglo Platinum. Solitario has approximately US\$22 million in cash and marketable securities and no debt. Solitario is traded on the NYSE Amex ("XPL") and on the Toronto Stock Exchange ("SLR"). Additional information about Solitario is available online at www.solitarioxr.com

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This press release includes certain "Forward-Looking Statements" within the meaning of section 21E of the United States Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included herein, including without limitation, statements regarding potential mineralization and reserves, exploration results and future plans and objectives of Solitario, are forward-looking statements that involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Development of Solitario's properties are subject to the success of exploration, completion and implementation of an economically viable mining plan, obtaining the necessary permits and approvals from various regulatory authorities, compliance with operating parameters established by such authorities and political risks such as higher tax and royalty rates, foreign ownership controls and our ability to finance in countries that may become politically unstable. Important factors that could cause actual results to differ materially from Solitario's expectations are disclosed under the heading "Risk Factors" and elsewhere in Solitario's documents filed from time to time with Canadian Securities Commissions, the United States Securities and Exchange Commission and other regulatory authorities.

Florida Canyon Deposit, 2009 Drill Intercepts Bongará Project, Peru							
Hole	From (meters)	To (meters)	Thickness (meters)	Zn (percent)	Pb (percent)	Ag (g/t)	Pb+Zn (percent)
V_168	214.3	216.3	2.0	27.5	1.8	15.7	29.3
V_169	368.2	368.9	0.7	27.0	0.0	6.9	27.0
	380.6	432.2	51.6	7.1	0.7	4.8	7.8
V_170	27.3	32.0	4.7 ¹	8.3	0.6	9.4	8.9
V_171	358.4	364.7	6.3	20.0	2.0	23.9	22.0
	419	419.7	0.7	8.3	0.0	10.1	8.3
V_172	125.8	126.5	0.7	22.7	0.0	2.7	22.7
	131.8	140.8	9.0 ²	20.5	1.5	24.2	22.0
V_173	39.6	43.6	4.0	14.1	0.3	6.4	14.4
	169.5	171.2	1.7	7.5	0.2	1.5	7.7
	175.2	188.9	13.7	9.8	4.9	34.3	14.7
V_174	313.1	313.8	0.7	11.3	0.0	1.2	11.3
	353.1	354.8	1.7	9.2	0.0	13.4	9.2
V_175	59.8	60.5	0.7	2.8	0.4	1.3	3.2
V_176	41.1	46.8	5.7 ³	2.0	0.5	9.2	2.5
	62.8	64.1	1.3	2.6	1.2	6.0	3.8

V_177	56.1	56.7	0.6	8.2	0.3	2.2	8.5
	110.7	113.4	2.7	11.0	1.8	10.9	12.7
V_178	158.45	159.2	0.8	5.1	0.1	1.6	5.2
	175.2	180.3	5.1 ⁴	8.6	1.3	42.3	9.9
	249.7	254.9	5.2	10.2	1.1	13.3	11.4
	264.4	266.4	2.0	5.9	0.7	39.0	6.6
	271.7	272.4	1.0	2.3	5.5	27.3	7.8
	304.4	307.4	3.0	30.0	7.3	72.6	37.4
V_179	180.7	182.1	1.4	7.3	1.2	4.3	8.5
	190.4	193.0	1.9	12.0	0.4	3.5	12.3
	198.3	199.0	0.7	10.5	0.1	1.6	10.5
V_180	208.0	209.0	1.0	13.4	0.2	3.4	13.6

Notes: All drilled intercepts represent at least 85% of true thickness

¹ Drilled intercept includes 1.3m of no core recovery

² Drilled intercept includes 2.2m of no core recovery

³ Drilled intercept includes 0.8m of no core recovery

⁴ Drilled intercept includes 1.2m of no core recovery