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NYSE Amex: XPL | TSX: SLR

November 19, 2009

SOLITARIO EXPLORATION & ROYALTY UPDATES 2010 EXPLORATION PLANS

Denver, Colorado: Solitario Exploration & Royalty Corp. (NYSE Amex: XPL; TSX: SLR; "Solitario") announced that it is in the final planning stage for two new drilling programs in 2010. The first drilling campaign will be conducted on its 100%-owned La Noria copper oxide property in the state of Sonora, Mexico, during the first quarter of 2010. The second drilling project will be on its Cajatambo gold-silver property in central Peru.

Copper-oxide mineralization at La Noria has been defined over a zone approximately 700 meters long and 200 meters wide. This zone remains open on three sides, where it is covered by a thin veneer of gravels. Within this zone, 100 representative channel samples ranging in width from 1.0 meter to 5.0 meters average 0.32% copper. These channel samples are more or less evenly distributed throughout the exposed mineralized zone. An IP geophysical program is planned over the mineralized area within the next month to further define drill targets.

At Cajatambo, gold-silver mineralization occurs in altered Tertiary porphyritic rocks over an area at least 3.5 kilometers long and up to 1.5 kilometers wide. A recent IP geophysical survey indicates gold-silver mineralization occurs along the margin of a strong chargeability anomaly. The chargeability anomaly reflects high concentrations of sulfide minerals in the underlying bedrock. The Cajatambo property is 100%-owned by Solitario, but subject to the Newmont Strategic Alliance.

Chris Herald, President and CEO of Solitario, stated, "These are two of the highest quality drill targets that we have generated during the past five years. Both are grassroots discoveries demonstrating our continued ability to identify and define new major mineralized systems in the areas in which we work. We are very excited to test these targets as soon as possible."

About Solitario Exploration & Royalty Corp.

Solitario is a gold, silver, platinum-palladium, and base metal exploration and royalty company actively exploring in Brazil, Mexico and Peru. Solitario has significant business relationships with Votorantim Metais, Anglo Platinum and Newmont Mining. 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, or for more information contact:

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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.

Additional Information

No regulatory authority has approved or disapproved the content of this release. The Toronto Stock Exchange accepts no responsibility for the adequacy or accuracy of this release.