

SOLITARIO EXPLORATION & ROYALTY CORP.  
Form 10-K  
March 13, 2017  
UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

**FORM 10-K**

(Mark One)

Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2016

or

Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number **001-32978**

**SOLITARIO EXPLORATION & ROYALTY CORP.**

(Exact name of registrant as specified in charter)

**Colorado**

(State or other jurisdiction of incorporation or organization)

**4251 Kipling St. Suite 390, Wheat Ridge, CO**

(Address of principal executive offices)

Registrant's telephone number, including area code

**84-1285791**

(I.R.S. Employer Identification No.)

**80033**

(Zip Code)

**(303) 534-1030**

Securities registered pursuant to Section 12(b) of the Act:

| Title of each class                   | Name of exchange on which registered |
|---------------------------------------|--------------------------------------|
| <b>Common Stock, \$0.01 par value</b> | <b>NYSE MKT</b>                      |

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

YES [ ] NO [X]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

YES [ ] NO [X]

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

YES  NO

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

YES  NO

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained to the best of registrant's knowledge in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.:

Non-accelerated Filer

Large accelerated filer  Accelerated filer  (Do not check if a smaller reporting company)  Smaller Reporting Company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).

YES  NO

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant as of the last business day of the registrant's most recently completed second fiscal quarter, based upon the closing sale price of the registrant's common stock on June 30, 2016 as reported on NYSE MKT, was approximately \$18,598,000.

There were 38,686,989 shares of common stock, \$0.01 par value, outstanding on March 10, 2017.

## **DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the definitive Proxy Statement for the Registrant's Annual Meeting of Shareholders, which is expected to be filed by April 28, 2017, have been incorporated by reference into Part III of this Annual Report on Form 10-K



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## **PART I**

This Annual Report on Form 10-K contains statements that constitute "forward-looking statements" within the meaning of section 27A of the Securities Act of 1933 and section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements can be identified by the fact that they do not relate strictly to historical information and include the words "expects", "believes", "anticipates", "plans", "may", "will", "intend", "estimate", "continue" or other similar expressions. These forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from those currently anticipated. These risks and uncertainties include, but are not limited to, items discussed below in Item 1A "Risk Factors" in this Form 10-K. Forward-looking statements speak only as of the date made. We undertake no obligation to publicly release or update forward-looking statements, whether as a result of new information, future events or otherwise. You are, however, advised to consult any further disclosures we make on related subjects in our quarterly reports on Form 10-Q and any reports made on Form 8-K to the United States Securities and Exchange Commission (the "SEC").

### **Item 1. Business**

#### The Company

Solitario Exploration & Royalty Corp. ("Solitario," "Company," "we," or "us") is an exploration stage company at December 31, 2016 under Industry Guide 7, as issued by the SEC. Solitario was incorporated in the state of Colorado on November 15, 1984 as a wholly-owned subsidiary of Crown Resources Corporation ("Crown"). In July 1994, Solitario became a publicly traded company on the Toronto Stock Exchange (the "TSX") through its initial public offering. We have been actively involved in mineral exploration since 1993. Our primary business is to acquire exploration mineral properties or royalties on mineral properties, and/or to discover economic deposits on our mineral properties and advance these deposits, either on our own or through joint ventures, up to the development stage (development activities include, among other things, completion of a feasibility study for the identification of proven and probable reserves, as well as permitting and preparing a deposit for mining). At that point, or sometime prior to that point, we would likely attempt to sell a given mineral property, pursue its development either on our own, or through a joint venture with a partner that has expertise in mining operations, or obtain a royalty from a third party that continues to advance the property. In addition to focusing on our current assets and the evaluation of mineral properties for acquisition or purchase of royalty interests, we also evaluate potential strategic corporate transactions for the potential acquisition of new precious and base metal properties and assets with exploration potential or business combinations we determine to be favorable to Solitario.

#### Sale of Mt. Hamilton LLC

On August 25, 2015, we, along with DHI Minerals (US) Ltd. (“DHI”), sold our combined interests in the Mt. Hamilton gold project to Waterton Nevada Splitter, LLC, (“Waterton”) for total cash proceeds of US\$30 million (the “Transaction”) pursuant to a definitive agreement entered into on June 10, 2015 (the “Agreement”). We sold our 80% interest in Mt. Hamilton LLC (“MH-LLC”), a limited liability company which held 100% of the Mt. Hamilton project assets, and DHI sold its 20% interest in MH-LLC. DHI is a wholly-owned subsidiary of Ely Gold and Minerals, Inc. (“Ely”). We received gross cash proceeds of US\$24 million and Ely received gross cash proceeds of US\$6 million. Our costs and fees related to the Transaction, including broker fees and professional service fees, were \$439,000. The Transaction was structured as the sale of DHI’s and our combined membership interests in MH-LLC. We recorded a gain on sale related to the Transaction of \$12,309,000. Concurrent with the closing of the Transaction, we paid \$5,000,000 plus \$7,000 of interest and fees to fully repay the funds we had borrowed (the “RMB Loan”) pursuant to a facility agreement (the “Facility Agreement”) with RMB Australia Holdings Limited (“RMBAH”) and RMB Resources, Inc. (“RMBR”).

#### Corporate structure

##### Solitario Exploration & Royalty Corp. [Colorado]

- Minera Chambara, S.A. [Peru] (85%)
- Minera Solitario Peru, S.A. [Peru]
- Minera Bongará, S.A. [Peru] (39%)
- Minera Soloco, S.A. [Peru]

Our Bongará and Chambara projects are joint ventured to Compania Minera Milpo S.A.A. (“Milpo”). Milpo is traded on the Lima exchange under the symbol “MILPOCI”. In January 2015, Solitario began accounting for its interest in both Bongará and Minera Chambara under the equity method of accounting. During the year ended December 31, 2016 we sold our previously owned subsidiary, Solitario Mexico, SA, which had held interest in exploration properties in Mexico.

At December 31, 2016, we had three mineral exploration properties in Peru and our Yanacocha royalty property in Peru, a retained royalty on the Pedra Branca project in Brazil, a retained royalty on the Norcan and Aconchi non-producing exploration properties in Mexico, and during 2016 we acquired a royalty on certain non-producing mineral claims in Montana. We are conducting exploration activities and limited property evaluation activities in those countries either on our own using contract geologists, or through joint ventures operated by our partners.

Our exploration activities and those of our joint venture partners are carried out on a property-by-property basis. When these activities, including drilling, sampling and geologic testing, indicate a project may not be economic or contain sufficient geologic or economic potential, we may impair or completely write-off the property. Another significant factor in the success or failure of our activities is the price of commodities. For example, when the price of gold is down, the value of any of our gold-bearing mineral exploration properties decreases; however, it may also become easier and less expensive to locate and acquire new gold-bearing mineral exploration properties with potential to have economic deposits.

Our current and near-term future exploration activities in Peru consist of reconnaissance exploration for the identification of new properties for acquisition, as well as evaluation of strategic corporate opportunities and ongoing exploration activities on our existing exploration projects through the use of contract geologists, and oversight of our joint ventures in Peru that are managed by our partners.

Solitario has recorded revenue in the past from the sale of mineral properties, joint venture property payments and the sale of a royalty on its formerly-held Mt. Hamilton property. Proceeds from the sale or joint venture of properties, although potentially significant when they occur, have not been a consistent source of cash and may only occur in the future, if at all, on an infrequent basis. Accordingly, while we conduct exploration activities on our projects, we need to maintain and replenish our capital resources. We have met our need for capital in the past through (i) proceeds of the Transaction; (ii) sale of our shares of common stock of Kinross Gold Corporation (“Kinross”); (iii) borrowing in the form of short-term margin debt secured by our investment in Kinross; (iv) borrowing under the Facility Agreement (v) joint venture delay rental payments, including payments on our Bongará project; (vi) a royalty sale for \$10,000,000 in 2012; (vii) issuance of common stock; (viii) sale of covered call options on our Kinross common stock; and (ix) interest on short term Treasury Notes and Bank CDs. In the past, we have reduced our exposure to the costs of our exploration activities through the use of joint ventures.

We operate in one segment, mineral exploration. We currently conduct exploration activities in Peru and exploration evaluation activities throughout North and South America, including Canada, Peru, Mexico and the United States. As of March, 10, 2017, we had five full-time employees, located in the United States and no full-time employees outside of the United States. We utilize contract managers, geologists and laborers to execute our Latin American project work and acquisition evaluations.

A large number of companies are engaged in the acquisition, exploration and development of mineral properties, many of which have substantially greater technical and financial resources than we have and, accordingly, we may be at a disadvantage in being able to compete effectively for the acquisition, exploration and development of mineral properties. We are not aware of any single competitor or group of competitors that dominate the exploration and development of mineral properties. In acquiring mineral properties for exploration and development, we rely on the experience, technical expertise and knowledge of our employees and advisors, which is limited by the size of our company compared to many of our competitors who may have either more employees or employees with more specialized knowledge and experience.

#### Governmental Regulations

Mineral development and exploration activities are subject to various national, state/provincial, and local laws and regulations, which govern prospecting, development, mining, production, exports, taxes, labor standards, occupational health, waste disposal, protection of the environment, mine safety, hazardous substances and other matters. Similarly, if any of our properties are developed and/or mined those activities are also subject to significant governmental regulation and oversight. We are required to obtain the licenses, permits and other authorizations in order to conduct our exploration programs.

#### Environmental Regulations

Our current and planned activities are subject to various national and local laws and regulations governing protection of the environment. These laws are continually changing and, in general, are becoming more restrictive. We are required to conduct our operations in compliance with applicable laws and regulations. Changes to current local, state or federal laws and regulations in each jurisdiction in which we conduct our exploration activities could, in the future, require additional capital expenditures and increased operating and/or reclamation costs. Although we are unable to predict what additional legislation, if any, might be proposed or enacted, additional regulatory requirements could impact the economics of our projects. During 2016, we had no material environmental incidents or non-compliance with any applicable environmental regulations.



## Financial Information about Geographic Areas

Included in the consolidated balance sheets at December 31, 2016 and 2015 are total assets of \$60,000 and \$86,000, respectively, related to Solitario's operations located outside of the United States.

## Available Information

We file our Annual Report on Form 10-K, our quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports electronically with the SEC. The public may read and copy any materials we file with the SEC at the SEC's public reference room at 100 F Street NE, Washington, DC 20549 or by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an internet website, <http://www.sec.gov>, which contains reports, proxy information and other information regarding issuers that file electronically with the SEC.

Paper copies of our Annual Report to Shareholders, our Annual Report on Form 10-K, our quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports are available free of charge by writing to Solitario at its address on the front of this Form 10-K. In addition, electronic versions of the reports we file with the SEC are available on our website, [www.solitarioxr.com](http://www.solitarioxr.com) as soon as practicable, after filing with the SEC.

## **Item 1A. Risk Factors**

In addition to considering the other information in this Form 10-K, you should consider carefully the following factors. The risks described below are the significant risks we face and include all material risks. Additional risks not presently known to us or risks that we currently consider immaterial may also adversely affect our business.

***Our mineral exploration activities involve a high degree of risk, and a significant portion of our business model envisions the sale or joint venture of mineral property. If we are unable to sell or joint venture these properties, the money spent on exploration may never be recovered and we could incur an impairment of our investments in our projects.***

The exploration for mineral deposits involves significant financial and other risks over an extended period of time. Few properties that are explored are ultimately developed into producing mines. Major expenditures are required to determine if any of our mineral properties may have the potential to be commercially viable and be salable or joint ventured. Prior to completion of the feasibility study on our Mt. Hamilton project, we had never established reserves

on any of our properties. Significant additional expense and risks, including drilling and determining the feasibility of a project, are required prior to the establishment of reserves. It is impossible to ensure that the current or proposed exploration programs on properties in which we have an interest will be commercially viable or that we will be able to sell, joint venture or develop our properties. Whether a mineral deposit will be *commercially* viable depends on a number of factors, some of which are the particular attributes of the deposit, such as its size and grade, costs and efficiency of the recovery methods that can be employed, proximity to infrastructure, financing costs and governmental regulations, including regulations relating to prices, taxes, royalties, infrastructure, land use, importing and exporting of gold or other minerals, and environmental protection.

We believe the data obtained from our own exploration activities or our partners' activities to be reliable; however, the nature of exploration of mineral properties and analysis of geological information is often subjective and data and conclusions are subject to uncertainty. Even if exploration activities determine that a project is commercially viable, it is impossible to ensure that such determination will result in a profitable sale of the project or development either on our own or by a joint venture in the future and that such project will result in profitable commercial mining operations. If we determine that capitalized costs associated with any of our mineral interests are not likely to be recovered, we would incur an impairment of our investment in such property interest. All of these factors may result in losses in relation to amounts spent, which are not recoverable. We have experienced losses of this type from time to time including during 2016 when we wrote down our investments in our exploration projects in Mexico and abandoned our Canta Colorado project in Peru, recording mineral property impairments totaling \$13,000.

***A significant portion of our liquid assets consist of U.S. Treasuries and bank certificates of deposit. The failure of the financial institutions that issued or hold these financial instruments could have a material adverse impact on the market price of our common stock and our liquidity and capital resources.***

At December 31, 2016, we have invested approximately \$7,499,000 in separate, FDIC insured certificates of deposit with the maximum individual bank exposure of \$250,000. Further, as of December 31, 2016 we have invested \$7,751,000 in United States Treasury securities, with maturities of between 30 days and 18 months and we have approximately \$94,000 of our cash in uninsured deposit accounts including \$57,000 held in a brokerage account at Charles Schwab, none of which are covered by FDIC insurance. The failure of either Charles Schwab or the financial institutions holding these funds and assets could have a material impact on the market price of our common stock and our liquidity and capital resources.

***We have no reported mineral reserves and none of our current projects are likely to be monetized in the near future and any projects we may acquire are not likely to offer the opportunity for near term revenues or sale proceeds, and if we are unsuccessful in identifying mineral reserves in the future, we may not be able to realize any profit from these property interests.***

None of our projects have reported mineral reserves. Any mineral reserves on these projects will only come from extensive additional exploration, engineering and evaluation of existing or future mineral properties. The lack of reserves on these mineral properties could prohibit us from any near-term sale or joint venture of our mineral properties and we would not be able to realize any proceeds and or profit from our interests in such mineral properties, which could materially adversely affect our financial position or results of operations.

***Our mineral exploration activities are inherently dangerous and could cause us to incur significant unexpected costs, including legal liability for loss of life, damage to property and environmental damage, any of which could materially adversely affect our financial position or results of operations.***

Our operations are subject to the hazards and risks normally related to exploration of a mineral deposit, including mapping and sampling, drilling, road building, trenching, assaying and analyzing rock samples, transportation over primitive roads or via small contract aircraft or helicopters and severe weather conditions, any of which could result in damage to life or property, environmental damage and possible legal liability for such damage. Any of these risks could cause us to incur significant unexpected costs that could have a material adverse effect on our financial condition and ability to finance our exploration and development activities.

***We have a history of losses and if we do not operate profitably in the future it could have a material adverse effect on our financial position or results of operations and the trading price of our common stock would likely decline.***

We have reported losses in 20 of our 23 years of operations. We can provide no assurance that we will be able to operate profitably in the future or begin to generate significant and consistent sources of revenues or cash flows from operations. We have had net income in only three years in our history; during 2015, as a result of the Transaction, during 2003, as a result of a \$5,438,000 gain on a derivative instrument related to our investment in certain Crown

warrants and during 2000, when we sold our former Yanacocha property. We cannot predict when, if ever, we will be profitable again or able to begin generating consistent revenues or cash flows from our operations or assets. If we do not operate profitably or identify and execute on outside sources of funding, we may be unable to fund our current or contemplated exploration activities, acquire new assets, or otherwise further our business plan.

***Our operations outside of the United States of America may be adversely affected by factors outside of our control, such as changing political, local and economic conditions, any of which could materially adversely affect our financial position or results of operations.***

Our mineral properties located in Latin America consist primarily of mineral concessions granted by national governmental agencies and are held 100% by us or in conjunction with our joint venture partners, or under lease, option or purchase agreements. Our mineral properties are located in Peru and we hold royalties on non-producing exploration properties in Peru, Mexico, Brazil and Montana (U.S.). We act as operator on all of our mineral properties that are not held in joint ventures or royalty properties. The success of projects held under joint ventures or royalty properties that are not operated by us is substantially dependent on the joint venture partner, over which we have limited or no control.

Our exploration activities, mineral properties and royalties located outside of the United States are subject to the laws of Peru, Mexico and Brazil. Exploration and potential development activities in these countries are potentially subject to political and economic risks, including:

- cancellation or renegotiation of contracts;
- disadvantages of competing against companies from countries that are not subject to US laws and regulations, including the Foreign Corrupt Practices Act;
- changes in foreign laws or regulations;
- changes in tax laws;
- royalty and tax increases or claims by governmental entities, including retroactive claims;
- expropriation or nationalization of property;
- currency fluctuations (particularly related to declines in the US dollar compared to local currencies);
- foreign exchange controls;
- restrictions on the ability for us to hold US dollars or other foreign currencies in offshore bank accounts;
- import and export regulations;
- environmental controls;
- risks of loss due to community opposition to our activities, civil strife, acts of war, guerrilla activities, insurrection and terrorism; and
- other risks arising out of foreign sovereignty over the areas in which our exploration activities are conducted.

Accordingly, our current exploration activities outside of the United States may be substantially affected by factors beyond our control, any of which could materially adversely affect the value of certain of our assets or results of operations. Furthermore, in the event of a dispute arising from such activities, we would likely be subject to the exclusive jurisdiction of courts outside of the United States or may not be successful in subjecting persons to the jurisdictions of the courts in the United States, which could adversely affect the outcome of a dispute.

***We may not have sufficient funding for exploration and development, which may impair our profitability and growth.***

The capital required for exploration and development of mineral properties is substantial. In the past we have financed operations through the sale of interests in mineral properties, including the Transaction in 2015, the utilization of joint venture arrangements with third parties (generally providing that the third party will obtain a specified percentage of our interest in a certain property or a subsidiary owning a property in exchange for the expenditure of a specified amount), the sale of other assets, sale of marketable equity securities we hold, short-term margin loans, funds from the

Facility Agreement, and the issuance of common stock. We may need to raise additional capital, or enter into joint venture arrangements, in order to fund the exploration activities required to determine whether mineral deposits on our projects are commercially viable. New financing or acceptable joint venture partners may or may not be available on a basis that is acceptable to us. The inability to obtain new financing or joint venture partners on acceptable terms may prohibit us from continued development or exploration of our mineral properties. Without the successful sale or future development of our mineral properties through joint ventures, or on our own, we will not be able to realize any profit from our interests in such properties, which could have a material adverse effect on our financial position and results of operations.

***A large number of companies are engaged in the exploration and development or sale of mineral properties, many of which have substantially greater technical and financial resources than us and, accordingly, we may be unable to compete effectively in this sector of the mining industry which could have a material adverse effect on our financial position or results of operations.***

We are at a disadvantage with respect to many of our competitors in the acquisition, exploration and development or sale of mining projects. Our competitors with greater financial resources than us will be better able to withstand the uncertainties and fluctuations associated with sustained downturns in the market and to acquire high quality exploration and mining properties when market conditions are favorable. In addition, we compete with other companies in the mineral properties sector to attract and retain key executives and other employees with technical skills and experience in the mineral exploration business. There can be no assurance that we will continue to attract and retain skilled and experienced employees or to acquire additional exploration projects. The realization of any of these risks from competitors could have a material adverse effect on our financial position or results of operations.

***The title to our mineral properties may be defective or challenged which could have a material adverse effect on our financial position or results of operations.***

In connection with the acquisition of our mineral properties, we conduct limited reviews of title and related matters, and obtain certain representations regarding ownership. These limited reviews do not necessarily preclude third parties from challenging our title and, furthermore, our title may be defective. Consequently, there can be no assurance that we hold good and marketable title to all of our mineral interests. Additionally, we have to make annual filings to various government agencies on all of our mineral properties. If we fail to make such filings, or improperly document such filings, the validity of our title to a mineral property could be lost or challenged. If any of our mineral interests were challenged, we could incur significant costs in defending such a challenge. These costs or an adverse ruling with regards to any challenge of our titles could have a material adverse effect on our financial position or results of operations.

***Our operations could be negatively affected by existing laws as well as potential changes in laws and regulatory requirements to which we are subject, including regulation of mineral exploration and ownership, environmental regulations and taxation.***

The exploration and development of mineral properties is subject to federal, state, provincial and local laws and regulations in the countries in which we operate in a variety of ways, including regulation of mineral exploration and land ownership, environmental regulation and taxation. These laws and regulations, as well as future interpretation of or changes to existing laws and regulations, may require substantial increases in capital and operating costs to us and delays, interruptions, or a termination of operations.

In the United States and the other countries in which we operate, in order to obtain permits for exploration or potential future development of mineral properties, environmental regulations generally require a description of the existing environment, including but not limited to natural, archeological and socio-economic environments, at the project site and in the region; an interpretation of the nature and magnitude of potential environmental impacts that might result from such activities; and a description and evaluation of the effectiveness of the operational measures planned to mitigate the environmental impacts. Currently the expenditures to obtain exploration permits to conduct our exploration activities are not material to our total exploration cost.

The laws and regulations in all the countries in which we operate are continually changing and are generally becoming more restrictive, especially environmental laws and regulations. As part of our ongoing exploration activities, we have made expenditures to comply with such laws and regulations, but such expenditures could substantially increase our costs to achieve compliance in the future. Delays in obtaining or failure to obtain government permits and approvals or significant changes in regulation could have a material adverse effect on our exploration activities, our ability to locate economic mineral deposits, and our potential to sell, joint venture or eventually develop our properties, which could have a material adverse effect on our financial position or results of operations.

***Occurrence of events for which we are not insured may materially adversely affect our business.***

Mineral exploration is subject to risks of human injury, environmental liability and loss of assets. We maintain limited insurance coverage to protect ourselves against certain risks related to loss of assets for equipment in our operations and limited corporate liability coverage; however, we have elected not to have insurance for other risks because of the high premiums associated with insuring those risks or for various other reasons including those risks where insurance may not be available. There are additional risks in connection with investments in parts of the world where civil unrest, war, nationalist movements, political violence or economic crisis are possible. These countries may also pose heightened risks of expropriation of assets, business interruption, increased taxation and a unilateral modification of concessions and contracts. We do not maintain insurance against political risk. Occurrence of events for which we are not insured could have a material adverse effect on our financial position or results of operations.

***Severe weather or violent storms could materially affect our operations due to damage or delays caused by such weather.***

Our exploration activities in Peru are subject to normal seasonal weather conditions that often hamper and may temporarily prevent exploration or development activities. There is a risk that unexpectedly harsh weather or violent storms could affect areas where we conduct these activities. Delays or damage caused by severe weather could materially affect our operations or our financial position.

***Our business is dependent on the market price of commodities and currency exchange rates over which we have no control.***

Our operations are significantly affected by changes in the market price of commodities since the evaluation of whether a mineral deposit is commercially viable is heavily dependent upon the market price of the commodities related to any specific project, such as gold or zinc. The price of commodities also affects the value of exploration projects we own or may wish to acquire or joint venture. These commodity prices fluctuate on a daily basis and are affected by numerous factors beyond our control. The supply and demand for commodities, the level of interest rates, the rate of inflation, investment decisions by large holders of these commodities, including governmental reserves, and stability of exchange rates can all cause significant fluctuations in prices. Currency exchange rates relative to the United States dollar can affect the cost of doing business in a foreign country in United States dollar terms, which is our functional currency. Consequently, the cost of conducting exploration in the countries where we operate, accounted for in United States dollars, can fluctuate based upon changes in currency exchange rates and may be higher than we anticipate in terms of United States dollars because of a decrease in the relative strength of the United States dollar to currencies of the countries where we operate. We currently do not hedge against currency or commodity fluctuations. The prices of commodities as well as currency exchange rates have fluctuated widely and future significant price declines in commodities or changes in currency exchange rates could have a material adverse effect on our financial position or results of operations.



***Our business is dependent on key executives and the loss of any of our key executives could adversely affect our business, future operations and financial condition.***

We are dependent on the services of key executives, including our Chief Executive Officer, Christopher E. Herald, our Chief Operating Officer, Walter H. Hunt, and our Chief Financial Officer, James R. Maronick. All of those officers have many years of experience and an extensive background with Solitario and in the mining industry in general. We may not be able to replace that experience and knowledge with other individuals. We do not have "Key-Man" life insurance policies on any of our key executives. The loss of these persons or our inability to attract and retain additional highly skilled employees may adversely affect our business, future operations and financial condition.

***Our business model relies significantly on other companies to joint venture our projects and we anticipate continuing this practice in the future. Therefore, our results are subject to the additional risks associated with the financial condition, operational expertise and corporate priorities of our joint venture partners.***

Our Bongará project is joint-ventured with another mining company that manages the exploration and development activities on the project and we are the minority-interest party. Although our joint venture agreements provide certain voting rights and other minority-interest safeguards, the majority partner not only manages operations, but controls most decisions, including budgets and scope and pace of exploration and development activities. Consequently, we are highly dependent on the operational expertise and financial condition of our joint venture partner, as well as its own corporate priorities. For instance, even though our joint venture property may be highly prospective for exploration success, or economically viable based on feasibility studies, our partner may decide to not fund the further exploration or development of our project based on their respective financial condition or other corporate priorities. Therefore, our results are subject to the additional risks associated with the financial condition, operational expertise and corporate priorities of our joint venture partners, which could have a material adverse effect on our financial position or results of operations.

***We may look to joint venture with another mining company in the future to develop and/or operate one of our foreign projects; therefore, in the future, our results may become subject to additional risks associated with development and production of our foreign mining projects.***

We are not currently involved in mining development or operating activities at any of our properties. In order to realize a profit from these mineral interests we either have to: (1) sell such properties outright at a profit; (2) form a joint venture for the project with a larger mining company with greater resources, both technical and financial, to further develop and/or operate the project at a profit; (3) develop and operate such projects at a profit on our own; or (4) create and retain a royalty interest in a property with a third party that agrees to advance the property toward development and mining. In the future, if our exploration results show sufficient promise in one of our foreign projects, we may either look to form a joint venture with another mining company to develop and/or operate the project, or sell the property outright and retain partial ownership or a retained royalty based on the success of such project. Therefore, in the future, our results may become subject to the additional risks associated with development

and production of mining projects in general.

***In the future, we may participate in a transaction to acquire a new property, royalty or another company that requires a substantial amount of capital or the issuance of Solitario equity to complete. Our acquisition costs may never be recovered due to changing market conditions, or our own miscalculation concerning the recoverability of our acquisition investment. Such an occurrence could adversely affect our business, future operations and financial condition.***

We have evaluated a wide variety of acquisition opportunities involving mineral properties and companies for acquisition and we anticipate evaluating potential acquisition opportunities in the future. Some of these opportunities may involve a substantial amount of capital or the issuance of Solitario equity to successfully acquire. As many of these opportunities do not have reliable feasibility-level studies, we may have to rely on our own estimates for investment analysis. Such estimates, by their very nature, contain substantial uncertainty. In addition, economic assumptions, such as future costs and commodity prices, also contain significant uncertainty. Consequently, if we are successful in acquiring any new opportunities and our estimates prove to be in error, either through miscalculations or changing market conditions, this could have a material adverse effect on our financial position or results of operations.

***The market for shares of our common stock has limited liquidity and the market price of our common stock has fluctuated and may decline.***

An investment in our common stock involves a high degree of risk. The liquidity of our shares, or the ability of a shareholder to buy or sell our common stock, may be significantly limited for various unforeseeable periods. The average combined daily volume of our shares traded on the NYSE MKT and the TSX during 2016 was approximately 81,000 shares. The market price of our shares has historically fluctuated within a wide range. The price of our common stock may be affected by many factors, including an adverse change in our business, a decline in the price of gold or other commodity prices, negative news on our projects, negative investment sentiment for mining and commodity equities and general economic trends.

***We are dependent upon information technology systems, which are subject to disruption, damage, failure and risks associated with implementation and integration.***

We are dependent upon information technology systems in the conduct of our operations. Our information technology systems are subject to disruption, damage or failure from a variety of sources, including, without limitation, computer viruses, security breaches, cyber-attacks, natural disasters and defects in design. Cybersecurity incidents, in particular, are evolving and include, but are not limited to, malicious software, attempts to gain unauthorized access to data and other electronic security breaches that could lead to disruptions in systems, unauthorized release of confidential or otherwise protected information and the corruption of data. Various measures have been implemented to manage our risks related to information technology systems and network disruptions. However, given the unpredictability of the timing, nature and scope of information technology disruptions, we could potentially be subject to operational delays, the compromising of confidential or otherwise protected information, destruction or corruption of data, security breaches, other manipulation or improper use of our systems and networks or financial losses from remedial actions, any of which could have a material adverse effect on our cash flows, competitive position, financial condition or results of operations.

***Failure to comply with the United States Foreign Corrupt Practices Act (“FCPA”) could subject us to penalties and other adverse consequences.***

As a Colorado corporation, we are subject to the FCPA and similar worldwide anti-bribery laws, which generally prohibit United States companies and their intermediaries from engaging in bribery or other improper payments to foreign officials for the purpose of obtaining or retaining business. Foreign companies, including some that may compete with our company, are not subject to U.S. laws and regulations, including the FCPA, and therefore our exploration, development, production and mine closure activities are subject to the disadvantage of competing against companies from countries that are not subject to these prohibitions.

In addition, we could be adversely affected by violations of the FCPA and similar anti-bribery laws in other jurisdictions. Corruption, extortion, bribery, pay-offs, theft and other fraudulent practices may occur from time-to-time in the countries outside of the United States in which we operate. Our mineral properties are located in countries that may have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. Our policies mandate compliance with these anti-bribery laws; however, we cannot assure you that our internal controls and procedures always will protect us from the reckless or criminal acts committed by our employees or agents. We can make no assurance that our employees or other agents will not engage in such conduct for which we might be held responsible. If our employees or other agents are found to have engaged in such practices or we are found to be liable for FCPA violations, we could suffer severe criminal or civil penalties or other sanctions and other consequences that may have a material adverse effect on our business, financial condition and results of operations.

**Item 1B. Unresolved Staff Comments**

None

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## **Item 2. Properties**

### **Joint Ventures and Strategic Alliance Properties**

#### **Bongará Zinc Project (Peru)**

##### **1. Property Description and Location**

(Map of Bongará Property)

The Bongará project consists of 16 concessions comprising 12,600 hectares of mineral rights granted to Minera Bongará S.A., our subsidiary incorporated in Peru. The property is located in the Department of Amazonas, northern Peru. On August 15, 2006, Solitario signed a Letter Agreement with Votorantim Metais Cajamarquilla, S.A., a wholly-owned subsidiary of Votorantim Metais (both companies referred to as "Votorantim") on Solitario's 100%-owned Bongará zinc project (the "Bongará Letter Agreement"). On March 24, 2007, Solitario signed the Framework Agreement with Votorantim for the Exploration and Potential Development of Mining Properties, (the "Framework Agreement") pursuant to, and replacing, the Bongará Letter Agreement. Solitario's and Votorantim's property interests are held through the ownership of shares in Minera Bongará S.A., a joint operating company that holds a 100% interest in the mineral rights and other project assets. Solitario currently owns 39% of the shares in Minera Bongará S.A.

During 2015 Votorantim completed the steps required to earn a 61% interest in the Bongará project, with Solitario retaining a 39% interest. In addition, Solitario consented to the transfer of Votorantim's interest in both the Bongará and Chambara projects to Compañía Minera Milpo S.A.A. ("Milpo"). Milpo, an 80%-owned affiliate of Votorantim, is traded on the Lima exchange under the symbol MILPOCI.

Milpo may earn an additional 9% interest (up to a 70% shareholding interest) in Minera Bongará S.A., by funding future annual exploration and development expenditures until a production decision is made. The option to earn the 70% interest can be exercised by Milpo at any time by committing to place the project into production based upon a completed feasibility study. Milpo is the project manager. Once Milpo has committed to place the project into production based upon a feasibility study, it has further agreed to finance Solitario's 30% participating interest until production with a loan facility from Milpo to Solitario. Solitario will repay this loan facility through 50% of Solitario's cash flow distributions from the joint operating company.

According to Peruvian law, concessions may be held indefinitely, subject only to payment of annual fees to the government. In June 2017, payments of approximately \$140,000 to the Peruvian government will be due in order to maintain the mineral rights of Minera Bongará. Milpo is responsible for paying these costs as part of its work commitment. Peru also imposes a sliding scale net smelter return royalty (“NSR”) on all precious and base metal production of 1% on all gross annual proceeds from production up to \$60,000,000, a 2% NSR on annual proceeds between \$60,000,000 and \$120,000,000 and a 3% NSR on annual proceeds in excess of \$120,000,000. From time to time Milpo may enter into surface rights agreements with individual landowners or communities to provide access for exploration work. Generally, these are short-term agreements.

Environmental permits are required for exploration and development projects in Peru that involve drilling, road building or underground mining. The requisite environmental and archeological studies were completed for all past work, but new studies are required for the expanded activities planned for future years. Although we believe that these permits will be obtained in a timely fashion, the timing of government approval of permits remains beyond our control.

## 2. Accessibility, Climate, Local Resources, Infrastructure and Physiology

The Bongará property is accessed by the paved Carretera Marginal road, which provides access from the coastal city of Chiclayo. The nearest town is Pedro Ruiz located 15 kilometers southeast of the property, and the Carretera Marginal, a heavily travelled paved national highway, is situated approximately eight kilometers south of the deposit. The area of the majority of past drilling and the most prospective mineralization, Florida Canyon, was previously inaccessible by road, the work to date having been done by either foot or helicopter access. Milpo has now completed approximately 30 kilometers of access road. Milpo maintains project field offices in Pedro Ruiz and a drill core processing facility and operations office in the nearby community of Shipasbamba. The climate is tropical and the terrain is mountainous and jungle covered. Seasonal rains hamper exploration work by limiting access for four to five months of the year, November through March. Several small villages are located within five kilometers of the drilling area.

## 3. History

We discovered the Florida Canyon mineralized zone of the Bongará Project in 1996. Subsequently, we optioned the property in December 1996 to Cominco (now Teck Resources). Cominco drilled 80 core holes from 1997-2000. Cominco withdrew from the joint venture in February 2001, and Solitario retained its 100% interest in the project. We maintained the claims from 2001 to 2006, until the Bongará Letter Agreement was signed. Votorantim conducted surface drilling on an annual basis from 2006 to 2013 and underground tunneling and drilling from 2010 to 2013. All significant work on the property has been conducted by our joint venture partners: Cominco, Votorantim and now Milpo, and is described below in Section 5, “Prior Exploration.”

#### 4. Geological Setting

The geology of the Bongará area is relatively simple consisting of a sequence of Jurassic and Triassic clastic and carbonate rocks which are gently deformed. The Mississippi Valley type zinc-lead mineralization occurs in the carbonate facies of the Chambara (rock) Formation. This sedimentary sequence is part of what is referred to as the Pucura Group that hosts mineral deposits throughout Peru.

#### 5. Prior Exploration

We conducted a regional stream sediment survey and reconnaissance geological surveys leading to the discovery of the Florida Canyon area in 1996. The discovered outcropping mineralization is located in two deeply incised canyons within the limestone stratigraphy.

Subsequent to our initial work, Cominco conducted extensive mapping, soil and rock sampling, stream sediment surveys and drilling. This work was designed to determine the extent and grade of the zinc-lead mineralization, the controls of mineral deposition and to identify areas of potential new mineralization. Votorantim began work in the fall of 2006 and worked continuously on the project until it transferred its interest to Milpo, in 2015. All work performed by us, Cominco, Votorantim or Milpo was done by direct employees of the respective companies with the exception of the drilling, underground tunneling, helicopter services and road building, all of which were performed by third-party contractors under the direction of Cominco, Votorantim or Milpo.

#### 6. Mineralization

Mineralization occurs as massive to semi-massive replacements of sphalerite and galena localized by specific sedimentary facies (rock strata) within the limestone stratigraphy and by structural feeders and karst breccias. Approximately two-thirds of mineralization is sulfide dominant and a third is oxide-dominant. A total of 11 preferred beds for replacement mineralization have been located within the middle unit of the Chambara Formation. Mineralization is associated with the conversion of limestone to dolomite, which creates porosity and permeability within the rock formations, promoting the passage of mineralizing fluids through the rock formations forming stratigraphically controlled near-horizontal manto deposits and structurally controlled near-vertical replacement deposits. Drilling of stratigraphic targets has shown that certain coarser-grained facies of the stratigraphy are the best hosts for mineralization.

Karst features are localized along faults and locally produce "breakout zones" where mineralization may extend vertically across thick stratigraphic intervals along the faults where collapse breccias have been replaced by ore

minerals. Mineralized karst structures are up to 50 meters in width (horizontal), up to 100 meters vertically, and up to hundreds of meters along strike.

Evidence for these breakout zones is provided by the following drill holes from various locations on the property:

| Breakout Zone Name | Drill Hole Number | Intercepts (meters) | Zinc % | Lead % | Zinc+Lead % |
|--------------------|-------------------|---------------------|--------|--------|-------------|
| Sam                | GC-17             | 58.8                | 12.0   | 2.8    | 14.8        |
|                    | FC-23             | 81.5                | 4.8    | 0.8    | 5.6         |
| Karen              | A-1               | 36.2                | 12.8   | 2.7    | 15.5        |
| North Zone         | V-21              | 92.0                | 5.5    | 1.7    | 7.2         |
| South Zone         | V-44              | 28.3                | 15.2   | 0.8    | <b>16.0</b> |
|                    | V-169             | 51.6                | 7.1    | 0.7    | <b>7.8</b>  |
| San Jorge          | V-297             | 56.6                | 22.69  | 1.15   | 23.84       |

Stratigraphically controlled mineralization is typically one to several meters in thickness, but often attains thicknesses of five to ten meters. Generally the known stratigraphic mineralization, while thinner, is of higher grade and laterally more extensive.

Dolomitization reaches stratigraphic thicknesses in excess of 100 meters locally. This alteration is thought to be related to the mineralizing event in most cases and is an important exploration tool. Continuity of the mineralization is demonstrable in areas of highest drilling density by correlation of mineralization within characteristic sedimentary facies, typical of specific stratigraphic intervals or within through-going observable structural zones in drill core.



## 7. Drilling

From 1997 through 2001, Cominco drilled 80 surface core holes totaling 24,696 meters. From 2006-2013, Votorantim completed 309 surface core holes totaling 77,193 meters. From 2011-2013, Votorantim completed 95 underground core holes totaling 15,144 meters. The majority of Votorantim's surface drilling was infill drilling designed to demonstrate the continuity and geometry of mineralization, and to a lesser extent, test for extensions of known mineralization. The underground drilling was conducted from 10 drill stations at generally 40-meter centers (two drill stations at 20-meter centers) and entirely within the San Jorge mineralized zone. Anywhere from three to 14 holes were drilled from each of the eight drill stations. The underground drilling was tightly spaced and designed to allow for feasibility-level reserve estimation.

All drilling conducted is within a footprint measuring approximately 2.5 kilometers long in a north-south direction and a little over a kilometer in an east-west direction. The entire drill pattern is within what we have informally labeled the Florida Canyon district. Within this district, several zones of strong zinc mineralization have been defined. The two zones with the largest amount of drilling are the San Jorge and the Karen-Milagros zones. Drilling indicates that, for the most part, the entire Florida Canyon district remains open to expansion.

## 8. Sampling, Analysis and Security of Samples

Core samples were transported from the drill by helicopter in sealed boxes to the processing facility in Shipasbamba where they were split by a diamond saw. Half of the core was taken of intervals selected according to geologic criteria under the supervision of the geologist in charge and shipped in sealed bags by land. Cominco used SGS Laboratories and Votorantim used ALS-Chemex, both in Lima, Peru, where all samples were analyzed by ICP. Any samples that contained greater than 1% zinc were then analyzed by wet chemistry assay for zinc and lead to provide a more accurate analysis of grade.

Since April 2015, Milpo has been in control of all field activities on the project and is responsible for the security of samples. Milpo has indicated to us that there have been no breaches in the security of the samples. We have reviewed and engaged SRK Consulting (USA) Inc. ("SRK") (a large independent international mining engineering firm) to review Milpo's sampling procedures and believe that adequate procedures are in place to ensure the future security and integrity of samples. No breaches of security of samples are known to have occurred prior to Milpo's work on the project.

## 9. Prefeasibility Studies

Votorantim and Milpo, either through its engineering staff or contracted independent mining engineering firms, has conducted prefeasibility-level studies to provide estimates of deposit size and grade, sizing of appropriate scale of operations, infrastructure design, and capital and operating cost estimates on a scoping level of detail. Votorantim has engaged an independent metallurgical testing firm to evaluate metal recoveries and various processing options for mineralized material at Florida Canyon. Tests to date on composited samples indicate zinc recoveries of 91.8% and lead recoveries of 81.9% in the San Jorge zone and zinc recoveries of 80.3% and lead recoveries of 71.7% in the Karen-Milagros zone.

In 2013 Votorantim drilled 16 diamond core holes evaluating geotechnical and hydrological parameters of the mineralized areas for both engineering and environmental purposes. Votorantim also completed detailed geology-mineralization modeling to develop an internal resource estimate as part of their ongoing pre-feasibility efforts. Additionally, Votorantim completed scoping-level infrastructure design and costing analysis for the project. In 2016, Milpo completed a geochemical/metallurgical study that more accurately defined the distribution of sulfide/oxide mineralization based on re-assaying of past drill hole samples.

#### 10. Reserves and Resources

There are no reported mineral reserves.

#### 11. Mining Operations

No commercial mining operations to recover metals have occurred on the project. However, in September 2010 Votorantim initiated an underground tunneling program to access mineralization. As of December 31, 2016, 700 meters of tunneling were completed.

## 12. Planned Exploration and Development

In early 2017, Solitario engaged SRK to complete a Preliminary Economic Assessment (“PEA”) of the Florida Canyon deposit. The PEA will be based on Milpo’s recent geochemical/metallurgical work and other previous work, including metallurgical, resource estimation and engineering. The focus of the study will be to characterize the economic potential of the sulfide component of the mineralization. The PEA is expected to be completed by the end of the second-quarter 2017. SRK is an independent and internationally recognized mining engineering firm with offices in both Peru and the United States, among other international locations. SRK previously prepared a NI 43-101 Technical Report on Resources for the Bongará Project in 2014.

### **Chambara Zinc Property (Peru)**

In April 2008, we signed the Minera Chambara shareholders’ agreement with Votorantim for the exploration of a large area of interest in northern Peru measuring approximately 200 by 85 kilometers. In 2015 Milpo became the project manager funding and conducting all exploration on the project. Votorantim originally contributed 52 mineral concessions within the area of interest totaling 52,000 hectares to Minera Chambara for a 15% interest in Minera Chambara. We contributed 9,600 hectares of mineral claims and certain exploration data in our possession for an 85% interest in Minera Chambara. Existing and future acquired properties subject to the terms of the shareholders’ agreement will be controlled by Minera Chambara. In 2013 and 2016, Minera Chambara dropped selected concessions, resulting in Minera Chambara now holding 28 concessions totaling 22,000 hectares of valid concessions. As of December 31, 2016, Minera Chambara’s only assets are the properties and Minera Chambara has no debt. Milpo may increase its shareholding interest to 49% through cumulative spending of \$6,250,000, and may further increase its interest to 70% by funding a feasibility study and providing for construction financing for Solitario's interest. If Milpo provides such construction financing, we would repay that financing, including interest, from 80% of Solitario's portion of the project cash flow.

The project is currently on care and maintenance. No field work is proposed for 2017, but Milpo is responsible for maintaining the property in good standing and making all concession payments to the Peruvian government.

### **Newmont Alliance and the La Promesa Project (Peru)**

On January 18, 2005, we signed a Strategic Alliance Agreement (the "Alliance Agreement") with Newmont Overseas Exploration Limited ("Newmont") to explore for gold in South America (the "Strategic Alliance"). Concurrent with the signing of the Alliance Agreement, Newmont Mining Corporation of Canada made an equity investment in Solitario, a portion of which Solitario spent on exploration on Strategic Alliance areas covered by the Alliance Agreement. Under the terms of the Alliance Agreement, we granted Newmont a 2% NSR on properties included in the Strategic Alliance areas including the La Promesa project. If we meet certain minimum exploration expenditures

on the project, Newmont will have the right to joint venture it and earn up to a 75% interest by taking the project through feasibility and financing Solitario's retained 25% interest into production.

The La Promesa property, acquired in 2008, consists of three concessions totaling 2,600 hectares. Our only holding costs for the mineral rights are annual payments of three dollars or nine dollars per hectare, depending on the age of the claims, to the Peruvian government. Total holding costs in 2017 will be approximately \$8,000. During 2017 we intend to continue to pursue an agreement with the local community to conduct surface exploration.

At least five high-grade polymetallic veins have been identified and sampled at surface. Two of the veins, about 300 meters apart, have been traced for at least 400 meters along strike. There appears to be a systematic trend towards greater vein thickness with depth, as the widest observed vein in outcrop occurs at the lowest elevation sampled to date. Channel sampling along 300 meters of strike length from the best exposed vein yielded the following high-grade results:

| Chip Channel # | True Width | Silver gpt | % Zinc | % Lead | Indium gpt |
|----------------|------------|------------|--------|--------|------------|
| A              | 2.8        | 758        | 19.4   | 7.2    | 153        |
| B              | 1.1        | 181        | 21.0   | 2.4    | 190        |
| C              | 0.5        | 433        | 10.5   | 6.3    | 23         |
| D              | 0.4        | 458        | 10.2   | 10.8   | 15         |
| E              | 1.0        | 346        | 5.9    | 3.4    | 27         |
| F              | 1.2        | 1975       | 33.1   | 5.6    | 430        |

## **Royalty Properties**

### **Yanacocha Royalty Property (Peru)**

The Yanacocha royalty property consists of 69 concessions totaling approximately 61,000 hectares in northern Peru, 25 kilometers north of the city of Cajamarca. The property position consists of a rectangular-shaped contiguous block of concessions nearly 50 kilometers long in an east-west direction and 25 kilometers wide in a north-south direction. The southern boundary of the royalty property abuts Newmont Mining Corporation's Minera Yanacocha mining operation, a large gold mine currently in operation. We held 100% interest in the concessions until April 2000, at which time we signed an agreement with Newmont Peru, Ltd., a wholly-owned subsidiary of Newmont Mining Corporation (both companies referred to as "Newmont Peru"), whereby we sold our Yanacocha Property to Newmont Peru for \$6,000,000 and retained a sliding scale net smelter return royalty ("NSR-Royalty") that varied from two to five percent, depending on the price of gold.

In January 2005 we signed an Amended and Restated Royalty Grant with affiliates of Newmont Peru to modify the NSR-Royalty schedule. The modified royalty structure is classified into several categories, depending on the type of process used to recover each metal, gold silver and copper prices, as well as any government royalty burden imposed by Peru on the project ores. Assuming the current maximum royalty due the government of Peru and gold prices above \$500 per ounce, our gold royalty ranges from 1% to 2¾%, our silver royalty would be 2% and our copper royalty would be 1%. No resources or reserves have been reported by Newmont, nor has any mining been conducted on the property.

### **Pedra Branca Platinum-Palladium Metals Project (Brazil)**

During 2015 we converted our operating interest in the Pedra Branca project to a 1% NSR interest. The Pedra Branca platinum-palladium ("PGM") project consisted of 57 exploration concessions totaling approximately 70,000 hectares in Ceará State, Brazil. The property is now owned by Garrison Capital Partners Limited, a Dubai, UAE company, which controls all activities related to the Pedra Branca project.

### **Montana royalty property (United States)**

In May 2016 we acquired a 1.5% net smelter royalty on non-producing exploration properties covering 16,548 acres in Montana previously owned by Atna Resources, Ltd. for \$40,000.

### **Norcan and Aconchi royalty properties (Mexico)**

In June 2010 we acquired the 35,991 hectare Norcan Copper property located north of the Cananea mine, in the State of Sonora, Mexico. Geochemical and biogeochemical surveys in this area exhibit locally anomalous copper values. We acquired the 8,200 hectare Aconchi property in northern Sonora, Mexico in October 2010. It is an early-stage property that displays copper and other trace element anomalies in soils. Upon the closure of our Mexico exploration office during 2016, we retained a 1% net smelter royalty on both the Norcan and Aconchi exploration projects. We had previously written down both exploration projects and have no capitalized costs related to the Norcan or Aconchi royalties as of December 31, 2016.

### **Discontinued Projects**

During 2016, we closed our exploration office in Mexico. We retained a 1% royalty on both our Norcan and Aconchi exploration projects in Mexico. Solitario recorded a mineral property write-down of \$10,000 related to the Norcan and Aconchi properties during 2016. During 2016, Solitario abandoned its interest in its Canta Colorado property in Peru and recorded a mineral property write-down expense of \$3,000 related to Canta Colorado.

During 2015, Solitario converted its operating interest in Pedra Branca Mineracao, Ltd (“PBM”), which was the owner of the Pedra Branca project in Brazil, to a 1% net smelter royalty in the Pedra Branca project, upon the termination of its interest in PBM. Solitario had no remaining asset value related to its investment in PBM as it had accounted for its interest in PBM under the equity method of accounting and had recognizing a reduction of its remaining interest in PBM to zero prior to the year ended December 31, 2015. Solitario recorded no mineral property write-down expense during 2015.

### **GLOSSARY OF MINING TERMS**

“**Assay**” means to test minerals by chemical or other methods for the purpose of determining the amount of valuable metals contained.

“**Breccia**” means rock consisting of fragments, more or less angular, in a matrix of finer-grained material or of cementing material.

“**Claim**” or “**Concession**” means a mining interest giving its holder the right to prospect, explore for and exploit minerals within a defined area.

“**Clastic**” means pertaining to rock or rocks composed of fragments or particles of older rocks or previously existing solid matter; fragmental.

“**Deposit**” means an informal term for an accumulation of mineral ores.

“**Development**” means work carried out for the purpose of opening up a mineral deposit and making the actual ore extraction possible.

“**Dolomite**” means calcium magnesium carbonate,  $\text{CaMg}(\text{CO}_3)_2$ , occurring in crystals and in masses.

“**Facies**” means the appearance and characteristics of a sedimentary deposit, especially as they reflect the conditions and environment of deposition and serve to distinguish the deposit from contiguous deposits.

“**Fault**” means a fracture in rock along which there has been displacement of the two sides parallel to the fracture.

“**gpt**” means grams per tonne.

“**Karst**” means a landscape that is characterized by the features of solution weathering and erosion in the subsurface. These features include caves, sinkholes, disappearing streams, subsurface drainage and deeply incised narrow canyons.

“**Manto deposits**” means replacement ore bodies that are strata bound, irregular to rod shaped ore occurrences usually horizontal or near horizontal in attitude.

“**Mineralization**” means the concentration of metals within a body of rock.

“**NSR**” means net smelter return royalty.

“**opt**” or “**oz/ton**” means ounces per ton.

“**Ore**” means material containing minerals that can be economically extracted.

“**Ounce**” means a troy ounce.

“**Reserves**” or “**Ore Reserves**” means that part of a mineral deposit, which could be economically and legally extracted or produced at the time of the reserve determination.

“**Sampling**” means selecting a fractional, but representative, part of a mineral deposit for analysis.

“**Sediment**” means solid material settled from suspension in a liquid.

“**Sphalerite**” means a very common mineral, zinc sulfide, usually containing some iron and a little cadmium, occurring in yellow, brown, or black crystals or cleavable masses with resinous luster and it is the principal ore of zinc.

“**Stratigraphy**” means the arrangement of rock strata, especially as to the geographic, chronologic order of sequence (age), classification, characteristics and formation.

“**Strike**” when used as a noun, means the direction, course or bearing of a vein or rock formation measured on a level surface and, when used as a verb, means to take such direction, course or bearing.

“**Sulfide**” means a compound of sulfur and some other element.

“**Ton**” means a short ton (2,000 pounds).

“**Tonne**” means a metric ton that contains 2,204.6 pounds or 1,000 kilograms.

“**Vein**” means a fissure, fault or crack in a rock filled by minerals that have traveled upwards from some deep source.

**Item 3. Legal Proceedings**

None

**Item 4. Mine Safety Disclosures**

Not applicable

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**PART II****Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities**

Our common stock trades on the NYSE MKT under the symbol "XPL" and on the TSX under the symbol "SLR." Since 2008 trading volume of our stock on NYSE MKT has exceeded the trading volume of our stock on the TSX by a substantial margin.

The following table sets forth the high and low sales prices on NYSE MKT for our common stock for the quarterly periods from January 1, 2015 to December 31, 2016:

| Period         | All prices are in US\$ |        |        |        |
|----------------|------------------------|--------|--------|--------|
|                | 2016                   |        | 2015   |        |
|                | High                   | Low    | High   | Low    |
| First quarter  | \$0.56                 | \$0.42 | \$0.95 | \$0.74 |
| Second quarter | 0.58                   | 0.43   | 0.83   | 0.52   |
| Third quarter  | 0.91                   | 0.60   | 0.65   | 0.45   |
| Fourth quarter | 0.77                   | 0.58   | 0.58   | 0.44   |

The following table sets forth the high and low sales prices on the TSX for our common stock for the quarterly periods from January 1, 2015 to December 31, 2016:

| Period         | All prices are in CDN\$ |        |        |        |
|----------------|-------------------------|--------|--------|--------|
|                | 2016                    |        | 2015   |        |
|                | High                    | Low    | High   | Low    |
| First quarter  | \$0.72                  | \$0.60 | \$1.18 | \$0.92 |
| Second quarter | 0.73                    | 0.58   | 0.96   | 0.70   |
| Third quarter  | 1.20                    | 0.73   | 0.80   | 0.57   |
| Fourth quarter | 0.99                    | 0.76   | 0.74   | 0.57   |

**Shares authorized for issuance under equity compensation plans**

On June 18, 2013, Solitario's shareholders approved the 2013 Solitario Exploration & Royalty Corp. Omnibus Stock and Incentive Plan (the "2013 Plan"). Under the terms of the 2013 Plan, the Board of Directors may grant awards of

stock options, stock appreciation rights, restricted stock, and restricted stock units. A total of 1,750,000 shares of common stock were initially reserved for issuance under the 2013 Plan. As of December 31, 2016, a total of 1,699,438 shares of Solitario common stock are available for issuance of future awards under the 2013 Plan. As of December 31, 2016, there are no outstanding options or other awards under the 2013 Plan.

On June 27, 2006, Solitario's shareholders approved the 2006 Stock Option Incentive Plan (the "2006 Plan"). A total of 2,800,000 shares of common stock were initially reserved for issuance under the 2006 Plan. On June 26, 2016, the 2006 Plan terminated and per the terms of the 2006 Plan, no additional shares may be granted from the 2006 Plan. As of December 31, 2016, there are no outstanding options under the 2006 Plan.

Equity Compensation Plan Information as of December 31, 2016:

| Plan category  | Number of securities to be issued upon exercise of outstanding options, warrants and rights | Weighted-average exercise price of outstanding options, warrants and rights (2006 Plan -Cdn\$)(2013 Plan – US\$) | Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c) |
|--|---|--|---|
|  | (a)   | (b)  |   |
| 2013 Plan  |   |  |   |
| Equity compensation plans approved by security holders     | —   | N/A  | 1,699,438   |
| Equity compensation plans not approved by security holders | —   | N/A  | —   |
| Total 2013 Plan  | —   | N/A  | 1,699,438   |

Holder of our common stock

As of March 10, 2017, we have approximately 3,612 holders of our common stock.

Dividend policy

We have not paid a dividend in our history and do not anticipate paying a dividend in the foreseeable future.

Issuer purchases of equity securities

The following table provides information about our purchase of our common shares during the three months ended December 31, 2016.

| <b>Period</b>                            | <b>Total Number of Shares Purchased</b> | <b>Average Price Paid Per Share</b> | <b>Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs<sup>(1)</sup></b> | <b>Maximum number of Shares that May Yet Be Purchased Under the Plans or Programs<sup>(1)</sup></b> |
|--|---|-------------------------------------|---|---|
| October 1, 2016 –<br>October 31, 2016    | -                                       | \$ -                                | -   | 1,431,000   |
| November 1,<br>2016—November 30,<br>2016 | 27,000                                  | \$0.65                              | 27,000  | 1,404,000   |
| December 1,<br>2016—December 31,<br>2016 | 24,600                                  | \$0.68                              | 24,600  | 1,379,400   |

(1) On October 28, 2015, our Board of Directors authorized a share repurchase program pursuant to which we may acquire up to 2 million of our common shares. All purchases listed were made in open-market transactions through a broker dealer. During 2016 our Board of Directors extended the termination date of the repurchase program to December 31, 2017, however the repurchase program may be suspended or discontinued at any time, and does not obligate us to acquire any particular amount of our shares. During the years ended December 31, 2016 and 2015, we purchased 475,600 and 145,000 shares of Solitario common stock, respectively, for an aggregate purchase price of \$248,000 and \$67,000, respectively. As of December 31, 2016, we have purchased a total of 620,600 shares of Solitario common stock for an aggregate purchase price of \$315,000 under the share repurchase program since its inception.



**Item 6. Selected Financial Data**

The following table summarizes the consolidated statements of operations and balance sheet data for our business since January 1, 2012. This data has been derived from our audited consolidated statements of operations for each of the five years ended December 31, 2016 and our audited consolidated balance sheets as of December 31, 2016, 2015, 2014, 2013 and 2012. You should read this information in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Solitario's historical consolidated financial statements and notes included in Item 8, "Financial Statements and Supplementary Data." The information set forth below is not necessarily indicative of future results.

| Balance sheet data:<br>(in thousands) | As of December 31, |          |           |          |          |
|---------------------------------------|--------------------|----------|-----------|----------|----------|
|                                       | 2016               | 2015     | 2014      | 2013     | 2012     |
| Total current assets                  | \$16,797           | \$17,990 | \$3,217   | \$3,784  | \$7,936  |
| Total assets                          | \$17,614           | \$18,054 | \$19,040  | \$19,500 | \$23,483 |
| Working capital (deficit) (1)         | \$16,671           | \$17,811 | \$(1,987) | \$2,531  | \$4,245  |
| Long-term debt                        | \$—                | \$—      | \$—       | \$3,144  | \$2,437  |
| Shareholders' equity                  | \$17,488           | \$17,875 | \$6,781   | \$7,963  | \$9,217  |

  

| Statement of operations data:<br>(in thousands, except per share amounts) | Year ended December 31, |         |           |           |           |
|---|-------------------------|---------|-----------|-----------|-----------|
|   | 2016                    | 2015    | 2014      | 2013      | 2012      |
| Property and joint venture revenue  | \$—                     | \$—     | \$200     | \$300     | \$300     |
| Net (loss) income   | \$(1,710)               | \$8,872 | \$(1,833) | \$(2,052) | \$(3,297) |

  

| Per share information: |   |
|------------------------|---|
| Basic and diluted      |   |
| Net (loss) income      | \$(0.04 ) \$0.23    \$(0.05 ) \$(0.06 ) \$(0.10 ) |

(1) Working capital consists of current assets less current liabilities.

## **Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations**

The following discussion should be read in conjunction with the information contained in the consolidated financial statements and notes thereto included in Item 8, "Financial Statements and Supplementary Data." Our financial condition and results of operations are not necessarily indicative of what may be expected in future years.

### **(a). Business Overview and Summary**

We are an exploration stage company at December 31, 2016 under Industry Guide 7, as issued by the SEC. We were incorporated in the state of Colorado on November 15, 1984 as a wholly-owned subsidiary of Crown Resources Corporation ("Crown"). In July 1994, we became a publicly traded company on the Toronto Stock Exchange (the "TSX") through our initial public offering. We have been actively involved in mineral exploration since 1993. Our primary business is to acquire exploration mineral properties or royalties and/or discover economic deposits on our mineral properties and advance these deposits, either on our own or through joint ventures, up to the development stage (development activities include, among other things, completion of a feasibility study for the identification of proven and probable reserves, as well as permitting and preparing a deposit for mining). At that point, or sometime prior to that point, we would likely attempt to sell a given mineral property, pursue its development either on our own, or through a joint venture with a partner that has expertise in mining operations, or obtain a royalty from a third party that continues to advance the property. In addition to focusing on our current assets and the evaluation of mineral properties for acquisition or purchase of royalty interests, we also evaluate potential strategic corporate transactions for the potential acquisition of new precious and base metal properties and assets with exploration potential or business combinations we determine to be favorable to Solitario.

Our geographic focus for the evaluation of potential mineral property assets is in North and South America, however we have conducted property evaluations for potential acquisition in other parts of the world. Our exploration properties may be developed in the future by us or through a joint venture, although we have never developed a mineral property. At December 31, 2016, we had three exploration properties in Peru, and one royalty property in each of Peru, Brazil, the United States and Mexico. We are conducting limited exploration activities in those countries either on our own or through joint ventures operated by our partners.

In analyzing our activities, the most significant aspect relates to results of our exploration and potential development activities and those of our joint venture partners on a property-by-property basis. When our exploration or development activities, including drilling, sampling and geologic testing, indicate a project may not be economic or contain sufficient geologic or economic potential we may impair or completely write-off the property. Another significant factor in the success or failure of our activities is the price of commodities. For example, when the price of gold is down, the value of gold-bearing mineral properties decreases; however, when the price of gold is up it may become more difficult and expensive to locate and acquire new gold-bearing mineral properties with potential to have economic deposits.

The potential sale, joint venture or development of our mineral properties will occur, if at all, on an infrequent basis. We have recorded revenues and met our need for capital in the past through (i) the sale of properties; (ii) joint venture payments, including delay rental payments discussed above; (iii) a royalty sale on our former Mt. Hamilton property during 2012; (iv) the sale of our shares of Kinross common stock; (v) borrowing against the Facility Agreement; (vi) short-term margin borrowing; and (vii) issuance of common stock. In 2015 we recorded a gain on the sale on the Transaction (discussed below) of \$12,309,000. During June 2012, we sold a royalty interest in our Mt. Hamilton project to Sandstorm Gold Ltd. (“Sandstorm”) for \$10,000,000. Previous to the Transaction, our last significant cash proceeds were recorded in 2000 upon the sale of our former Yanacocha property for \$6,000,000. Proceeds from the sale or joint venture of properties, although significant when they occur, have not been a consistent annual source of cash and would occur in the future, if at all, on an infrequent basis. We have reduced our exposure to the costs of our exploration activities in the past through the use of joint ventures. Although we anticipate the use of joint venture funding for some of our exploration activities will continue for the foreseeable future, we can provide no assurance that these or other sources of capital will be available in sufficient amounts to meet our needs, if at all.

**(b). Sale of Mt. Hamilton LLC**

On August 25, 2015, we, along with DHI, sold our combined interests in the Mt. Hamilton gold project to Waterton, for total cash proceeds of US\$30 million (as defined above, the “Transaction”) pursuant to the Agreement. We sold our 80% interest in MH-LLC, a limited liability company which held 100% of the Mt. Hamilton project assets, and DHI sold its 20% interest in MH-LLC. We received gross cash proceeds of US\$24 million as a result of the Transaction. Our costs and fees related to the Transaction, including broker fees and professional service fees, were \$439,000. The Transaction was structured

as the sale of Solitario’s and DHI’s combined membership interests in MH-LLC. Concurrent with the closing of the Transaction, we paid \$5,000,000 plus \$7,000 of interest and fees to fully repay the funds we had borrowed pursuant to the Facility Agreement with RMBAH and RMBR whereby we had borrowed \$5,000,000 from RMBAH (as defined above, the “RMB Loan”).

During year ended December 31, 2015, virtually all of the costs incurred by MH-LLC were directly related to the development of the Mt. Hamilton project, which were capitalized to mineral property. Accordingly, separate presentation of discontinued operations would not have resulted in any material change to the results presented in the consolidated statements of operations for the year ended December 31, 2015.

The sale of MH-LLC in 2015 is shown as gain on sale of discontinued operations as follows:

| (in thousands)                                      | Year<br>ended<br>December<br>31,<br>2015 |
|---|--|
| Proceeds from sale of MH-LLC                        | \$ 24,000                                |
| Net assets and liabilities disposed of              | 9,998                                    |
| Non-controlling interest                            | 256                                      |
| Expenses of sale of MH-LLC                          | 439                                      |
| Gain on sale of discontinued operations, before tax | 13,307                                   |
| Income tax expense                                  | 998                                      |
| Gain on sale of discontinued operations             | \$ 12,309                                |

Income taxes have been allocated between discontinued operations and continuing operations in accordance with ASC No. 740 "Income Taxes" ("ASC 740").

### (c). Results of Operations

#### Comparison of the year ended December 31, 2016 to the year ended December 31, 2015

We had a net loss of \$1,710,000 or \$0.04 per basic and diluted share for the year ended December 31, 2016 compared to net income of \$8,872,000 or \$0.23 per basic and diluted share for the year ended December 31, 2015. As explained in more detail below, the primary reason for change to net loss during 2016 compared to 2015 was the gain on sale from the Transaction during 2015. However, our loss from continuing operations decreased to \$1,710,000 in 2016 compared to the net loss from continuing operations of \$3,440,000 during 2015. Factors contributing to the decrease in loss from continuing operations included (i) a gain on the sale of marketable equity securities during 2016 of \$40,000 compared to a loss on the sale of marketable equity securities of \$969,000 during 2015; (ii) an increase in gain on derivative instruments to \$672,000 during 2016 compared to gain on derivative instruments of \$84,000 during 2015 (iii) a decrease in depreciation and amortization expense to \$5,000 during 2016 compared to depreciation and amortization expense of \$11,000 during 2015; (iv) an increase in interest and dividend income during 2016 to \$44,000 compared to interest and dividend income of \$12,000 during 2015; and (v) a deferred income tax credit of \$353,000



during 2016 compared to an income tax expense of \$560,000 during 2015. Partially offsetting these decreases in net loss from operations were (i) an increase in exploration expense to \$628,000 during 2016 compared to exploration expense of \$89,000 during 2015; (ii) an increase in general and administrative expense of \$2,163,000 during 2016 compared to general and administrative expense of \$1,965,000 during 2015; (iii) a loss on sale of assets and property abandonment of \$27,000 during 2016 compared to a gain on sale of assets of \$7,000 during 2015; and (iv) a gain on warrant liability of \$4,000 during 2016 compared to a gain on warrant liability of \$51,000 during 2015. Each of these items is discussed in greater detail below.

Our primary activities during 2016 and 2015 subsequent to the Transaction, has been the evaluation of mineral properties and other junior mining companies for possible acquisition and or merger, with an increase in related reconnaissance exploration activities and expense. Prior to the Transaction our focus had been on the engineering and permitting activities to advance the Mt. Hamilton property toward future production, and to a lesser extent the monitoring of the exploration and development activities of our joint venture partners. Up until the closing of the Transaction, during 2015 we continued our development efforts related to our Mt. Hamilton project capitalizing \$1,382,000 in mineral property costs including \$699,000 in direct development costs, property payments of \$190,000 and capitalization of interest costs of \$493,000. There were no such capitalization of development costs during 2016, and our exploration efforts and expenditures were less during 2015 as we focused on the Transaction. We decided to close our Mexico exploration office during 2016; however this reduction in exploration was more than offset by the exploration and evaluation efforts of our staff and contract geologists during 2016. We did no drilling on any of our exploration projects in South America or Mexico during 2016 or 2015. Our 2017 exploration and development expenditure budget is approximately \$813,000, which is expected to be directed toward the evaluation and potential acquisition of new mineral exploration properties. We cannot predict with certainty that we will acquire new mineral exploration properties during 2017; however, we will continue our reduced early-stage exploration activities. Our exploration activities may be modified, as necessary for changes in the acquisition of new properties, joint venture funding, commodity prices and deployment of our capital.

Exploration expense (in thousands) by property consisted of the following:

| Property Name                       | 2016  | 2015 |
|-------------------------------------|-------|------|
| La Promesa                          | \$81  | \$8  |
| Bongará                             | 2     | 13   |
| Pachuca                             | —     | 8    |
| Norcan                              | —     | 2    |
| Reconnaissance exploration activity | 545   | 58   |
| Total exploration expense           | \$628 | \$89 |

We believe a discussion of our general and administrative costs should be viewed without the non-cash stock option compensation expense which is discussed below. Excluding these costs, general and administrative costs were \$1,193,000 during 2016 compared to \$1,399,000 during 2015. We reduced salary and benefits expense to \$708,000 during 2016 compared to \$789,000 during 2015 as a result of salary reductions. In addition, (i) legal and accounting costs were reduced to \$126,000 during 2016 compared to \$183,000 during 2015 as a result of increased legal work during 2015 associated with the Transaction; (ii) travel and investor relation costs were reduced to \$177,000 during 2016 compared to \$207,000 during 2015 as a result of ongoing cost reductions and reduced activities in travel and investor relations costs during 2016 and (iii) other costs related to office, insurance and miscellaneous costs were reduced to \$180,000 during 2016 compared to \$193,000 during 2015 primarily due to cost reductions and our focus on evaluation of exploration properties and potential corporate transactions during 2016. We anticipate general and administrative costs for 2017 will be comparable to the costs incurred during 2016, however this amount may vary significantly during 2017 depending on the outcome of our property evaluations and or our entry into any possible corporate transaction, which cannot be predicted at this time. We have forecast 2017 general and administrative costs to be approximately \$1,107,000, excluding non-cash stock option compensation expense.

We account for our employee stock options under the provisions of ASC 718. We recognize stock option compensation expense on the date of grant for 25% of the grant date fair value, and subsequently, based upon a straight line amortization of the grant date fair value of each of its outstanding options. During the year ended December 31, 2016, we recorded \$970,000 of non-cash stock option expense for the amortization of grant date fair value with a credit to additional paid-in-capital compared to \$566,000 of non-cash stock option compensation expense during 2015. On August 24, 2016, holders of option awards voluntarily cancelled awards for 390,000 options from our 2006 Plan and 1,699,000 options from our 2013 Plan to allow Solitario to have additional financial flexibility. No consideration was given or received by the holders of the options to cancel the awards. The cancellation of the awards and the grant of 1,699,000 options from our 2013 Plan on June 22, 2016 and the related 25% expense of the grant date fair value on that date, contributed to the increase in the non-cash stock option compensation during 2016 compared to 2015. As of December 31, 2016 we have no outstanding options or stock awards from our 2013 Plan or 2016 Plan. See Note 9, "Employee Stock Compensation Plans," to our consolidated financial statements in Item 8, "Financial Statements and Supplementary Data" for an analysis of the changes in the fair value of our outstanding stock options and the components that are used to determine the fair value.

During 2016 we sold 3,000 shares of Kinross common stock for proceeds of \$10,000 and recorded a gain on sale of \$8,000 and we also sold 250,000 shares of International Lithium Corp marketable equity securities for proceeds of

\$45,000 and recorded a gain of \$32,000. These combined 2016 sales proceeds of \$55,000 and recorded 2016 gain on sale of \$40,000 compared to the sale of 380,000 shares of Kinross common stock during 2015 for proceeds of \$809,000 and recorded a gain on sale of Kinross of \$541,000. The sale of Kinross stock during 2015 was a major source of operating funds, which was not necessary during 2016 after the Transaction. Prior to the Transaction, Solitario entered into an agreement with Ely and transferred 15,732,274 shares of Ely common stock we held, in exchange for cancellation of certain payment obligations related to MH-LLC, and in consideration for consent to extend the RMB Loan from August 21, 2015 to September 30, 2015 (the "Ely Consent"). Solitario recorded a loss on sale of marketable equity securities of \$1,510,000 on the transfer of the Ely common stock during 2015. During 2016, we made acquired an investment in Vendetta Mining Corp., a publicly traded company traded on the TSX venture exchange ("Vendetta"). See Note 3, "Marketable Equity Securities" to our consolidated financial statements in Item 8, "Financial Statements and Supplementary Data" for a discussion of our investments in marketable equity securities. We may sell some of our marketable equity securities from time to time during 2017; however we do not expect to sell all of our holdings of marketable equity securities during 2017. Any proceeds we may receive from sales of marketable equity securities during 2017 will be dependent on the quoted market price of the securities sold on the date of sale and may be at prices below the fair value at December 31, 2016. See Liquidity and Capital Resources below.

During 2016 we recorded a gain on derivative instruments of \$672,000 compared to a gain on derivative instruments of \$84,000 during 2015. The gains during 2016 were related to our investment in Vendetta Warrants (defined below), which were purchased on May 2, 2016, as part of our strategic investment in Vendetta, where we acquired 7,240,000 units for Cdn\$0.05 per unit, with each unit consisting of one share of Vendetta common stock and one Vendetta Warrant. Each Vendetta warrant entitles Solitario the right to acquire one share of Vendetta common stock at a price of Cdn\$0.10 per share for a period of two years. (the "Vendetta Warrants") We recorded a gain on derivative instruments of \$629,000 related to the Vendetta Warrants during 2016, and there was no similar item during 2015. The remaining change in increase in the gain on derivative instruments was related to the sale of Kinross calls during 2016 and 2015. We have sold covered calls on a limited portion of our Kinross common stock that we intend to sell within one year, to enhance our return on Kinross common stock in exchange for potential upside in those covered Kinross shares. We intend to continue to sell covered Kinross call options during 2017. See Note 6, "Derivative Instruments," to our consolidated financial statements in Item 8, "Financial Statements and Supplementary Data," for an analysis of the changes in our derivative instruments, and the components that are used to determine the fair value of our derivative instruments.

We recorded \$5,000 of depreciation and amortization during 2016 compared to \$18,000 of depreciation and amortization during 2015, of which we capitalized \$7,000 to mineral property in connection with the development of Mt. Hamilton. The decrease is primarily as a result of certain equipment being fully amortized during 2015 and 2016 as well as the elimination of Mt. Hamilton depreciation after the Transaction. We amortize these assets over a three-year period. We anticipate our 2017 depreciation and amortization costs will similar to the 2016 amount.

We had no interest cost during 2016 compared to interest cost of \$493,000 during 2015, all of which was capitalized to Mt. Hamilton prior to the transaction. The 2015 interest cost included (i) \$228,000 paid in cash on the RMB Loan, (ii) \$126,000 for the amortization of our deferred offering costs on the RMB Loan and (iii) \$139,000 of interest costs associated with the amortization of the discount associated with the RMB Warrants issued in connection with the RMB Loan. As discussed above, we capitalized all of our interest costs during 2015 to mineral property associated with the development of Mt. Hamilton. See Note 2, "Mineral Properties" to our consolidated financial statements in Item 8, "Financial Statements and Supplementary Data." As a result of the Transaction we do not anticipate incurring any interest cost in 2017.

We recorded interest and dividend income of \$44,000 during 2016 compared to interest and dividend income of \$12,000 during 2015. The increase during 2016 was related to the investment of the net proceeds from the Transaction in short-term certificates of deposit and United States Treasury notes since the date of the Transaction. We anticipate our interest income will decrease in 2017 as a result of the use of our short-term investments and our cash balances for the exploration, evaluation and or acquisition of mineral properties discussed above. See "Liquidity and Capital Resources," below, for further discussion of our cash and cash equivalent balances.

During 2016 we recorded deferred tax expense of \$353,000 to other comprehensive income related to the net increase in the unrealized value of our marketable equity securities, with a corresponding credit to income tax expense in the

statement of operations. See Note 3, "Marketable Equity Securities" to our consolidated financial statements in Item 8, "Financial Statements and Supplementary Data. During 2015 we recorded \$560,000 of income tax expense resulting primarily from: (a) \$1,558,000 of tax expense related to the clearing of a disproportionate tax effect lodged in other comprehensive income; and (b) allocation of \$998,000 of tax benefit related to current year losses. The disproportionate tax effect in other comprehensive income was cleared due to Solitario's disposition of substantially all of the associated available for sale securities. See Note 5, "Income Taxes" to our consolidated financial statements in Item 8, "Financial Statements and Supplementary Data" for additional discussion of our income tax valuation allowance, deferred tax assets and our net operating losses for 2016 and 2015. We continue to provide a valuation allowance for our foreign net operating losses, which are primarily related to our exploration activities in Peru. We anticipate we will continue to provide a valuation allowance for these foreign net operating losses until we are in a net tax liability position with regards to those countries where we operate or until it is more likely than not that we will be able to realize those net operating losses in the future.

We regularly perform evaluations of our mineral property assets to assess the recoverability of our investments in these assets. All long-lived assets are reviewed for impairment whenever events or circumstances change which indicate the carrying amount of an asset may not be recoverable utilizing guidelines based upon future net cash flows from the asset as well as our estimates of the geologic potential of early stage mineral property and its related value for future sale, joint venture or development by us or others. During 2016, we closed our exploration office in Mexico. We retained a 1% royalty on both the Norcan and Aconchi exploration projects in Mexico Solitario recorded a mineral property write-down of \$10,000 related to the Norcan and Aconchi properties during 2016. During 2016, we abandoned our interest in its Canta Colorado property in Peru and recorded a mineral property write-down expense of \$3,000 related to Canta Colorado. In addition, we recorded a loss

on other assets in Mexico of \$14,000 related to the exit from its exploration activities in Mexico during 2016. We had no mineral property impairments during 2015.

#### **(d). Liquidity and Capital Resources**

##### Cash

As of December 31, 2016 we have \$119,000 in cash. We intend to utilize a portion of this cash and a portion of our Short-term investments, discussed below, in our exploration activities and the potential acquisition of mineral properties and other assets over the next several years. We may also use a portion of these assets to repurchase shares of our common stock, pursuant to the terms of a stock buy-back program discussed below.

##### Short-term Investments

As of December 31, 2016, we have \$7,510,000 of our current assets in United States Treasury securities (“USTS”) with maturities of 15 days to one year. The USTS are recorded at their fair value, based upon quoted market prices. The USTS are highly liquid and may be sold in their entirety at any time at their quoted market price and are classified as a current asset. We anticipate we will roll over that portion of our USTS not used for operating costs or mineral property acquisitions as they mature during 2017.

As of December 31, 2016 we have \$7,499,000 in separate bank certificates of deposit (“CDs”) each with a maximum value of \$250,000, and each of which are covered by Federal Deposit Insurance Corporation insurance to the full face value of the CDs. At December 31, 2016, the CDs have maturities of between 20 days and eighteen months. The CDs are recorded at their fair value, based upon quoted market prices. The CDs are highly liquid and may be sold in their entirety at any time at their quoted market price and are classified as a current asset. We anticipate we will roll over that portion of our CDs not used for operating costs or mineral property acquisitions as they mature during 2017.

##### Marketable Equity Securities

Our marketable equity securities are classified as available-for-sale and are carried at fair value, which is based upon market quotes of the underlying securities. We owned 100,000 shares of Kinross common stock at December 31, 2016. The Kinross shares are recorded at their fair value of \$311,000 at December 31, 2016. On May 2, 2016 we purchased 7,240,000 units of Vendetta for an aggregate purchase price of \$289,000. Each unit consists of one share of Vendetta common stock and one Vendetta Warrant for the purchase of one share of Vendetta common stock at Cdn\$0.10 per share for a period of two years. As of December 31, 2016 we have recorded our investment in the common shares of Vendetta at their fair market value of \$1,022,000 based upon quoted market prices. In addition we own other marketable equity securities with a fair value of \$6,000 as of December 31, 2016 based upon quoted market prices. Changes in the fair value of marketable equity securities are recorded as gains and losses in other comprehensive income in shareholders’ equity.

##### Working Capital

We had working capital of \$16,671,000 at December 31, 2016 compared to working capital of \$17,811,000 as of December 31, 2015. Our working capital at December 31, 2016 consists primarily of our cash and cash equivalents, our investment in USTS and CDs, discussed above, and our marketable equity securities of \$1,339,000, less our accounts payable of \$124,000 and the fair value of our Kinross calls, discussed above, of \$4,000. As of December 31, 2016, our cash balances along with our short-term investments and marketable equity securities are adequate to fund our expected expenditures over the next year.

The nature of the mineral exploration business requires significant sources of capital to fund exploration, development and operation of mining projects. We expect we will need additional capital if we decide to develop or operate any of our current exploration projects or any projects or assets we may acquire. We anticipate we would finance any such development through the use of our cash reserves, short-term investments, joint ventures, issuance of debt or equity, or the sale of other exploration projects or assets.

#### Stock-Based Compensation Plans

During 2016, the holders of options to acquire our common stock voluntarily surrendered for cancellation all options previously granted to such persons pursuant to the 2013 Plan and the 2006 Plan. Solitario cancelled the options upon surrender. As of June 26, 2016, the 2006 Plan has terminated, and in accordance with the terms of the 2006 Plan, no additional awards may be made pursuant to the 2006 Plan. As of December 31, 2016 there are no outstanding options under either the 2006 Plan or the 2013 Plan. See Note 9, "Employee Stock Compensation Plans," above for a discussion of the activity in our 2013 Plan and our 2006 Plan during 2016. We do not anticipate that stock option exercises will be a source of cash during 2017.

### Share Repurchase Program

On October 28, 2015, our Board of Directors approved a share repurchase program that authorized us to purchase up to two million shares of our outstanding common stock through December 31, 2016. During 2016, our Board of Directors extended the term of the share repurchase program until December 31, 2017. All shares purchased have been cancelled and reduced the number of shares of outstanding common stock. The amount and timing of any shares purchased has been and will be determined by our management and the purchases will be effected in the open market or in privately negotiated transactions based upon market conditions and other factors, including price, regulatory requirements and capital availability and in compliance with applicable state and federal securities laws. Purchases may also be made in accordance with Rule 10b-18 of the Exchange Act. The repurchase program does not require the purchase of any minimum number of shares of common stock by the Company, and may be suspended, modified or discontinued at any time without prior notice. No purchases will be made outside of the United States, including on the Toronto Stock Exchange. Payment for shares of common stock repurchased under the program will be funded using the Company's working capital. As of December 31, 2016, since the inception of the share repurchase program, we have purchased a total of 620,600 shares for an aggregate purchase price of \$315,000 and these shares are no longer included in our issued and outstanding shares. We anticipate we will continue to purchase a limited number of shares under the share repurchase plan as during 2017 as determined by management.

### Off-balance sheet arrangements

As of December 31, 2016 and 2015, we have no off-balance sheet arrangements.

### (e). Cash Flows

Net cash used in operations during the year ended December 31, 2016 increased to \$1,835,000 compared to \$1,723,000 for 2015 primarily as a result of cash used in operations related to increased exploration expense during 2016 for the evaluation of potential acquisitions, discussed above under "Results of Operations. Partially offsetting this increased use of cash in operations was: (i) the use of cash in discontinued operations of \$190,000 prior to the date of the Transaction during 2015 with no comparable item during 2016, and (ii) a decrease in the non-stock compensation general and administrative costs to \$1,193,000 during 2016 compared to non-stock compensation general and administrative costs of \$1,397,000 during 2015 as discussed in further detail above under "Results of Operations."

Net cash provided by (used in) investing activities decreased to a use of cash of \$15,516,000 during 2016 compared to an increase in cash from investing activities of \$23,833,000 during 2015. The primary reason for the cash provided during 2015 was as a result of the gross proceeds of \$24,000,000 received in the Transaction. The primary use of cash during 2016 was the net purchases of CD and USTS short-term investments of \$15,572,000 discussed above in "Liquidity and Capital Resources." In addition we (i) used \$40,000 of cash for the purchase of a royalty on certain



non-producing mineral leases in Montana during 2016; (ii) received \$56,000 in proceeds from the sale of marketable equity securities during 2016 compared to proceeds of \$809,000 during 2015, prior to the Transaction, when the sale of our Kinross common stock was a major source of funding of our operations; and (iii) received \$45,000 during 2016 from the sale of derivative instruments related to Kinross calls compared to \$84,000 from the sale of Kinross calls during 2015. The Transaction is more fully discussed above under “Sale of Mt. Hamilton.”

Net cash used in financing activities was \$248,000 during 2016 compared to cash used in financing activities of \$4,879,000 during 2015. The primary reason for the change in cash provided from financing activities in 2015 was the repayment of the \$5,000,000 RMB Loan, discussed above.

**(f). Development Activities, Exploration Activities, Environmental Compliance and Contractual Obligations**

Development Activities

With the completion of the Transaction we no longer have any ongoing development activities.

Exploration Activities

A historically significant part of our business involves the review of potential property acquisitions and continuing review and analysis of properties in which we have an interest, to determine the exploration and development potential of the properties. In analyzing expected levels of expenditures for work commitments and property payments, our obligations to make such payments fluctuate greatly depending on whether, among other things, we make a decision to sell a property interest, convey a property interest to a joint venture, or allow our interest in a property to lapse by not making the work commitment or payment required. In acquiring many of our interests in mining claims and leases, we have entered into

agreements, which generally may be canceled at our option. We are often required to make minimum rental and option payments in order to maintain our interest in certain claims and leases. Our net 2016 mineral and surface property rental and option payments, included in exploration expense, were \$19,000. Our 2017 total exploration property rentals and option payments for properties we own or operate are estimated to be approximately \$271,000. Assuming that our joint ventures continue in their current status and that we do not appreciably change our property positions on existing properties, we estimate that our joint venture partners will pay on our behalf, or reimburse us approximately \$263,000 of these annual payments. These obligations are detailed below under “Contractual Obligations.” In addition, we may be required to make further payments in the future if we elect to exercise our options under those agreements or if we enter into new agreements.

Environmental Compliance

We are subject to various federal, state and local environmental laws and regulations in the countries where we operate. We are required to obtain permits in advance of initiating certain of our exploration activities, to monitor and report on certain activities to appropriate authorities, and to perform remediation of environmental disturbance as a result of certain of our activities. Historically, the nature of our activities of review, acquisition and exploration of properties prior to the establishment of reserves, which may include mapping, sampling, geochemistry and geophysical studies, as well as some limited exploration drilling, has not resulted in significant environmental impacts in the past. We have historically carried on our required environmental remediation expenditures and activities, if any, concurrently with our exploration activities and expenditures. The expenditures to comply with our environmental obligations are included in our exploration expenditures in the statement of operations and have not been material to our capital or exploration expenditures, and have not had a material effect on our financial position. For the years ended December 31, 2016 and 2015, we have not capitalized any costs related to environmental control facilities. We do not anticipate our exploration activities will result in any material new or additional environmental expenditures or liabilities in the near future.

Contractual Obligations

The following table provides an analysis of our contractual obligations:

| (in thousands)                  | <b>As of December 31, 2016</b> |                         |                  |                  |                          |
|---------------------------------|--------------------------------|-------------------------|------------------|------------------|--------------------------|
|                                 | <b>Payments due by period</b>  |                         |                  |                  |                          |
|                                 | <b>Total</b>                   | <b>Less than 1 year</b> | <b>1–3 years</b> | <b>4–5 years</b> | <b>More than 5 years</b> |
| Operating Lease Obligations (1) | \$ 81                          | \$ 38                   | \$43             | \$ -             | \$ -                     |

|  |      |      |   |      |      |
|--|------|------|---|------|------|
| Mineral property option and lease payments | \$ 8 | \$ 8 | \$ -  | \$ - | \$ - |
| (1)  |      |      | <i>Lease obligation on our Wheat Ridge Colorado office.</i> |      |      |

**(g). Exploration Joint Ventures, Royalty and Other Properties**

The following discussion relates to an analysis of our anticipated property exploration plans as of December 31, 2016. Please also see Note 2, “Mineral Properties,” to the consolidated financial statements in Item 8, “Financial Statements and Supplementary Data,” and our discussion of our properties under Item 2, “Properties” of this Annual Report on Form 10-K for a more complete discussion of all of our mineral properties.

**Bongará**

The Bongará project is an advanced-stage high-grade zinc project in Peru. Based on extensive exploration and development work conducted to date, we believe the property has excellent potential to be developed into a mine over the next several years. In August 2006 we signed a Letter Agreement with Votorantim, granting Votorantim the right to earn up to a 70% interest in the project by meeting certain spending and development milestones. During 2015 Votorantim announced the transfer of the Bongará project to Milpo, an 80%-owned affiliate of Votorantim. Milpo has assumed all of the development responsibilities of Votorantim. The Bongará project hosts the Florida Canyon zinc deposit, where high-grade zinc mineralization has been encountered in drill holes over an area approximately 2.5 kilometers by 1.3 kilometers in dimension.

In early 2017, we engaged SRK to complete a PEA of the Florida Canyon deposit. The PEA will be based on Milpo’s recent geochemical/metallurgical work and other previous work, including metallurgical, resource estimation and engineering. The focus of the study will be to characterize the economic potential of the sulfide component of the mineralization. The PEA is expected to be completed by the end of the second-quarter 2017. Milpo is funding and managing all other conducted on the project.

### Royalty Properties

The 61,000-hectare Yanacocha royalty property is located in northern Peru immediately north of Newmont Mining-Buenaventura's Minera Yanacocha Mine, one of the largest gold mines in South America. We acquired the property in 1993 and sold it to Newmont in 2000 for \$6.0 million and we retained a sliding scale net smelter return royalty on the property that varies from two to five percent, depending on the price of gold. In addition, we hold royalties on the Pedra Branca property in Brazil, the Norcan and Aconchi properties in Mexico and certain non-producing mineral leases in Montana, acquired from Atna Resources, Inc. We consider all of these royalty properties to be an early-stage exploration property, and although we believe each may have good potential to host economic mineralization, we will not receive any royalties from any of these properties until such time as their owners develops and places into operation a mine on the properties covered by our royalty. Accordingly, we cannot predict revenue from our royalties in the near future, if ever.

### Other Properties

We have budgeted 2017 exploration expenditures of \$813,000 for exploration and evaluation of potential new acquisitions of properties primarily in North and South America, but potentially in other regions of the world. We expect to carry on limited exploration activities during 2017 by utilizing our own employees and contract geologists.

### **(h). Discontinued Projects**

During 2016, we closed our exploration office in Mexico. We sold our Norcan and Aconchi exploration projects in Mexico for a retained a 1% royalty on both the Norcan and Aconchi properties. Solitario recorded a mineral property write-down of \$10,000 related to the Norcan and Aconchi properties during 2016. During 2016, we abandoned our interest in its Canta Colorado property in Peru and recorded a mineral property write-down expense of \$3,000 related to Canta Colorado. In addition, we recorded a loss on other assets in Mexico of \$14,000 related to the exit from its exploration activities in Mexico during 2016. We had no mineral property impairments during 2015.

### **(i). Significant Accounting Policies**

See Note 1, "Business and Summary of Significant Accounting Policies," in Item 8, "Financial Statements and Supplementary Data" for a discussion of our significant accounting policies.

**(j). Related Party Transactions**

None

**(k). Recent Accounting Pronouncements**

See Note 1, “Business and Summary of Significant Accounting Policies,” in Item 8 “Financial Statements and Supplementary Data” for a discussion of recent accounting pronouncements.

**Item 7A. Quantitative and Qualitative Disclosures about Market Risk**

Smaller reporting companies are not required to provide the information required by this item.

**Item 8. Financial Statements and Supplementary Data**

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Shareholders

Solitario Exploration & Royalty Corp.

Wheat Ridge, Colorado

We have audited the accompanying consolidated balance sheets of Solitario Exploration & Royalty Corp. (the “Company”) as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive loss, shareholders’ equity, and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Solitario Exploration & Royalty Corp. as of December 31, 2016 and 2015, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

EKS&H LLLP

March 10, 2017

Denver, Colorado



## SOLITARIO EXPLORATION &amp; ROYALTY CORP.

## CONSOLIDATED BALANCE SHEETS

| (in thousands of U.S. dollars, except share and per share amounts)  | December<br>31,<br>2016 | December<br>31,<br>2015 |
|---|-------------------------|-------------------------|
| Assets  |                         |                         |
| Current assets:   |                         |                         |
| Cash and cash equivalents   | \$119                   | \$17,718                |
| Short-term investments, at fair value   | 15,250                  | —                       |
| Investments in marketable equity securities, at fair value  | 1,339                   | 202                     |
| Prepaid expenses and other  | 89                      | 70                      |
| Total current assets  | 16,797                  | 17,990                  |
| Mineral properties  | 46                      | 19                      |
| Other assets  | 771                     | 45                      |
| Total assets  | \$17,614                | \$18,054                |
| Liabilities and Shareholders' Equity  |                         |                         |
| Current liabilities:  |                         |                         |
| Accounts payable  | \$124                   | \$175                   |
| Other   | 2                       | 4                       |
| Total current liabilities   | 126                     | 179                     |
| Commitments and contingencies (Notes 2 and 9)   |                         |                         |
| Shareholders' equity:   |                         |                         |
| Solitario shareholders' equity  |                         |                         |
| Preferred stock, \$0.01 par value, authorized 10,000,000 shares (none issued and outstanding at December 31, 2016 and 2015)   | —                       | —                       |
| Common stock, \$0.01 par value, authorized, 100,000,000 shares (38,693,589 and 39,169,189, respectively, shares issued and outstanding at December 31, 2016 and 2015) | 387                     | 392                     |
| Additional paid-in capital  | 55,790                  | 55,063                  |
| Accumulated deficit   | (39,401)                | (37,691)                |
| Accumulated other comprehensive income  | 712                     | 111                     |
| Total shareholders' equity  | 17,488                  | 17,875                  |
| Total liabilities and shareholders' equity  | \$17,614                | \$18,054                |

See Notes to Consolidated Financial Statements.

## SOLITARIO EXPLORATION &amp; ROYALTY CORP.

## CONSOLIDATED STATEMENTS OF OPERATIONS

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

| (in thousands of U.S. Dollars, except per share amounts)                                | For the year ended   |           |
|---|----------------------|-----------|
|   | December 31,<br>2016 | 2015      |
| Costs, expenses and other   |                      |           |
| Exploration expense   | 628                  | 89        |
| Depreciation and amortization   | 5                    | 11        |
| General and administrative  | 2,163                | 1,965     |
| Gain on derivative instruments  | (672 )               | (84 )     |
| Property abandonment and impairment   | 13                   | —         |
| Loss (gain) on sale of assets   | 14                   | (7 )      |
| Interest expense and dividend income (net)  | (44 )                | (12 )     |
| Total costs, expenses and other   | 2,107                | 1,962     |
| Other (expense) income  |                      |           |
| Gain (loss) on sale of marketable equity securities                                     | 40                   | (969 )    |
| Gain on warrant liability   | 4                    | 51        |
| Total other income (expense)  | 44                   | (918 )    |
| Loss before income tax  | (2,063 )             | (2,880 )  |
| Income tax benefit (expense)  | 353                  | (560 )    |
| Loss from continuing operations   | (1,710 )             | (3,440 )  |
| Gain on sale of discontinued operations   | —                    | 12,309    |
| Net income (loss)   | (1,710 )             | 8,869     |
| Loss attributable to noncontrolling interest  | —                    | 3         |
| Net income (loss) attributable to Solitario shareholders                                | \$(1,710 )           | \$8,872   |
| Income (loss) per common share attributable to Solitario shareholders basic and diluted |                      |           |
| Continuing operations   | \$(0.04 )            | \$(0.09 ) |
| Discontinued operations   | —                    | 0.31      |
| Net income (loss)   | \$(0.04 )            | \$0.23    |
| Weighted average shares outstanding   |                      |           |
| Basic and diluted   | 38,906               | 39,287    |

See Notes to Consolidated Financial Statements.

SOLITARIO EXPLORATION & ROYALTY CORP.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

| (in thousands of U.S. Dollars)   | For the year ended<br>December 31, |          |
|--|------------------------------------|----------|
|  | 2016                               | 2015     |
| Net income (loss) for the period, before other comprehensive loss      | \$(1,710)                          | \$8,869  |
| Other comprehensive income :   |                                    |          |
| Unrealized gain on marketable equity securities, net of deferred taxes | 601                                | 1,231    |
| Comprehensive income (loss)  | (1,109)                            | 10,100   |
| Loss attributable to noncontrolling interests                          | —                                  | 3        |
| Comprehensive income (loss) attributable to Solitario shareholders     | \$(1,109)                          | \$10,103 |

See Notes to Consolidated Financial Statements.

## SOLITARIO EXPLORATION &amp; ROYALTY CORP.

## CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

| (in thousands, of U.S. Dollars<br>except share amounts)                              | Common Stock |        | Additional         | Accumulated | Accumulated                      | Total                   | Non-                    | Total                   |
|--|--------------|--------|--------------------|-------------|----------------------------------|-------------------------|-------------------------|-------------------------|
|  | Shares       | Amount | Paid-in<br>Capital | Deficit     | Other<br>Comprehensive<br>Income | Shareholders'<br>Equity | Controlling<br>Interest | Shareholders'<br>Equity |
| Balance at December 31,<br>2014  | 39,247,689   | 393    | 54,512             | (46,563 )   | (1,120 )                         | 7,222                   | (441 )                  | 6,781                   |
| Stock option expense   | —            | —      | 566                | —           | —                                | 566                     | —                       | 566                     |
| Issuance of shares for<br>mineral property   | 66,500       | —      | 51                 | —           | —                                | 51                      | —                       | 51                      |
| Noncontrolling interest<br>contribution  | —            | —      | —                  | —           | —                                | —                       | 188                     | 188                     |
| Sale of MH-LLC   | —            | —      | —                  | —           | —                                | —                       | 256                     | 256                     |
| Repurchase of shares for<br>cancellation   | (145,000 )   | (1 )   | (66 )              | —           | —                                | (67 )                   | —                       | (67 )                   |
| Net income (loss)  | —            | —      | —                  | 8,872       | —                                | 8,872                   | (3 )                    | 8,869                   |
| Net unrealized gain<br>on marketable equity<br>securities (net of<br>deferred taxes) | —            | —      | —                  | —           | 1,231                            | 1,231                   | —                       | 1,231                   |
| Balance at December 31,<br>2015  | 39,169,189   | \$ 392 | \$ 55,063          | \$(37,691 ) | \$ 111                           | \$ 17,875               | \$ —                    | \$ 17,875               |
| Stock option expense   | —            | —      | 970                | —           | —                                | 970                     | —                       | 970                     |
| Repurchase of shares for<br>cancellation   | (475,600 )   | (5 )   | (243 )             | —           | —                                | (248 )                  | —                       | (248 )                  |
| Net loss   | —            | —      | —                  | (1,710 )    | —                                | (1,710 )                | —                       | (1,710 )                |
| Net unrealized gain<br>on marketable equity<br>securities (net of<br>deferred taxes) | —            | —      | —                  | —           | 601                              | 601                     | —                       | 601                     |
| Balance at December 31,<br>2016  | 38,693,589   | \$ 387 | \$ 55,790          | \$(39,401 ) | \$ 712                           | \$ 17,488               | \$ —                    | \$ 17,488               |

See Notes to Consolidated Financial Statements.



SOLITARIO EXPLORATION & ROYALTY CORP.

CONSOLIDATED STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

| (in thousands of U.S. Dollars)   | For the year ended<br>December 31, |          |
|--|------------------------------------|----------|
|  | 2016                               | 2015     |
| Operating activities:  |                                    |          |
| Net income (loss)  | \$(1,710 )                         | \$8,869  |
| Adjustments to reconcile net income (loss) to net cash used in operating activities: |                                    |          |
| Gain on derivative instruments   | (672 )                             | (84 )    |
| Depreciation and amortization  | 5                                  | 11       |
| Property abandonment and impairment  | 13                                 | —        |
| Employee stock option expense  | 970                                | 566      |
| Deferred income taxes  | (353 )                             | 560      |
| Gain on warrant liability  | (4 )                               | (51 )    |
| (Gain) loss on asset and equity security sales                                       | (26 )                              | 962      |
| (Gain) on sale of discontinued operations  | —                                  | (12,309) |
| Changes in operating assets and liabilities:   |                                    |          |
| Prepaid expenses and other current assets  | (7 )                               | (53 )    |
| Accounts payable and other current liabilities                                       | (51 )                              | (4 )     |
| Net cash (used in) operating activities from continuing operations                   | (1,835 )                           | (1,533 ) |
| Net cash (used in ) operating activities from discontinued operations                | —                                  | (190 )   |
| Net cash (used in) operating activities  | (1,835 )                           | (1,723 ) |
| Investing activities:  |                                    |          |
| Purchase of short-term investments (net)   | (15,272)                           | —        |
| Purchase of mineral property   | (40 )                              | —        |
| Purchase of marketable equity securities   | (304 )                             | —        |
| Proceeds from sale of marketable equity securities                                   | 56                                 | 809      |
| Sale of derivative instrument, net   | 45                                 | 84       |
| Additions to other assets  | (1 )                               | (8 )     |
| Proceeds from sale of MH-LLC   | —                                  | 24,000   |
| Proceeds from sale of other assets   | —                                  | 7        |
| Net cash provided by (used in) investing activities from continuing operations       | (15,516)                           | 24,892   |
| Net cash (used in) investing activities from discontinued operations                 | —                                  | (1,059 ) |
| Net cash provided by (used in) investing activities                                  | (15,516)                           | 23,833   |
| Financing activities:  |                                    |          |
| Repurchase of Solitario common stock for cancellation                                | (248 )                             | (67 )    |
| Repayment of long-term debt  | —                                  | (5,000 ) |
| Noncontrolling interest contribution, net  | —                                  | 188      |
| Net cash used in financing activities  | (248 )                             | (4,879 ) |

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|  |          |          |
|--|----------|----------|
| Net (decrease) increase in cash and cash equivalents                         | (17,599) | 17,231   |
| Cash and cash equivalents, beginning of year                                 | 17,718   | 487      |
| Cash and cash equivalents, end of year                                       | \$119    | \$17,718 |
| Supplemental disclosure of cash flow information:                            |          |          |
| Cash paid for interest, capitalized to mineral property                      | \$—      | \$228    |
| Supplemental disclosure of non-cash flow investing and financing activities: |          |          |
| Capitalized non-cash interest  | \$—      | \$265    |
| Capitalized depreciation   | \$—      | \$7      |
| Issuance of stock for mineral property                                       | \$—      | \$51     |

See Notes to Consolidated Financial Statements.

SOLITARIO EXPLORATION & ROYALTY CORP.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2016 and 2015

1. Business and Summary of Significant Accounting Policies

*Sale of Mt. Hamilton LLC*

On August 25, 2015 Solitario Exploration & Royalty Corp. (“Solitario,” the “Company,” “we,” or “us”), along with DHI Minerals (U.S.) Ltd. (“DHI”), sold their combined interests in the Mt. Hamilton gold project (“Mt. Hamilton”) to Waterton Nevada Splitter, LLC (“Waterton”), for total cash proceeds of US\$30 million (the “Transaction”) pursuant to a definitive agreement entered into on June 10, 2015 (the “Agreement”). Solitario sold its 80% interest in Mt. Hamilton LLC (“MH-LLC”), a limited liability company which held 100% of the Mt. Hamilton project assets, and DHI sold its 20% interest in MH-LLC. DHI is a wholly-owned subsidiary of Ely Gold and Minerals, Inc. (“Ely”). Solitario received gross cash proceeds of US\$24 million and DHI received gross cash proceeds of US\$6 million. Solitario’s costs and fees related to the Transaction, including broker fees and professional service fees, were \$439,000. Concurrent with the closing of the Transaction, Solitario paid \$5,000,000 plus \$7,000 of interest and fees to fully repay the funds Solitario had borrowed pursuant to a facility agreement (the “Facility Agreement”) with RMB Australia Holdings Limited (“RMBAH”) and RMB Resources, Inc., a Delaware corporation (“RMBR”). Certain warrants granted to RMB in connection with the Facility Agreement to acquire 1,624,748 shares of Solitario common stock (the “RMB Warrants”) expired unexercised during 2016.

During the year ended December 31 2015 virtually all of the costs associated with MH-LLC and the assets sold were directly related to the development of the Mt. Hamilton project, and were capitalized to mineral property during all periods. Accordingly, separate presentation of discontinued operations would not have resulted in any material change to the results presented in the consolidated statements of operations for the year ended December 31, 2015.

The sale of MH-LLC in 2015 is shown as gain on sale of discontinued operations as follows:

|                              |  |
|------------------------------|--|
| (in thousands)               | Year<br>ended<br>December<br>31,<br>2015 |
| Proceeds from sale of MH-LLC | \$ 24,000                                |



|   |           |
|---|-----------|
| Net assets and liabilities disposed of              | 9,998     |
| Noncontrolling interest                             | 256       |
| Expenses of sale of MH-LLC                          | 439       |
| Gain on sale of discontinued operations, before tax | 13,307    |
| Income tax expense                                  | 998       |
| Gain on sale of discontinued operations             | \$ 12,309 |

*Business and company formation*

Solitario is an exploration stage company under Industry Guide 7, as issued by the United States Securities and Exchange Commission ("SEC"). Solitario was incorporated in the state of Colorado on November 15, 1984 as a wholly-owned subsidiary of Crown Resources Corporation ("Crown"). In July 1994, Solitario became a publicly traded company on the Toronto Stock Exchange (the "TSX") through its initial public offering. Solitario has been actively involved in mineral exploration since 1993. Solitario's primary business is to acquire exploration mineral properties or royalties and/or discover economic deposits on its mineral properties and advance these deposits, either on its own or through joint ventures, up to the development stage. At that point, or sometime prior to that point, Solitario would attempt to sell its mineral properties, pursue their development either on its own, or through a joint venture with a partner that has expertise in mining operations, or create a royalty with a third party that continues to advance the property. In addition to focusing on its mineral exploration properties and the evaluation of mineral properties for acquisition or purchase of royalty interests, Solitario also evaluates potential strategic corporate transactions for the potential acquisition of new precious and base metal properties and assets with exploration potential or business combinations that we determine favorable to Solitario.

Solitario has recorded revenue in the past from the sale of mineral property, including the Transaction, and joint venture property payments and the sale of a royalty on its Mt. Hamilton property. Revenues from the sale or joint venture of properties, although significant when they occur, have not been a consistent annual source of revenue and would only occur in the future, if at all, on an infrequent basis.

### *Financial reporting*

The consolidated financial statements include the accounts of Solitario and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. The consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America ("generally accepted accounting principles"), and are expressed in US dollars.

### *Revenue recognition*

Solitario records delay rental payments as revenue in the period received. Any payments received for the sale of property interests are recorded as a reduction of the related property's capitalized cost. Proceeds which exceed the capitalized cost of the property without reserves are recognized as revenue. Payments received on the sale of properties with reserves are recognized as revenue to the extent the proceeds exceed the proportionate basis in the assets sold. There were no delay rental payments in either 2016 or 2015. In May 2014, the Financial Accounting Standards Board ("FASB") amended its guidance on revenue recognition. The core principle of those accounting standards is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods and services. The standards are effective for revenue recognition by Solitario beginning in January 2018 and adoption is not expected to have a material impact on Solitario's consolidated financial statements.

### *Use of estimates*

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Some of the more significant estimates included in the preparation of Solitario's financial statements pertain to: (i) Solitario's carrying value of short-term investments; (ii) the recoverability of mineral properties related to its mineral exploration properties and their future exploration potential; (iii) the fair value of stock option grants to employees; (iv) the ability of Solitario to realize its deferred tax assets; (v) Solitario's investment in marketable equity securities; and (vi) the fair value of the Vendetta Mining Corp. ("Vendetta") warrants Solitario owns.

In performing its activities, Solitario has incurred certain costs for mineral properties. The recovery of these costs is ultimately dependent upon the sale of mineral property interests or the development of economically recoverable ore reserves and the ability of Solitario to obtain the necessary permits and financing to successfully place the properties

into production, and upon future profitable operations, none of which is assured.

*Cash equivalents*

Cash equivalents include investments in highly liquid money-market securities with original maturities of three months or less when purchased. As of December 31, 2016, a portion of Solitario's cash and cash equivalents are held in brokerage accounts and foreign banks, which are not covered under the Federal Deposit Insurance Corporation ("FDIC") rules for the United States.

*Short-term investments*

As of December 31, 2016, Solitario has \$7,510,000 of our current assets in United States Treasury securities ("USTS") with maturities of 15 days to one year. The USTS are recorded at their fair value, based upon quoted market prices. As of December 31, we have \$7,499,000 in separate bank certificates of deposit ("CDs") each with a maximum value of \$250,000, and each of which are covered by Federal Deposit Insurance Corporation insurance to the full face value of the CDs. At December 31, 2016, the CDs have maturities of between twenty days and eighteen months. Solitario's short-term investments are recorded at their fair value, based upon quoted market prices. The short-term investments are highly liquid and may be sold in their entirety at any time at their quoted market price and are classified as a current asset.

### *Mineral properties*

Solitario expenses all exploration costs incurred on its mineral properties prior to the establishment of proven and probable reserves through the completion of a feasibility study. Initial acquisition costs of its mineral properties are capitalized. Solitario regularly performs evaluations of its investment in mineral properties to assess the recoverability and/or the residual value of its investments in these assets. All long-lived assets are reviewed for impairment whenever events or circumstances change which indicate the carrying amount of an asset may not be recoverable, utilizing established guidelines based upon undiscounted future net cash flows from the asset or upon the determination that certain exploration properties do not have sufficient potential for economic mineralization.

### *Derivative instruments*

Solitario accounts for its derivative instruments in accordance with ASC 815, "Accounting for Derivative Instruments and Hedging Activities" ("ASC 815"). Solitario acquired its investment in Vendetta Mining Corp. units, including the Vendetta Warrants (defined below) during 2016. Solitario has classified the Vendetta Warrants as derivative instruments under ASC 815 and recorded the Vendetta Warrants at their fair value as other assets on the consolidated balance sheet. Changes in fair value of the Vendetta Warrants are recognized in the statement of operations in the period of change as gain or loss on derivative instruments. Solitario has entered into covered calls from time to time on its investment in Kinross marketable equity securities. Solitario has not designated its covered calls as hedging instruments and any changes in the fair value of the covered calls and its warrants are recognized in the statement of operations in the period of the change as gain or loss on derivative instruments.

### *Fair value*

FASB ASC 820, "Fair Value Measurements and Disclosures" ("ASC 820") establishes a framework for measuring fair value and requires enhanced disclosures about fair value measurements. ASC 820 clarifies that fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. For certain of Solitario's financial instruments, including cash and cash equivalents and accounts payable, the carrying amounts approximate fair value due to their short-term maturities. Solitario's short-term investments in USTS and CDs, its marketable equity securities and any covered call options against those marketable equity securities are carried at their estimated fair value based on quoted market prices. Solitario's investment in the Vendetta Warrants, defined below, is carried at fair value as determined by a Black-Scholes model. See Note 7, "Fair Value of Financial Instruments," below.

### *Marketable equity securities*

Solitario's investments in marketable equity securities are classified as available-for-sale and are carried at fair value, which is based upon quoted prices of the securities owned. Solitario records investments in marketable equity securities as available-for-sale for investments in publicly traded marketable equity securities for which it does not exercise significant control and where Solitario has no representation on the board of directors of those companies and exercises no control over the management of those companies. The cost of marketable equity securities sold is determined by the specific identification method. Changes in fair value are recorded in accumulated other comprehensive income within shareholders' equity, unless a decline in fair value is considered other than temporary, in which case the decline is recognized as a loss in the consolidated statements of operations.

#### *Foreign exchange*

The United States dollar is the functional currency for all of Solitario's foreign subsidiaries. Although Solitario's South American exploration activities during 2016 and 2015 have been conducted primarily in Peru a portion of the payments under the land, leasehold and exploration agreements of Solitario are denominated in United States dollars. Foreign currency gains and losses are included in the results of operations in the period in which they occur.

#### *Income taxes*

Solitario accounts for income taxes in accordance with ASC 740, "Accounting for Income Taxes" ("ASC 740"). Under ASC 740, income taxes are provided for the tax effects of transactions reported in the financial statements and consist of taxes currently due plus deferred taxes related to certain income and expenses recognized in different periods for financial and income tax reporting purposes. Deferred tax assets and liabilities represent the future tax return consequences of those differences, which will either be taxable or deductible when the assets and liabilities are recovered or settled. Deferred taxes are also recognized for operating losses and tax credits that are available to offset future taxable income and income taxes, respectively. A valuation allowance is provided if it is more likely than not that some portion or all of the deferred tax assets will not be realized.

*Accounting for uncertainty in income taxes*

ASC 740 clarifies the accounting for uncertainty in income taxes recognized in a company's financial statements. ASC 740 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. ASC 740 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition. ASC 740 provides that a company's tax position will be considered settled if the taxing authority has completed its examination, the company does not plan to appeal, and it is remote that the taxing authority would reexamine the tax position in the future. These provisions of ASC 740 had no effect on Solitario's financial position or results of operations. See Note 5, "Income Taxes," below.

*Earnings per share*

The calculation of basic and diluted earnings (loss) per share is based on the weighted average number of shares of common stock outstanding during the years ended December 31, 2016 and 2015. Potentially dilutive shares related to outstanding common stock options of 40,000 for the year ended December 31, 2015, and the RMB Warrants of 1,624,748 for the year ended December 31, 2015 were excluded from the calculation of diluted earnings (loss) per share because the effects were anti-dilutive. There were no similar potentially dilutive securities outstanding at December 31, 2016, and the effects of the potentially dilutive shares outstanding during the year ended December 31, 2016 were excluded from the calculation of diluted earnings per share because the effects were anti-dilutive.

*Employee stock compensation and incentive plans*

Solitario classifies all of its stock options as equity options in accordance with the provisions of ASC 718, "Compensation – Stock Compensation." See Note 9, "Employee Stock Compensation Plans," below.

*Recent accounting pronouncements*

In May 2014, the FASB issued Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)*, ("ASU No. 2014-09"), which amended the existing accounting standards for revenue recognition. ASU No. 2014-09 establishes principles for recognizing revenue upon the transfer of promised goods or services to customers, in an amount that reflects the expected consideration received in exchange for those goods or services. In July 2015, the FASB deferred the effective date for annual reporting periods beginning after December 15,

2017. The amendments may be applied retrospectively to each prior period (full retrospective) or retrospectively with the cumulative effect recognized as of the date of initial application (modified retrospective). Solitario will adopt ASU 2014-09 in the first quarter of 2018 and apply the full retrospective approach and does not expect the impact on its consolidated financial statements to be material.

In February 2016, the FASB issued ASU 2016-02, “Leases” (“ASU No. 2016-02”), which will require lessees to recognize a right-of-use asset and a lease liability for all leases that are not short-term in nature. For a lessor, the accounting applied is also largely unchanged from previous guidance. The new rules will be effective for Solitario in the first quarter of 2019. Solitario does not anticipate early adoption. Solitario does not expect the adoption of ASU No. 2016-02 to materially change its current accounting methods and therefore it does not expect the adoption to have a material impact on its consolidated financial position or results of operations.

In January 2016 the FASB issued ASU No 2016-01, Financial Instruments – Recognition and Measurement of Financial Assets and Financial Liabilities (Topic 825) (“ASU No. 2016-01”). ASU No. 2016-01 revises the classification and measurement of investment in certain equity investments and the presentation of certain fair value changes for certain financial liabilities measured at fair value. ASU No. 2016-01 requires the change in fair value of many equity investments to be recognized in net income. ASU No. 2016-01 is effective for interim and annual periods beginning after December 15, 2017, with early adoption permitted. Adoption of ASU No. 2016-01 may result in a cumulative effect adjustment to the consolidated statement of equity retained earnings as of the beginning of the year of adoption. Solitario is evaluating the new guidance and has not determined the impact of ASU No. 2016-01 on its consolidated financial statements.

2. Mineral Properties:

The following table details Solitario's capitalized investment in exploration mineral property:

| (in thousands)                         | December<br>31,<br>2016 2015 |          |
|--|------------------------------|----------|
| Exploration                            |                              |          |
| La Promesa (Peru)                      | \$6                          | \$6      |
| Montana Royalty property (US)          | 40                           | —        |
| Canta Colorado (Peru)                  | —                            | 3        |
| Norcan (Mexico)                        | —                            | 5        |
| Aconchi (Mexico)                       | —                            | 5        |
| <br>Total exploration mineral property | <br>\$46                     | <br>\$19 |

Capitalized costs

Solitario had been capitalizing its development costs incurred at its Mt. Hamilton project subsequent to the completion of a feasibility study on the Mt. Hamilton project in February 2012. The following table details the capitalization during 2015 up to the date of the Transaction:

| (in thousands)           | Year<br>ended<br>December<br>31,<br>2015 |
|--------------------------|--|
| Development expenditures | \$ 692                                   |
| Capitalized interest     | 493                                      |
| Property payments        | 190                                      |
| Capitalized depreciation | 7  |
| Total capitalized costs  | \$ 1,382                                 |

Included in the property payments during 2015 are the issuance of 66,500 common shares of Solitario with fair values of \$51,000, issued to underlying leaseholders, which were recorded as an increase to common stock, for the par value of the shares issued and to additional paid-in-capital. Additionally, during 2015, Solitario capitalized interest due to RMBAH under the Facility Agreement, which was paid in full upon completion of the Transaction.

*Exploration property*



Solitario's exploration mineral properties at December 31, 2016 and 2015 consist of use rights related to its exploration properties, and the value of such assets is primarily driven by the nature and amount of economic mineral ore believed to be contained, or potentially contained, in such properties. The amounts capitalized as mineral properties include concession and lease or option acquisition costs. Capitalized costs related to a mineral property represent its fair value at the time it was acquired. At December 31, 2016, none of Solitario's exploration properties have production (are operating) or contain proven or probable reserves. Solitario's exploration mineral properties represent interests in properties that Solitario believes have exploration and development potential. Solitario's mineral use rights generally are enforceable regardless of whether proven and probable reserves have been established.

In addition to its capitalized exploration properties, Solitario has an interest in its Bongará exploration concession, which is currently subject to a joint venture agreement where joint venture partners made stand-by joint venture payments to Solitario prior to January 1, 2015. Solitario recorded joint venture property payment revenue received in excess of capitalized costs. Per the joint venture agreement, as of December 31, 2016, no further standby joint-venture payments are due to Solitario on the Bongará project. At December 31, 2016 and 2015, Solitario has no remaining capitalized costs related to its Bongará joint venture.

Solitario previously sold its mineral interests in its Yanacocha exploration projects and retained a royalty interest. Solitario has no capitalized costs related to its Yanacocha royalty interest. During the year ended December 31, 2016, Solitario acquired certain net smelter royalties on non-producing exploration leases in Montana previously owned by Atna Resources, Ltd. for \$40,000.

#### *Discontinued projects*

During 2016, Solitario closed its exploration office in Mexico. Solitario retained a 1% net smelter royalty on its Norcan and Aconchi exploration projects in Mexico. Solitario recorded a mineral property write-down of \$10,000 related to the Norcan and Aconchi properties during 2016. During 2016, Solitario abandoned its interest in its Canta Colorado property in Peru and recorded a mineral property write-down expense of \$3,000 related to Canta Colorado. In addition, Solitario recorded a loss on other assets in Mexico of \$14,000 related to the cessation of its exploration activities in Mexico during 2016.

During 2015, Solitario converted its operating interest in Pedra Branca Mineracao, Ltd (“PBM”), which was the owner of the Pedra Branca project in Brazil, to a 1% net smelter royalty in the Pedra Branca project, upon the termination of its interest in PBM. Solitario had no remaining asset value related to its investment in PBM, as it had accounted for its interest in PBM under the equity method of accounting and had recognizing a reduction of its remaining interest in PBM to zero prior to the year ended December 31, 2015. Solitario recorded no mineral property write-down expense during 2015.

### *Exploration Expense*

The following items comprised exploration expense:

|                             | For the year<br>ended<br>December<br>31, |      |
|-----------------------------|--|------|
| (in thousands)              | 2016                                     | 2015 |
| Geologic and field expenses | \$537                                    | \$31 |
| Administrative              | 91                                       | 58   |
| Total exploration expense   | \$628                                    | \$89 |

### 3. Marketable Equity Securities

On May 2, 2016 Solitario purchased 7,240,000 units of Vendetta for aggregate consideration of \$289,000. Each unit included one common share of Vendetta and one purchase warrant which allows the holder to purchase one share of Vendetta common stock at a price of Cdn\$0.10 per share for a period of two years (the “Vendetta Warrants”). The purchase price of the units of \$289,000 was allocated between the Vendetta common shares and the Vendetta Warrants based upon total fair values on the date of purchase. The Vendetta common stock was allocated a purchase cost of \$186,000 and the Vendetta Warrants were allocated a purchase cost of \$103,000. As of December 31, 2016, the common shares of Vendetta are carried at their fair value based upon the quoted market price of Vendetta, a publicly traded company on the TSX venture exchange, and included in marketable equity securities. The Vendetta Warrants are carried at their fair value, based upon a Black-Scholes valuation model. During the year ended December 31, 2016, Solitario recorded a gain on derivative instruments of \$629,000, related to the Vendetta Warrants; see Note 6, “Derivative Instruments,” below.

The following tables summarize Solitario’s marketable equity securities and accumulated other comprehensive income related to its marketable equity securities:

| (in thousands)   | December 31, |       |
|--|--------------|-------|
|  | 2016         | 2015  |
| Marketable equity securities at fair value   | \$1,339      | \$202 |
| Cost   | 274          | 91    |
| Accumulated other comprehensive income for<br>unrealized holding gains                   | 1,065        | 111   |
| Deferred taxes on accumulated other comprehensive<br>income for unrealized holding gains | 353          | —     |
| Accumulated other comprehensive income   | \$712        | \$111 |

The following table represents changes in marketable equity securities:

| (in thousands)  | Year ended |         |
|---|------------|---------|
|   | December   |         |
|   | 31,        |         |
|   | 2016       | 2015    |
| Gross cash proceeds from sales  | \$56       | \$809   |
| Cost  | 16         | 1,778   |
| Gross gain (loss) on sale included in earnings during the period  | 40         | (969 )  |
| Deferred taxes on gross gain on sale included in earnings   | (15 )      | —       |
| Reclassification adjustment to unrealized gain in other comprehensive income for net (gain) loss included in earnings | (25 )      | 969     |
| Gross unrealized holding gain (loss) arising during the period included in other comprehensive income (loss)          | 994        | (1,296) |
| Deferred taxes on unrealized holding losses included in other comprehensive (income) loss                             | (368)      | 1,558   |
| Net unrealized holding gain   | 626        | 262     |
| Other comprehensive income from marketable equity securities  | \$601      | \$1,231 |

#### 4. Other Assets:

The following items comprised other assets:

| (in thousands)  | December |      |
|---|----------|------|
|   | 31,      |      |
|   | 2016     | 2015 |
| Furniture and fixtures, net of accumulated depreciation | \$32     | \$41 |
| Exploration bonds and other assets                      | 4        | 4    |
| Vendetta Warrants                                       | 735      | —    |
| Total other assets                                      | \$771    | \$45 |

#### 5. Income Taxes:

Solitario's income tax expense from continuing operations consists of the following as allocated between foreign and United States components:

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| (in thousands)               | 2016    | 2015  |
|------------------------------|---------|-------|
| Current:                     |         |       |
| Federal                      | \$—     | \$—   |
| State                        | —       | —     |
| Foreign                      | —       | —     |
| Deferred:                    |         |       |
| Federal                      | (309)   | 662   |
| State                        | (44 )   | (102) |
| Foreign                      | —       | —     |
| Income tax (benefit) expense | \$(353) | \$560 |

Income tax (benefit) expense is included in the financial statements as follows:

| (in thousands)             | 2016    | 2015    |
|----------------------------|---------|---------|
| Continuing Operations      | \$(353) | \$560   |
| Discontinued Operations    | —       | 998     |
| Other Comprehensive Income | 353     | (1,558) |

Consolidated loss before income taxes includes losses from foreign operations of \$154,000 and \$98,000 in 2016 and 2015, respectively.

As discussed in Note 1, “Business and Summary of Significant Accounting Policies,” during 2015, the Transaction resulted in a \$13,307,000 before tax gain reported in discontinued operations. Solitario recorded \$998,000 of tax expense in discontinued operations which was net of \$3,930,000 tax benefit for the release of valuation allowance. Income taxes have been allocated between discontinued operations and continuing operations in accordance with ASC 740.

See Note 3, “Marketable Equity Securities,” for detail of the deferred taxes associated with the sale of marketable equity securities and the deferred taxes associated with unrealized gains and losses associated with other comprehensive income related to marketable equity securities.

The net deferred tax assets/liabilities in the December 31, 2016 and 2015 consolidated balance sheets include the following components:

| (in thousands)                                   | 2016    | 2015    |
|--|---------|---------|
| Deferred tax assets:                             |         |         |
| Loss carryovers                                  | \$8,168 | \$6,982 |
| Stock option compensation expense                | —       | 7       |
| Royalty  | 1,482   | 1,482   |
| Unrealized loss on derivative securities         | —       | 38      |
| Other  | 105     | 105     |
| Valuation allowance                              | (9,118) | (8,571) |
| Total deferred tax assets                        | 637     | 43      |
| Deferred tax liabilities:                        |         |         |
| Unrealized gain on derivative securities         | 196     | —       |
| Unrealized gains on marketable equity securities | 395     | 41      |
| Other  | 46      | 2       |
| Total deferred tax liabilities                   | 637     | 43      |
| Net deferred tax liabilities                     | \$—     | \$—     |

A reconciliation of expected federal income taxes on income (loss) from continuing operations at statutory rates, with the expense for income taxes is as follows:

| (in thousands)  | 2016     | 2015     |
|---|----------|----------|
| Expected income tax benefit   | \$(701 ) | \$(976 ) |
| Reversal of disproportionate tax effect in other comprehensive income | —        | 1,558    |
| Equity based compensation   | 366      | 575      |
| Foreign tax rate differences  | 6        | 3        |
| State income tax  | (237 )   | (606 )   |
| True-up of deferred taxes   | —        | 267      |
| Tax attributes of disposed subsidiary                                 | 1,652    | 3,941    |
| Previously unrecognized basis in disposed subsidiary                  | (1,884)  | (4,170)  |
| Change in valuation allowance   | 547      | (40 )    |
| MH-LLC investment   | —        | 1        |
| Permanent differences and other                                       | (102 )   | 7        |
| Income tax (benefit) expense  | \$(353 ) | \$560    |

During 2016, the valuation allowance was decreased primarily due to the removal of deferred tax assets related to abandoned properties in Mexico. During 2015, the valuation allowance was decreased primarily due to the utilization of loss carryforwards for which no tax benefit was previously realized.

During 2016 and 2015, other comprehensive income/(loss) was recognized in the amounts of approximately \$954,000 and (\$327,000), respectively. In 2016 we recognized an income tax benefit of \$353,000 and in 2015 no tax benefit was recorded in other comprehensive income/(loss) as a \$111,000 valuation allowance fully offset the attendant tax benefit.

At December 31, 2016, Solitario has unused US Federal Net Operating Loss ("NOL") carryovers of \$1,658,000 and unused US State NOL carryovers of \$3,191,000 which begin expiring in 2034. Solitario has unused Capital Loss carryovers of \$11,845,000 for US Federal and US State purposes which begin expiring in 2019. Solitario has foreign loss carryforwards for which Solitario has provided a full valuation allowance and which expire over five years related to its prior exploration in Peru.

Solitario adopted ASC 740, which prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. ASC 740 requires that Solitario recognize in its consolidated financial statements, only those tax positions that are “more-likely-than-not” of being sustained as of the adoption date, based on the technical merits of the position. As a result of the implementation of ASC 740, Solitario performed a comprehensive review of its material tax positions in accordance with recognition and measurement standards established by ASC 740. The provisions of ASC 740 had no effect on Solitario’s financial position, cash flows or results of operations at December 31, 2016 or December 31, 2015, or for the years then ended as Solitario had no unrecognized tax benefits.

Solitario and its subsidiaries are subject to the following material taxing jurisdictions: United States Federal, State of Colorado and Peru. Solitario’s United States federal return for years 2013 and forward and our United States state and Peru returns for tax years 2012 and forward are subject to examination. Solitario’s policy is to recognize interest and penalties related to uncertain tax benefits in income tax expense. Solitario has no accrued interest or penalties related to uncertain tax positions as of December 31, 2016, or December 31, 2015 or for the years then ended

#### 6. Derivative Instruments:

##### *RMB warrants*

The RMB Warrants, which entitled the holder to purchase a total of 1,624,748 shares of Solitario common stock, expired worthless on August 21, 2016. As of December 31, 2016, Solitario has no liability related to the RMB Warrants. Solitario recorded a \$4,000 liability for the RMB Warrants as of December 31, 2015 for the fair value of the RMB Warrants based upon a Black-Scholes model. Solitario recorded a gain on derivative instruments of \$4,000 for the year ended December 31, 2016 related to the expiration of the RMB Warrants.

##### *Covered call options*

From time to time Solitario has sold covered call options against its holdings of Kinross. The business purpose of selling covered calls is to provide additional income on a limited portion of shares of Kinross that Solitario may sell in the near term, which is generally defined as less than one year. Solitario has not designated its covered calls as hedging instruments as described in ASC 815, “Derivatives and Hedging,” and any changes in the fair value of its covered calls are recognized in the statement of operations in the period of the change. As of December 31, 2016, Solitario had two covered calls against its holdings of Kinross common stock, which had a fair value of \$2,000. As of December 31 2015, all of the covered calls had expired unexercised and there were no liabilities related to those calls entered during each of the years.



Solitario recorded the following gain on derivative instruments:

| (in thousands)            | Year ended   |      |
|---------------------------|--------------|------|
|                           | December 31, |      |
|                           | 2016         | 2015 |
| Gain on Kinross calls     | \$43         | \$84 |
| Gain on Vendetta Warrants | 629          | —    |
|                           | \$672        | \$84 |

The following table provides the location and amount of the fair values of Solitario's derivative instruments presented in the consolidated balance sheets as of December 31, 2016 and 2015:

| (in thousands)    | Derivatives               |       |      |
|-------------------|---------------------------|-------|------|
|                   | Balance Sheet Location    | 2016  | 2015 |
| Vendetta warrants | Other assets              | \$735 | \$ — |
| RMB warrants      | Other current liabilities | \$ —  | \$ 4 |
| Kinross calls     | Other current liabilities | \$2   | \$ — |

#### 7. Fair Value of Financial Instruments:

For certain of Solitario's financial instruments, including cash and cash equivalents, payables and short-term debt, the carrying amounts approximate fair value due to their short maturities. Solitario's marketable equity securities, including its investment in shares of Kinross common stock, Vendetta common stock and TNR Gold Corp (“TNR”) common stock, are carried at their estimated fair value primarily based on publicly available quoted market prices.

Solitario applies ASC 820, "Fair Value Measurements" ("ASC 820"). ASC 820 establishes a framework for measuring fair value and requires enhanced disclosures about fair value measurements. ASC 820 clarifies that fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. ASC 820 also requires disclosure about how fair value is determined for assets and liabilities and establishes a hierarchy for which these assets and liabilities must be grouped, based on significant levels of inputs as follows:

**Level 1:** Quoted prices in active markets for identical assets or liabilities;

**Level 2:** Quoted prices in active markets for similar assets and liabilities and inputs that are observable for the asset or liability; or

**Level 3:** Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

The determination of where assets and liabilities fall within this hierarchy is based upon the lowest level of input that is significant to the fair value measurement. During the years ended December 31, 2016 and 2015, there were no reclassifications in financial assets or liabilities between Level 1, 2 or 3 categories.

The following is a listing of Solitario's financial assets and liabilities required to be measured at fair value on a recurring basis and where they are classified within the hierarchy as of December 31, 2016:

| (in thousands)               | Level 1 | Level 2 | Level 3 | Total   |
|------------------------------|---------|---------|---------|---------|
| <b>Assets</b>                |         |         |         |         |
| Marketable equity securities | \$1,339 | \$—     | \$ —    | \$1,339 |
| Vendetta Warrants            |         | 735     |         | 735     |
| <b>Liabilities</b>           |         |         |         |         |
| Kinross calls                | —       | 2       | —       | 2       |

The following is a listing of Solitario's financial assets and liabilities required to be measured at fair value on a recurring basis and where they are classified within the hierarchy as of December 31, 2015:

| (in thousands)               | Level 1 | Level 2 | Level 3 | Total |
|------------------------------|---------|---------|---------|-------|
| <b>Assets</b>                |         |         |         |       |
| Marketable equity securities | \$202   | \$ —    | \$ —    | \$202 |
| <b>Liabilities</b>           |         |         |         |       |
| RMB Warrants                 | —       | 4       | —       | 4     |

*Items measured at fair value on a recurring basis:*

Marketable equity securities: At December 31, 2016 and 2015, the fair value of Solitario's holdings in shares of Vendetta, Kinross, and TNR marketable equity securities and the Kinross calls are based upon quoted market prices.

Vendetta Warrants: The Vendetta Warrants are not traded on any public exchange. Solitario determines the fair value of the Vendetta Warrants using a Black-Scholes pricing model, using inputs, including share price, volatility of Vendetta common stock and discount rates that include an assessment of performance risk, that are readily available from public markets; therefore, they are classified as Level 2 inputs as of December 31, 2016.

RMB Warrants: The RMB Warrants were not traded on any public exchange. Solitario determined the fair value of the RMB Warrants using a Black-Scholes pricing model, using inputs, including share price, volatility of Solitario common stock and discount rates that include an assessment of performance risk, that are readily available from public markets; therefore, they are classified as Level 2 inputs as of December 31, 2015.

During the year ended December 31, 2016, Solitario did not change any of the valuation techniques used to measure its financial assets and liabilities at fair value.

#### 8. Commitments and Contingencies:

In acquiring its interests in mineral claims and leases, Solitario has entered into lease agreements, which may be canceled at its option without penalty. Solitario is required to make minimum rental and option payments in order to maintain its interests in certain claims and leases. See Note 2, "Mineral Properties," above. Solitario estimates its 2017 property rentals and option payments, excluding certain earn-in payments discussed below, for properties we own or operate to be approximately \$271,000. Assuming that our joint ventures continue in their current status and that we do not appreciably change our property positions on existing properties, approximately \$263,000 of these annual payments are paid or are reimbursable to us by our joint venture partners. In addition, we may be required to make further payments in the future if we elect to exercise our options under those agreements or if we enter into new agreements.

Solitario leases office space under a non-cancelable operating lease for the Wheat Ridge, Colorado office which provides for total minimum annual rent payments of \$38,000 through January of 2019.

9. Employee Stock Compensation Plans:

On August 24, 2016, the holders of options to acquire Solitario common stock voluntarily surrendered for cancellation all options previously granted to such persons pursuant to the 2013 Solitario Exploration and Royalty Corp Omnibus Stock and Incentive Plan (the “2013 Plan”) and the 2006 Stock Option Incentive Plan (the “2006 Plan”). Solitario cancelled the options upon surrender. As a result, there are no outstanding options under either the 2006 Plan or the 2013 Plan as of December 31, 2016.

Historically, stock option awards at the time of grant had a five year term and vested 25% on date of grant and 25% on each of the next three anniversary dates. Solitario recognizes stock option compensation expense on the date of grant for 25% of the grant date fair value, and subsequently, based upon a straight line amortization of the unvested grant date fair value of each of its outstanding options. During the years ended December 31, 2016 and 2015, Solitario recorded \$970,000 and \$516,000, respectively, of stock option expense for the amortization of the grant date fair value through the date of cancellation and for any unrecognized grant date fair value on the date of cancellation of each of its outstanding options with a credit to additional paid-in-capital. Solitario classifies its stock options under the 2006 Plan and the 2013 Plan as equity options in accordance with the provisions of ASC 718, “Compensation – Stock Compensation.”

a.) The 2006 Plan

On June 27, 2006, Solitario's shareholders approved the 2006 Plan. Under the terms of the 2006 Plan, the Board of Directors reserved a total of 2,800,000 shares of Solitario common stock for the potential awards to directors, officers and employees with exercise prices equal to the market price of Solitario's common stock at the date of grant. As of June 26, 2016, the 2006 Plan terminated, and in accordance with the terms of the 2006 Plan, no additional awards may be made pursuant to the 2006 Plan.

b.) 2006 Plan stock option grants

The following table shows the grant date fair value of Solitario’s only option grant during either 2016 or 2015 from the 2006 Plan as of the date of grant.

Grant date fair value

|                                   |         |
|-----------------------------------|---------|
| Grant Date                        | 6/22/16 |
| Option – grant date price (Cdn\$) | \$0.72  |

|                             |           |   |
|-----------------------------|-----------|---|
| Options granted             | 350,000   |   |
| Expected life years         | 5.0       |   |
| Expected volatility         | 63        | % |
| Risk free interest rate     | 1.0       | % |
| Weighted average fair value | \$0.30    |   |
| Grant date fair value       | \$105,000 |   |

c.) 2006 Plan stock option activity

During 2016 and 2015 there were no shares issued from the exercise of options. The following table summarizes the activity for stock options outstanding under the 2006 Plan as of December 31, 2016 and 2015:

|                                | 2016      |   |                              | 2015        |   |                              |
|--------------------------------|-----------|---|------------------------------|-------------|---|------------------------------|
|                                | Options   | Weighted Average Exercise Price (Cdn\$) | Aggregate Intrinsic Value(1) | Options     | Weighted Average Exercise Price (Cdn\$) | Aggregate Intrinsic Value(1) |
| 2006 Plan                      |           |   |                              |             |   |                              |
| Outstanding, beginning of year | 40,000    | \$ 1.66                                 |                              | 2,348,000   | \$ 1.66                                 |                              |
| Granted                        | 350,000   | \$ 0.72                                 |                              | —           | —                                       |                              |
| Exercised                      | —         | —                                       |                              | —           | —                                       |                              |
| Cancelled/expired (2)          | (390,000) | \$ 0.82                                 |                              | (2,188,000) | 1.66                                    |                              |
| Forfeited                      | —         | —                                       |                              | (120,000 )  | 1.60                                    |                              |
| Outstanding, end of year       | —         | —                                       | \$ —                         | 40,000      | \$ 1.60                                 | \$ —                         |
| Exercisable, end of year       | —         | —                                       | \$ —                         | 20,000      | \$ 1.60                                 | \$ —                         |

(1)The intrinsic value at December 31, 2015 based upon the quoted market price of Cdn\$0.70, respectively, per share for our common stock on the TSX and an exchange ratio of 0.72120, United States dollars per Canadian dollar. There were no options outstanding from the 2006 Plan at December 31, 2016.

(2)On August 24, 2016, holders of option awards from the 2006 Plan voluntarily cancelled awards for 350,000 options with an option price of Cdn\$.072 with an expiration date of June 21, 2021 and 40,000 options with an option price of Cdn\$1.66 with an expiration date of August 14, 2019 to allow Solitario to have additional financial flexibility. No consideration was given or received by the holders of the options to cancel the awards.

#### d.) The 2013 Plan

On June 18, 2013, Solitario's shareholders approved the 2013 Plan. Under the terms of the 2013 Plan, a total of 1,750,000 shares of Solitario common stock are reserved for awards to Directors, officers, employees and consultants. Such awards may take the form of stock options, stock appreciation rights, restricted stock, and restricted stock units. The terms and conditions of the awards are pursuant to the 2013 Plan and are granted by the Board of Directors or a committee appointed by the Board of Directors.

#### e.) 2013 Plan stock option grants

The following table shows the grant date fair value of Solitario's only award during either 2016 or 2015 from the 2013 Plan as of the date of grant.

## Grant date fair value

|                             |           |   |
|-----------------------------|-----------|---|
| Grant Date                  | 7/28/16   |   |
| Option – grant date price   | \$0.72    |   |
| Options granted             | 1,699,000 |   |
| Expected life years         | 5.0       |   |
| Expected volatility         | 63        | % |
| Risk free interest rate     | 0.9       | % |
| Weighted average fair value | \$0.50    |   |
| Grant date fair value       | \$850,000 |   |

Solitario made no grants of awards during 2015 from the 2013 Plan. Options grants from the 2013 Plan have a five-year term, and vest 25% on date of grant and 25% on each of the next three anniversary dates. Solitario recognizes stock option compensation expense on the date of grant for 25% of the grant date fair value, and subsequently, based upon a straight-line amortization of the unvested grant date fair value and for any unrecognized grant date fair value on the date of cancellation of each of its outstanding options.

## f.) Stock option activity

During 2016 and 2015 no options granted from the 2013 Plan were exercised. The following table summarizes the activity for stock options and RSUs outstanding under the 2013 Plan as of December 31, 2016 and 2015:

|                                | 2016             |  |                                    | 2015             |  |                                    |
|--------------------------------|------------------|--|------------------------------------|------------------|--|------------------------------------|
|                                | RSUs/<br>Options | Weighted<br>Average<br>Exercise<br>Price | Aggregate<br>Intrinsic<br>Value(1) | RSUs/<br>Options | Weighted<br>Average<br>Exercise<br>Price | Aggregate<br>Intrinsic<br>Value(1) |
| 2013 Plan                      |                  |  |                                    |                  |  |                                    |
| Outstanding, beginning of year | —                | —  |                                    | 1,400,000        | \$ 0.96                                  |                                    |
| Granted                        | 1,699,000        | \$ 0.72                                  |                                    | —                | —  |                                    |
| Exercised                      | —                | —  |                                    | —                | —  |                                    |
| Cancelled/expired(2)           | (1,699,000)      | 0.94                                     |                                    | (1,250,000)      | 0.94                                     |                                    |
| Forfeited                      | —                | 1.10                                     |                                    | (150,000 )       | 1.10                                     |                                    |
| Outstanding, end of year       | —                | —  | \$ —                               | —                | —  | \$ —                               |
| Exercisable, end of year       | —                | —  | \$ —                               | —                | —  | \$ —                               |

(1) There were no options outstanding from the 2013 Plan at December 31, 2016 and 2015.

(2) On August 24, 2016, holders of option awards from the 2013 Plan voluntarily cancelled awards for 1,699,000 options with an option price of \$.072 with an expiration date of July 27, 2021 to allow Solitario to have additional financial flexibility. No consideration was given or received by the holders of the options to cancel the awards.

10. Share Repurchase Program

On October 28, 2015, Solitario's Board of Directors approved a share repurchase program that initially authorized Solitario to purchase up to two million shares of its outstanding common stock through December 31, 2016. During 2016, Solitario's Board of Directors extended the expiration date of the share repurchase program through December 31, 2017. During the years ended December 31, 2016 and 2015, Solitario purchased 475,600 and 145,000 shares of Solitario common stock, respectively, for an aggregate purchase price of \$248,000 and \$67,000, respectively. As of December 31, 2016, Solitario has purchased a total of 620,600 shares for an aggregate purchase price of \$315,000 under the share repurchase program since its inception.



**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

None

**Item 9A. Controls and Procedures**

The management of Solitario is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(e) of the Exchange Act). During the fiscal period covered by this report, Solitario's management, with the participation of the Chief Executive Officer and Chief Financial Officer, carried out an evaluation of the effectiveness of Solitario's internal control over financial reporting and the design and operation of Solitario's disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act). This evaluation of the effectiveness of our internal control over financial reporting was based on the framework and criteria established in *Internal Control – Integrated Framework (2013)*, issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on such evaluations, Solitario's Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2016, Solitario's internal control over financial reporting is effective and that its disclosure controls and procedures are effective to ensure that information required to be disclosed by Solitario in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the required time periods and are designed to ensure that information required to be disclosed in its reports is accumulated and communicated to Solitario's management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. There were no changes in internal control over financial reporting during the three months ended December 31, 2016.

This annual report does not include an attestation report of our independent registered public accounting firm regarding internal control over financial reporting. As a smaller reporting company, Solitario's management's report was not subject to attestation by our independent registered public accounting firm pursuant to rules of the SEC that permit us to provide only management's report in this annual report.

**Item 9B. Other Information**

None

PART

III

**Item 10. Directors, Executive Officers and Corporate Governance**

The information required under Item 10 is incorporated herein by reference to the information set forth in our definitive proxy statement in connection with the annual meeting of shareholders to be filed with the SEC within 120 days after the end of our fiscal year ended December 31, 2016 pursuant to Section 14(a) of the Exchange Act (the "2017 Proxy").

Item 11. Executive Compensation

The information required under Item 11 is incorporated herein by reference to the information set forth in the 2017 Proxy.

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters**

The information with respect to Item 12 is incorporated herein by reference to the information set forth in the 2017 Proxy.

**Item 13. Certain Relationships and Related Transactions, and Director Independence**

The information with respect to Item 13 is incorporated herein by reference to the information set forth in the 2017 Proxy.

Item 14. Principal Accounting Fees and Services

The information required under Item 14 is incorporated herein by reference to the information set forth in the 2017 Proxy.



## **PART IV**

### **Item 15. Exhibits, Financial Statement Schedules**

The following documents are filed as a part of this Annual Report on Form 10-K:

#### 1. Financial Statements

The following financial statements contained in Part II, Item 8 are filed as part of this Annual Report on Form 10-K:

Consolidated Financial Statements  
Report of Independent Registered Public Accounting Firm  
Consolidated Balance Sheets as of December 31, 2016 and 2015  
Consolidated Statements of Operations for the years ended December 31, 2016 and 2015  
Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2016 and 2015  
Consolidated Statements of Shareholders' Equity for the years ended December 31, 2016 and 2015  
Consolidated Statements of Cash Flows for the years ended December 31, 2016 and 2015  
Notes to Consolidated Financial Statements

#### 2. Financial Statement Schedules

Financial statement schedules are omitted because they are not required or are not applicable, or the required information is provided in the consolidated financial statements or notes thereto described in Item 15(1) above.

#### 3. Exhibits

The Exhibits listed in the Index to Exhibits, which appears immediately following the signature page and is incorporated herein by reference, are filed as part of this Annual Report on Form 10-K.

**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SOLITARIO EXPLORATION  
& ROYALTY CORP.

By: /s/ James R. Maronick  
Chief Financial Officer

Date: March 10, 2017

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

| <b>Signature</b>  | <b>Title</b>                               | <b>Date</b>           |
|---|--|-----------------------|
| <u>/s/</u><br>Christopher E. Herald,<br>Chief Executive Officer | Principal Executive Officer and Director   | <u>March 10, 2017</u> |
| <u>/s/</u><br>James R. Maronick,<br>Chief Financial Officer     | Principal Financial and Accounting Officer | <u>March 10, 2017</u> |
| <u>/s/</u><br>John Labate                                       | <br> <br>  A majority of                   |                       |
| <u>/s/</u><br>Brian Labadie                                     | the Board of<br>  Directors                | <u>March 10, 2017</u> |
| <u>/s/</u><br>Leonard Harris                                    | <br> <br>                                  |                       |

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|  
|  
|

By: /s/

James R. Maronick,  
Attorney-in-fact

INDEX TO EXHIBITS

Description

- 3.1 Amended and Restated Articles of Incorporation of Solitario Exploration & Royalty Corp., as Amended (incorporated by reference to Exhibit 3.1 to Solitario's Form 10-Q filed on August 10, 2010)
- 3.2 Amended and Restated By-laws of Solitario Exploration & Royalty Corp. (incorporated by reference to Exhibit 99.1 to Solitario's Form 8-K filed on March 22, 2013)
- 4.1 Form of Common Stock Certificate of Solitario Exploration & Royalty Corp. (incorporated by reference to Exhibit 4.1 to Solitario's Form 10-Q filed on August 7, 2008)
- 10.1 Membership Interest Purchase Agreement between Solitario Exploration & Royalty Corp., Ely Gold & Minerals, Inc., DHI Minerals (U.S.) Ltd., and Waterton Nevada Splitter LLC dated June 10, 2015 (incorporated by reference to Exhibit 10.1 to Solitario's Form 8-K filed on June 12, 2015)
- 10.2 Waterton Commitment Letter Agreement between Solitario Exploration & Royalty Corp. and Waterton Precious Metals Fund II Cayman, LP dated June 10, 2015 (incorporated by reference to Exhibit 10.2 to Solitario's Form 8-K filed on June 12, 2015)
- 10.3 Consent and Waiver between Solitario Exploration & Royalty Corp., Ely Gold & Minerals, Inc., and DHI Minerals (U.S.) Ltd. dated June 10, 2015 (incorporated by reference to Exhibit 10.3 to Solitario's Form 8-K filed on June 12, 2015)
- 10.4 2013 Solitario Exploration & Royalty Corp. Omnibus Stock and Incentive Plan (incorporated by reference to Exhibit 10.2 to Solitario's Form 8-K filed on June 20, 2013)
- 10.5 Alliance Agreement, dated January 18, 2005, between Solitario Resources Corporation and Newmont Overseas Exploration Limited (incorporated by reference to Exhibit 99.1 to Solitario's Form 8-K filed on January 20, 2005)
- 10.6 Amended and Restated Royalty Grant, dated January 18, 2005, between Solitario Resources Corporation and Minera Los Tapados S.A. (incorporated by reference to Exhibit 99.3 to Solitario's Form 8-K filed on January 20, 2005)
- 10.7 Change in Control Severance Benefits Agreement between Solitario Resources Corporation and Christopher E. Herald, dated as of March 14, 2007 (incorporated by reference to Exhibit 99.1 to Solitario's Form 8-K filed on March 14, 2007)
- 10.8 Change in Control Severance Benefits Agreement between Solitario Resources Corporation and James R. Maronick, dated as of March 14, 2007 (incorporated by reference to Exhibit 99.2 to Solitario's Form 8-K filed on March 14, 2007)
- 10.9 Change in Control Severance Benefits Agreement between Solitario Resources Corporation and Walter W. Hunt, dated as of March 14, 2007 (incorporated by reference to Exhibit 99.3 to Solitario's Form 8-K filed on March 14, 2007)

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- 10.10 Framework Agreement for the Exploration and Development of Potential Mining Properties, related to Solitario's 100% owned Bongará project in Peru between Minera Bongará S.A., Minera Solitario Peru S.A.C., Solitario Resources Corporation, and Votorantim Metais – Cajamarquilla S.A., dated March 24, 2007 (incorporated by reference to Exhibit 10.2 to Solitario's Form 8-K filed on October 4, 2007)
- 14.1 Code of Ethics for the Chief Executive Officer and Senior Financial Officer (incorporated by reference to Exhibit 99.1 to Solitario's Form 8-K filed on July 18, 2006)
- 21.1 \* Subsidiaries of Solitario Exploration & Royalty Corp.

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23.1 \* Consent of EKS&H LLLP

24.1 \* Power of Attorney

31.1 \* Certification of Chief Executive Officer pursuant to SEC Rule 13a-14(a)/15d-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

31.2 \* Certification of Chief Financial Officer pursuant to SEC Rule 13a-14(a)/15d-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

32.1 \* Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

101 \* The following financial statements, formatted in XBRL: (i) Consolidated Balance Sheets as of December 31, 2016 and 2015; (ii) Consolidated Statements of Operations for the years ended December 31, 2016 and 2015; (iii) Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2016 and 2015; (iv) Consolidated Statements of Shareholders' Equity for the years ended December 31, 2016 and 2015; (v) Consolidated Statements of Cash Flows for the years ended December 31, 2016 and 2015; and (vi) Notes to the Consolidated Financial Statements.

\* Filed herewith