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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM 20-F**

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

or

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

or

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 0-55139

**Quaterra Resources Inc.**

(Exact name of Registrant as specified in its charter)

**British Columbia, Canada**

(Jurisdiction of incorporation or organization)

**1100 – 1199 West Hastings Street, Vancouver, British Columbia, Canada V6E 3T5**

(Address of principal executive offices)

**Lei Wang, Chief Financial Officer**

**1100 – 1199 West Hastings Street, Vancouver, British Columbia, Canada V6E 3T5**

**Phone (604) 641-2747 and Fax (604) 641-2740**

(Name, telephone, e-mail and/or facsimile number and address of company contact person)

Securities registered or to be registered pursuant to Section 12(b) of the Act: **None**

Securities registered or to be registered pursuant to Section 12(g) of the Act: **Common Shares, no par value**

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: **None**

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Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.  
**200,969,314 common shares**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.  
Yes  No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.  
Yes  No

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 whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "large accelerated filer", "accelerated filer" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer  Non-accelerated filer   
Emerging growth company

Indicate by check mark which basis of accounting the registration has used to prepare the financial statements included in this filing:

U.S. GAAP

International Financial Reporting Standards as issued by the International Accounting Standards board

Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17

Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).  
Yes  No

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References to the “Company”, “Quaterra”, “we”, “us”, “our” and words of similar meaning used in this annual report refer to Quaterra Resources Inc.

### **CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION**

This annual report of Quaterra contains forward-looking statements within the meaning of applicable United States and Canadian securities legislations (“Forward-Looking Statements”). Forward-Looking Statements reflect the expectations of management and consist of statements that are not only historical fact but also relate to predictions, expectations, belief, plans, projections, objectives, assumptions, future events, or future performance. Forward-looking Statements may be identified by such terms as “believes”, “anticipates”, “expects”, “estimates”, “may”, “could”, “would”, “will”, “plan” or similar words. Although the Company believes that such information is reasonable, it can give no assurance that such expectations will prove to be correct. The Company cautions investors that any Forward-Looking Statements provided by the Company is not a guarantee of future results or performance, and that actual results may differ materially from those in Forward-Looking Statements as a result of various estimates, risks, and uncertainties. Readers should not place undue reliance on Forward-Looking Statements.

Forward-Looking Statements in this annual report and in documents incorporated by reference herein include, but are not limited to, statements with regard to:

- planned exploration activity including both expected drilling and geological and geophysical related activities;
- future foreign exchange rates;
- future sources of liquidity, cash flows and their uses;
- realization of anticipated benefits of acquisitions and dispositions;
- expected levels of operating costs, general and administrative costs, costs of services and others;
- treatment under government regulation and taxation regimes.

Forward-Looking Statements are subject to a variety of known and unknown risks, uncertainties and other factors which could cause actual events or results to differ from those expressed or implied by the Forward-Looking Statements, including, without limitation:

- risks related to exploration and development of natural resource properties;
- the uncertain nature of estimating mineral resources and mineral reserves;
- uncertainty in the Company’s ability to obtain funding;
- copper price fluctuations;
- recent market events and conditions;
- risks related to governmental regulations;
- risks related to the Company’s business being subject to environmental laws and regulations;
- risks related to the Company’s inability to meet its financial obligations under agreements to which it is a party;
- risks related to the Company’s ability to recruit and retain qualified personnel.

These Forward-Looking Statements are based on the beliefs of our management as well as on assumptions made by and information currently available to us at the time such statements were made. We undertake no obligation to update forward-looking statements should circumstances or estimates or opinions change.

### **DIFFERENCES IN UNITED STATES AND CANADIAN REPORTING PRACTICES**

#### **Financial Information**

All financial information in this annual report is prepared in accordance with International Financial Reporting Standards (“IFRS”), as issued by International Accounting Standards Board (“IASB”). IFRS differs in some respects from accounting principles generally accepted in the United States, (“U.S. GAAP”), and thus our financial statements may not be comparable to financial statements of United States companies.

## **Resource and Reserve Estimates**

None of the Company's properties have Mineral Reserves. Disclosure about the Company's exploration properties in this Annual Report on Form 20-F uses the term "Mineral Resources", "Measured Mineral Resources", "Indicated Mineral Resources" and "Inferred Mineral Resources", which are Canadian geological and mining terms as defined in accordance with National Instrument 43-101 ("NI 43-101"), standards of disclosure for mineral projects of the Canadian Securities Administrators, set out in the Canadian Institute of Mining ("CIM") Standards. These terms are not defined in the U.S. Securities and Exchange Commission ("SEC") Industry Guide 7, *Description of Property by Issuers Engaged or to be engaged in Significant Mining Operations*, and are normally not permitted to be used in reports and registration statements filed with the SEC. Accordingly, information in this Annual Report on Form 20-F contains descriptions of our mineral deposits that may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations thereunder.

*Cautionary Note to U.S. Readers concerning estimates of Measured Mineral Resources and Indicated Mineral Resources:* This Annual Report on Form 20-F may use the terms "Mineral Resources," "Measured Mineral Resource" and "Indicated Mineral Resource." The Company advises U.S. investors that while such terms are recognized and permitted under Canadian regulations, the SEC does not recognize them. U.S. investors are cautioned not to assume that any part or all of the Mineral Resources in these categories will ever be converted into Mineral Reserves.

*Cautionary Note to U.S. Readers concerning estimates of Inferred Mineral Resources:* This Annual Report on Form 20-F may use the term "Inferred Mineral Resource." The Company advises U.S. investors that while such a term is recognized and permitted under Canadian regulations, the SEC does not recognize it. "Inferred Mineral Resources" have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an inferred Mineral Resource will ever be upgraded to a higher category. Under Canadian rules estimates of Inferred Mineral Resources may not form the basis of feasibility or other economic studies. U.S. investors are cautioned not to assume that any part of all of the Inferred Mineral Resources exist, or is economically or legally mineable.

## **EMERGING GROWTH COMPANY STATUS**

The Company is an "emerging growth company" as defined in section 3(a) of the U.S. Securities Exchange Act of 1934 (as amended by the U.S. Jumpstart Our Business Startups Act (the "JOBS Act"), enacted on April 5, 2012), and the Company will continue to qualify as an "emerging growth company" until the earliest to occur of: (a) the last day of the fiscal year during which the Company has total annual gross revenues of \$1,000,000,000 (as such amount is indexed for inflation every five years by the SEC) or more; (b) the last day of the fiscal year of the Company following the fifth anniversary of the date of the first sale of common equity securities of the Company pursuant to an effective registration statement under the U.S. Securities Act of 1933, as amended; (c) the date on which the Company has, during the previous three-year period, issued more than \$1,000,000,000 in non-convertible debt; or (d) the date on which the Company is deemed to be a 'large accelerated filer', as defined in Rule 12b-2 of the U.S. Securities Exchange Act of 1934, as amended. The Company expects that it will continue to qualify as an emerging growth company for the foreseeable future.

## **GLOSSARY OF GEOLOGIC AND MINING TERMS**

<b>Anomaly:</b>	A geological feature distinguished by geological, geochemical or geophysical means, which is detectably different than the general surroundings and is sometimes of potential economic value.
<b>Breccia:</b>	Rock consisting of more or less angular fragments in a matrix of finer-grained material or cementing material.
<b>Diamond drill:</b>	A type of drill in which the cutting is done by abrasion using diamonds embedded in a matrix rather than by percussion. The drill cuts a core of rock which is recovered in long cylindrical sections.

<b>Dilution:</b>	Process whereby unwanted gangue or waste rock is mixed with ore during mining.
<b>Fracture:</b>	Breaks in a rock, usually due to intensive folding or faulting.
<b>Gangue:</b>	Term used to describe worthless minerals or rock waste mixed in with the valuable minerals.
<b>Gouge:</b>	The finely ground rock that results from the abrasion along a fault surface.
<b>Grade:</b>	The concentration of each ore metal in a rock sample, usually given as weight percent. Where extremely low concentrations are involved, the concentration may be given in grams per tonne (g/t) or ounces per ton (oz/t). The grade of an ore deposit is calculated, often using sophisticated statistical procedures, as an average of the grades of a very large number of samples collected from throughout the deposit.
<b>Indicated Mineral Resource:</b>	An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as out-crops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
<b>Inferred Mineral Resource:</b>	An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
<b>Lithology:</b>	The physical characteristics of a rock or a rock formation.
<b>Mafic:</b>	A term used to describe ferromagnesian minerals. Rocks composed mainly of ferromagnesian minerals are correctly termed melanocratic.
<b>Massive:</b>	A term used to describe sulfide ores containing more than 50% volume of sulphide.
<b>Measured Mineral Resource:</b>	A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.
<b>Mineral Deposit or Mineralized Material:</b>	A mineralized body which has been intersected by sufficient closely spaced drill holes and or underground sampling to support sufficient tonnage and average grade of metal(s) to warrant further exploration-development work. This deposit does not qualify as a commercially mineable ore body (Reserves), as prescribed under SEC standards, until a final and comprehensive economic, technical, and legal feasibility study based upon the test results is concluded.
<b>Mineral Resource:</b>	A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

<b>Mineral Reserve:</b>	A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.
<b>Mineralization:</b>	Usually implies minerals of value occurring in rocks.
<b>Ore:</b>	A natural aggregate of one or more minerals which may be mined and sold at a profit, or from which some part may be profitably separated.
<b>Probable Mineral Reserve:</b>	A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource, demonstrated by at least a Preliminary Feasibility Study. This study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.
<b>Proven Mineral Reserve:</b>	A Proven Mineral Reserve is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.
<b>Reserve(s):</b>	A natural aggregate of one or more minerals which, at a specified time and place, may be mined and sold at a profit, or from which some part may be profitably separated.
<b>Reverse circulation drill:</b>	A rotary percussion drill in which the drilling mud and cuttings return to the surface through the drill pipe.
<b>Tailings:</b>	Material rejected from a mill after recoverable valuable minerals have been extracted.

#### GLOSSARY OF ABBREVIATIONS

<b>Ag:</b>	Silver
<b>Ag g/t:</b>	Silver grade measured in grams per metric tonne
<b>Au:</b>	Gold
<b>Au g/t:</b>	Gold grade measured in grams per metric tonne
<b>Cu:</b>	Copper
<b>g/t or gpt:</b>	grams per tonne
<b>IP:</b>	Induced Polarization geophysical survey
<b>NI 43-101:</b>	Canadian National Instrument 43-101 – <i>Standards of Disclosure for Mineral Projects</i>
<b>NSR:</b>	Net smelter return royalty
<b>Oz:</b>	Troy ounce
<b>oz/t or opt:</b>	Ounces per ton.
<b>PEA:</b>	Preliminary Economic Assessment
<b>ppb:</b>	Parts per billion
<b>ppm:</b>	Parts per million
<b>RC:</b>	Reverse Circulation

**CONVERSION TABLES**

<b>Conversion Table</b>			
<b>Imperial</b>			<b>Metric</b>
1 Acre	=	0.404686	Hectares
1 Foot	=	0.304800	Metres
1 Mile	=	1.609344	Kilometres
1 Ton	=	0.907185	Tonnes
1 Ounce (troy)/ton	=	34.285700	Grams/Tonne

<b>Precious metal units and conversion factors</b>									
ppb	- Part per billion	1	ppb	=	0.0010	ppm	=	0.000030	oz/t
ppm	- Part per million	100	ppb	=	0.1000	ppm	=	0.002920	oz/t
oz	- Ounce (troy)	10,000	ppb	=	10.0000	ppm	=	0.291670	oz/t
oz/t	- Ounce per ton (avdp.)	1	ppm	=	1.0000	ug/g	=	1.000000	g/tonne
g	- Gram								
g/tonne	- gram per metric ton	1	oz/t	=	34.2857	ppm			
mg	- milligram	1	Carat	=	41.6660	mg/g			
kg	- kilogram	1	ton	=	907.1848	kg			
			(avdp.)						
ug	- microgram	1	oz (troy)	=	31.1035	g			



**PART I**

**ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS**

Not applicable.

**ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE**

Not applicable.

**ITEM 3. KEY INFORMATION**

**A. Selected Financial Data** - Unless otherwise indicated, all monetary references herein are denominated in U.S. Dollars. References to "\$" or "Dollars" are to US Dollars and references to "CAD\$" or "Canadian Dollars" are to Canadian Dollars.

The following table sets forth our selected consolidated financial data for the five years ended December 31, 2018 prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by International Accounting Standards Board ("IASB"). This information should be read in conjunction with our consolidated financial statements included in Item 17 of this annual report.

(In thousands of U.S. dollars, except for share and per share amounts)	Fiscal year ended December 31,				
	2018	2017	2016	2015	2014
Sales or operating revenue	Nil	Nil	Nil	Nil	Nil
Net loss for the year	(1,419)	(1,273)	(1,896)	(3,104)	(2,141)
Total assets	32,804	33,247	34,514	36,957	37,873
Shareholders' equity	30,631	31,959	32,385	34,145	35,827
Share capital	100,729	100,729	100,051	100,051	100,051
Derivative liabilities	572	587	938	1,392	1,293
Cash dividends per common shares	Nil	Nil	Nil	Nil	Nil
Loss per common share	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)
Number of common shares outstanding	200,969,314	200,969,314	193,479,416	193,479,416	193,479,416

**B. Capitalization and Indebtedness**

Not applicable.

**C. Reasons for the Offer and Use of Proceeds**

Not applicable.

**D. Risk Factors**

The Company's securities should be considered a highly speculative investment and investors should carefully consider all of the information disclosed in the Company's Canadian and U.S. regulatory filings prior to making an investment in the Company.

Resource exploration and development is a speculative business, characterized by a number of significant risks including, among other things, unprofitable efforts resulting not only from the failure to discover mineral deposits but also from finding mineral deposits, which, though present, are insufficient in quantity and/or quality to return a profit from production. Without limiting the foregoing, the following risk factors should be given special consideration when evaluating an investment in the Company's securities. Additional risks not currently known to the Company, or that the Company currently deems immaterial, may also impair the Company's operations.

*The Company may require additional funding to complete further exploration programs.*

The Company does not generate operating revenue and must finance exploration activity by other means, such as selling assets, raising funds through optioning certain property interests, selling certain water rights, and the issuance of debt and/or equity. The Company cannot provide any assurance that additional funding will be available for further exploration of the Company's projects or to fulfill anticipated obligations under existing property agreements.

Failure to obtain necessary financing could result in delay or postponement of further exploration and development, and the property interests of the Company with the possible dilution or loss of such interests. Further, financing will depend upon the success of exploration programs and general market conditions for natural resources.

*The Company has a history of losses and anticipates to incur losses for the foreseeable future.*

The Company has had a history of losses. None of the Company's properties are currently in production, and there is no certainty that the Company will succeed in placing any of its properties into production in the near future, if at all.

Quaterra anticipates continued losses for the foreseeable future until one or more of the properties enters into commercial production and generates sufficient revenues to fund the Company's continuing operations.

***Future equity transactions could cause dilution of present and prospective shareholders.***

Historically, the Company has financed operations through the sale of equity securities including convertible into equity securities or sale of its mineral interests. The Company may issue additional equity securities in order to finance future operations and development efforts. The Company cannot predict the size and terms of future issuances of equity securities or debt instruments. Any transaction involving the issue of equity securities or securities convertible into common shares, could result in dilution, possibly substantial, to present and prospective security holders. Similarly, the Company cannot predict the value of any asset sale nor its effect on the market price of its common shares.

***The Company's exploration programs may not result in a commercial mining operation.***

Mineral exploration involves significant risk because few properties that are explored contain bodies of ore that would be commercially economic to develop into producing mines. Quaterra's mineral properties are without a known body of commercial ore and the proposed programs are an exploratory search for ore. The Company cannot provide any assurance that current exploration programs will result in any commercial mining operation. If the exploration programs do not result in the discovery of commercial ore, the Company will be required to acquire additional properties and write-off all investments in existing properties.

***The Company does not have Proven Mineral Reserves or Probable Mineral Reserves.***

The Company has not established the presence of any Proven Mineral Reserves or Probable Mineral Reserves (as such terms are defined in NI 43-101) at any of Quaterra's mineral properties. The Company cannot provide any assurance that future feasibility studies will establish Proven Mineral Reserves or Probable Mineral Reserves at Quaterra's properties. The failure to establish Proven Mineral Reserves or Probable Mineral Reserves could restrict the Company's ability to successfully implement its strategies for long-term growth.

***Mineral resource estimates are subject to updates which may differ from prior estimates and adversely affect the value of the Company's properties.***

The estimating of mineralization is a subjective process and the accuracy of estimates is a function of the quantity and quality of available data, the accuracy of statistical computations, and the assumptions used and judgments made in interpreting engineering and geological information. There is significant uncertainty in these Mineral Resource estimates, and the actual deposits encountered and the economic viability of mining a deposit may differ significantly from our estimates. From time to time, Quaterra obtains updated resource estimates and technical reports related to the Company's mineral properties.

***The Company's future business and financial condition are dependent upon resource prices.***

Resource prices have fluctuated widely, particularly in recent years, and are affected by numerous factors beyond the Company's control. These include international economic and political trends, inflation, currency exchange fluctuations, interest rates, global or regional consumption patterns, speculative activities and increased production due to new and improved extraction and production methods. These factors may negatively affect the marketability of any ore or minerals discovered at, and extracted from, Quaterra's properties. If, because of a sustained decline in prices, financing was not available to meet cash operating costs, the feasibility of continuing operations would be evaluated and if warranted, would be discontinued.

***The Company's common share price has been and may continue to be subject to volatility.***

U.S. and Canadian securities markets in recent years have experienced high levels of price and volume volatility, and the market price of securities of many companies have experienced wide fluctuations in price which have not necessarily been related to the operating performance for underlying assets values or prospects of such companies. Factors unrelated to Quaterra's financial performance or prospects include macroeconomic developments in North America and globally, and market perceptions of the attractiveness of particular industries. The Company's share price, financial condition, and results of operations are all also likely to be significantly affected by short-term changes in copper prices. Continual fluctuations in metal prices may occur. As a result of any of these factors, the market price of the Company's shares at any given point in time may be subject to wide swings unrelated to any direct action by Quaterra's operations.

***Some of the Company's directors and officers may have conflicts of interest due to their involvement with other natural resource companies.***

Some of the Company's directors and officers are directors or officers of other natural resource or mining-related companies and these associations may give rise to conflicts of interest from time to time. As a result of these conflicts of interest, Quaterra may miss the opportunity to participate in certain transactions, which may have a material, adverse effect on the Company's financial position.

***The Company may experience difficulty attracting and retaining qualified management to grow Quaterra's business.***

The Company is dependent on the services of key executives including the Chief Executive Officer and other highly skilled and experienced executives and personnel focused on advancing corporate objectives as well as the identification of new opportunities for growth and funding. Due to the Company's relatively small size, the loss of these persons or Quaterra's inability to attract and retain additional highly skilled employees required for activities may have a material adverse effect on the Company's business and financial condition.

***The Company may be limited in its ability to manage growth.***

Should the Company be successful in its efforts to develop mineral properties or to raise capital for such development or for the development of other mining ventures, it may experience significant growth in operations. Any expansion of the Company's business would place demands on management, operational capacity, and financial resources. The Company anticipates that it will need to recruit qualified personnel in all areas of operations. There can be no assurance that Quaterra will be effective in retaining current personnel or attracting and retaining additional qualified personnel, expanding operational capacity or otherwise managing growth. The failure to manage growth effectively could have a material adverse effect on the Company's business, financial condition and results of operations.

***Environmental and other regulatory requirements may limit the Company's operations and increase expenses.***

The Company's operations are subject to environmental regulations promulgated by U.S. government agencies. Claims and current and future operations will be governed by laws and regulations governing mineral concession acquisition, prospecting, development, mining, production, exports, taxes, labor standards, occupational health, waste disposal, toxic substances, land use, environmental protection, mine safety and other matters. Companies such as ours that engage in exploration activities often experience increased costs and delays in schedules as a result of the need to comply with applicable laws, regulations and permits. Issuance of permits for Quaterra's exploration activities is subject to the discretion of government authorities, and the Company may be unable to obtain or maintain such permits. Permits required for future exploration or development may not be obtainable on reasonable terms or on a timely basis. Existing and possible future laws, regulations and permits governing operations and activities of exploration companies, or more stringent implementation thereof, could have a material adverse impact and cause increases in capital expenditures or require abandonment or delays in exploration.

***Operating hazards associated with mining may expose the Company to liability.***

Mining operations generally involve a high degree of risk, including hazards such as fire, explosion, floods, structural collapses, industry accidents, unusual or unexpected geological conditions, power outages, cave-ins, inclement weather, and mechanical equipment failure in the Company's operations. These and others may result in work stoppages, damage to or destruction of mines and other producing facilities, damage to or loss of life and property, environmental damage and possible legal liability for any or all damage or loss.

Safety measures implemented by the Company may not be able to obtain insurance to cover these risks at economically feasible premiums or at all. Insurance against certain environmental risks is not generally available to the Company or to other companies within the mining industry.

***The Company's properties may be subject to uncertain title***

The acquisition of title to resource properties or interest therein is a very detailed and time consuming process. Title to and the area of resource concessions may be disputed. The Company has investigated title to all of its mineral properties and, to the best of the Company's knowledge, title to all of Quaterra's properties are in good standing.

The properties may be subject to prior, and in some cases, not fully ascertainable unregistered agreements or transfers, and title may be affected by undetected defects. Title may be based upon interpretation of a country's laws, which laws may be ambiguous, inconsistently applied and subject to reinterpretation or change.

***Enforcement of judgments or bringing actions outside the United States against the Company and its directors and officers may be difficult.***

Quaterra is organized under the law of and headquartered in British Columbia, Canada, and several of the Company's directors and officers are not citizens or residents of the U.S. As a result, it may be difficult or impossible for one to (a) enforce in courts outside the U.S. judgments against the Company and a majority of Quaterra's directors and officers, obtained in U.S. courts based upon the civil liability provisions of U.S. federal securities laws or (b) bring in courts outside the U.S. an original action against the Company and its directors and officers to enforce liabilities based upon such U.S. securities laws.

**ITEM 4. INFORMATION ON THE COMPANY**

**A. History and Development of the Company**

Quaterra was incorporated under the Company Act (British Columbia) on May 11, 1993 originally under the name Acquaterre Mineral Development Ltd. On November 30, 1993, the Company changed its name to Aquaterre Mineral Development Ltd. and ultimately became Quaterra Resources Inc. on October 23, 1997. Quaterra's domicile is British Columbia, Canada and the Company operates under the *Business Corporations Act* (British Columbia).

The Company's registered office is located at 1200 – 750 West Pender Street, Vancouver, British Columbia, Canada, V6C 2T8, Telephone: (604) 681-1194. The Company's head office is located at 1100 – 1199 West Hastings Street, Vancouver, British Columbia, Canada V6E 3T5. Telephone: (604) 684-9384, Facsimile: (604) 641-2740. The Company's website is [www.quaterra.com](http://www.quaterra.com). We are not including the information contained on our website as part of, or incorporating it by reference into, this Annual Report on Form 20-F. The SEC maintains an internet website at [www.sec.gov](http://www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers like us who file electronically with the SEC.

Since our incorporation, substantially all of our capital has been deployed to the development of our exploration stage business. We have not undertaken any material mergers or acquisitions other than in the ordinary course of business. There have been no public takeover offers by third parties with respect to our shares and we have made no public takeover offers with respect to another company's shares.

## **B. Business Overview**

The Company is a mineral exploration company engaged in the acquisition, exploration and development of copper projects currently in Nevada and Alaska, United States. The Company considers itself to be an advanced exploration stage company. The amounts shown as mineral properties represent costs incurred to date, less amounts amortized and/or written off, and do not necessarily represent present or future values. The underlying value of mineral properties and related capitalized costs are dependent on the existence of economically recoverable reserves, securing and maintaining title and beneficial interest in the properties, and obtaining necessary financing.

### ***Three Year History***

During the three year period under review, the Company had carried out exploration and development programs at its Yerington, Nevada copper property, acquired an interest in a new copper property in Southwest Alaska, and discontinued operations at other properties in other jurisdictions. Accordingly, a number of option agreements were terminated and properties were sold or returned to optionors as more particularly set out below. Details of relevant agreements and operations are set out hereunder as “*Part A – Yerington*” and “*Part B – Other Properties*”.

### **PART A - YERINGTON**

#### **Yerington Nevada Copper Project**

##### **Water rights sale**

On September 17, 2018, the Company announced that its wholly-owned subsidiary Singatse Peak Services, LLC (“SPS”) had entered into a purchase and sale agreement to sell certain primary ground water rights associated with its copper property in Yerington, Nevada, to Desert Pearl Farms LLC (“Desert Pearl”), a Yerington-based company involved in agriculture in the district, for \$6.26 million.

On March 3, 2019, the Company closed the water rights sale for a final value of \$6.02 million after adjusting for a small correction to one of the original permits. The Company retains approximate 6,700 acre-feet per year of primary ground water permitted for mining on its 51-square-mile Yerington property. In addition to these primary ground water rights, SPS also has decree, supplemental and storage water rights associated with options it holds on private land over the property’s Bear deposit.

##### **Freeport Agreements**

On June 16, 2014, the Company, through SPS, announced the entering into of a Membership Interest and Option Agreement (the “Option Agreement”) with Freeport-McMoRan Nevada LLC (“Freeport Nevada”) which set out the terms for due diligence and exploration of the Company’s Yerington Assets, including the MacArthur oxide and sulfide deposits (the “MacArthur Deposit”); the Yerington pit oxide-sulfide deposit previously mined by the Anaconda Company (the “Yerington Pit”); the Bear porphyry copper deposit (the “Bear Deposit”) and all other properties that SPS and Quaterra control in the Yerington District. On September 11, 2017, Freeport Nevada terminated the Option Agreement and retains no interest in the Yerington Assets.

Details of the Option Agreement, prior to termination, are summarized as follows:

- Under the Option Agreement, after conducting additional due diligence about SPS, Freeport Nevada had the right to earn an initial 55% interest in SPS by providing option payments to SPS to complete a three- stage investigation and work program totalling \$40.75 million in project funding. During these stages, Freeport Nevada provided option payments to SPS to be used for property maintenance, G&A, environmental compliance and, in later stages, exploration. Freeport Nevada could earn a further 20% interest in SPS (increasing its holding to 75%) should it elect to fund SPS with a further \$97.85 million of spending, or complete a feasibility study, whichever came first.
- On June 15, 2015, Freeport Nevada elected to enter into Stage 2 of the Option Agreement, involving option payments of \$6.6 million to SPS over the 12-month period for property maintenance costs; a drilling program; G&A; and environmental compliance.

- On June 13, 2016, Quaterra and SPS announced they had reached an agreement with Freeport Nevada to extend the Stage 2 of Freeport Nevada's option to acquire an interest in the Yerington Copper Project for up to two years by Freeport Nevada making staged option payments totalling \$5.75 million of which \$2.393 million was received in the year ended December 31, 2017.
- On September 11, 2017, Freeport Nevada terminated the Option Agreement. It retains no interest in the Yerington Assets. SPS used Freeport Nevada's option payments for exploration, property maintenance, G&A and environmental compliance at its Yerington Copper Project.

#### **Yerington Ancillary Agreements**

In December 2013, the Company announced the signing of four exclusive exploration and option agreements totaling 1,305 acres of private land north and east of the Yerington Mine Site (formerly the Anaconda Mine Site) that covers portions of the Bear Deposit. In May 2015, the Company entered into an option agreement to acquire a fifth property covering approximately 1,020 acres of additional private land covering a portion of the Bear Deposit. Under the terms of the five option agreements, Quaterra (now SPS) has the exclusive right to acquire these properties with all mineral rights and certain water rights, and to explore these parcels.

#### **PART B - OTHER PROPERTIES**

##### **Groundhog, Alaska**

On April 25, 2017, the Company announced it had signed a lease agreement with Chuchuna Minerals Company ("Chuchuna"), giving it the option to acquire a 90% interest in the Groundhog copper prospect, a 40,000-acre property situated on an established copper porphyry belt 200 miles southwest of Anchorage, Alaska.

The Company is required to fund a minimum of \$1.0 million for exploration in 2017 (\$1.5 million funded), and a minimum of \$500,000 in each of the following four years. Quaterra can earn its 90% interest in Groundhog by providing a total of \$5 million in funding for exploration over five years, and by paying Chuchuna a lump sum of \$3 million by the end of the fifth year. The Company has no obligation to exercise its option and can terminate the agreement at its discretion annually.

If the Company exercises its option to acquire 90% of Groundhog, Chuchuna and the Company will enter into a joint venture agreement. Chuchuna will retain a 10% interest in the property carried to production, and a net smelter returns (NSR) royalty of 1.75%. Within the first ten years Quaterra may purchase 50% of the NSR royalty by paying Chuchuna \$25 million.

##### **Herbert Gold Project, Alaska**

On July 14, 2016, Quaterra announced the sale of its remaining 35% participating interest in the Herbert Glacier project, Alaska, to its joint venture partner Grande Portage Resources Ltd. ("Grande Portage"). On closing, Grande Portage issued to Quaterra 1,182,331 shares, equal to 9% of its issued and outstanding common shares. In addition, Grande Portage will allot and deliver to Quaterra within five business days of a financing or financings totaling up to \$1 million that number of additional shares required to maintain Quaterra's interest at 9%. Grande Portage will also pay Quaterra \$250,000 within 90 days of receipt of a feasibility report for the property or in event of a change of control or sale. Grande Portage will assume any and all obligations related to Quaterra's participating interest under the JV agreement.

##### **Nieves, Mexico Silver Property**

On December 29, 2014, the Company entered into an agreement respecting the sale of its 50% indirect interest in the Nieves silver property in Zacatecas State, Mexico (the "Nieves Property") to its joint-venture partner Blackberry Ventures I, LLC ("Blackberry"), for \$4.0 million (the "Blackberry Agreement"). Under the terms of the Blackberry

Agreement, the purchase price is payable in four payments of \$1 million each over 15 months, with each payment earning Blackberry an additional 12.5% interest in the project. All costs for maintaining and exploring the Nieves Property will be the sole responsibility of Blackberry, with no dilution to Quaterra, through the end of 2015 or until Blackberry completes the acquisition, whichever is earlier. Upon closing, Blackberry will become the operator of the Nieves Property. In the event that Blackberry subsequently sells the property, Quaterra will receive 5% of the future net sale price. In addition, Quaterra agreed to transfer its Americas claims in Durango State, Mexico, adjacent to Hecla Mining's San Sebastian project, to Blackberry. The Blackberry Agreement was subsequently amended by agreements dated September 1, 2015, November 12, 2015 and February 26, 2016 to reduce the purchase price by \$500,000, increase Quaterra's portion of the future net sales price from 5% to 7.5% and to extend the final closing date to June 1, 2016. On June 30, 2016, Quaterra concluded the sale of its 50% interest in the Nieves project with receipt of the final \$1.0 million tranche owing to Quaterra by Blackberry Ventures. Quaterra no longer holds any interest in assets in Mexico.

### **Copper and Molybdenum Properties**

On October 3, 2014, the Company completed a sale of its residual interests (including royalties) in three non-core copper and molybdenum assets: Butte Valley, Nevada; SW Tintic, Utah; and Cave Peak, Texas to Freeport-McMoRan Mineral Properties Inc. ("FMMP") for \$5.0 million (the "Purchase Price"). \$1.0 million of the Purchase Price was paid at closing with the balance payable to the Company in \$500,000 quarterly increments commencing January 1, 2015 for eight consecutive quarters. On October 3, 2014, the Company issued 19 million common share purchase warrants to FMMP. Each warrant entitles FMMP to purchase one common share of the Company at a price of \$0.16 per share for five years, subject to vesting and termination provisions corresponding to the payment of the Purchase Price in tranches.

On October 4, 2016, Quaterra received a final payment of \$500,000 from FMMP.

### **Finance and Equity issuances**

On August 29 and September 20, 2018, the Company announced the closing of a non-brokered private placement in tranches by issuing secured convertible debentures for gross proceeds of \$550,000 and CAD \$550,000. The convertible debentures have a maturity date of 18 months from issuance, and bear a 10% interest rate per annum. Repayment of outstanding principal and interest are secured by a general security interest over the assets of the Company.

The convertible debentures are convertible into units of the Company at a price of \$0.05 or CAD \$0.065 per unit in the first 12 months, and \$0.075 or CAD \$0.10 thereafter until the maturity date. Each unit consists of a common share and a warrant. Each warrant will entitle the holder to acquire an additional common share at a price of \$0.05 or CAD \$0.065 for a period of four years. The convertible debentures are subject to certain acceleration clauses.

On July 2, 2014, the Company completed a non-brokered private placement of \$500,000 of units, each unit consisting of one non-transferable convertible redeemable \$1,000 principal amount promissory note (a "Note") and 11,442 non-transferable common share purchase warrants. The Company issued \$500,000 Notes and 5,721,000 warrants exercisable at CAD\$0.16 per share until January 2, 2016, subject to acceleration right of the Company. On December 30, 2015 the expiry date of the Notes and warrants was extended to January 2, 2017 and on December 23, 2016, the expiry date of the Notes and warrants was extended to January 2, 2018. The Notes were automatically converted at a rate of CAD\$0.10 per share on February 28, 2017. The Company issued 6,609,000 common shares for the principal, and settled the interest payment by issuing 880,898 shares and \$53,315 cash payment.

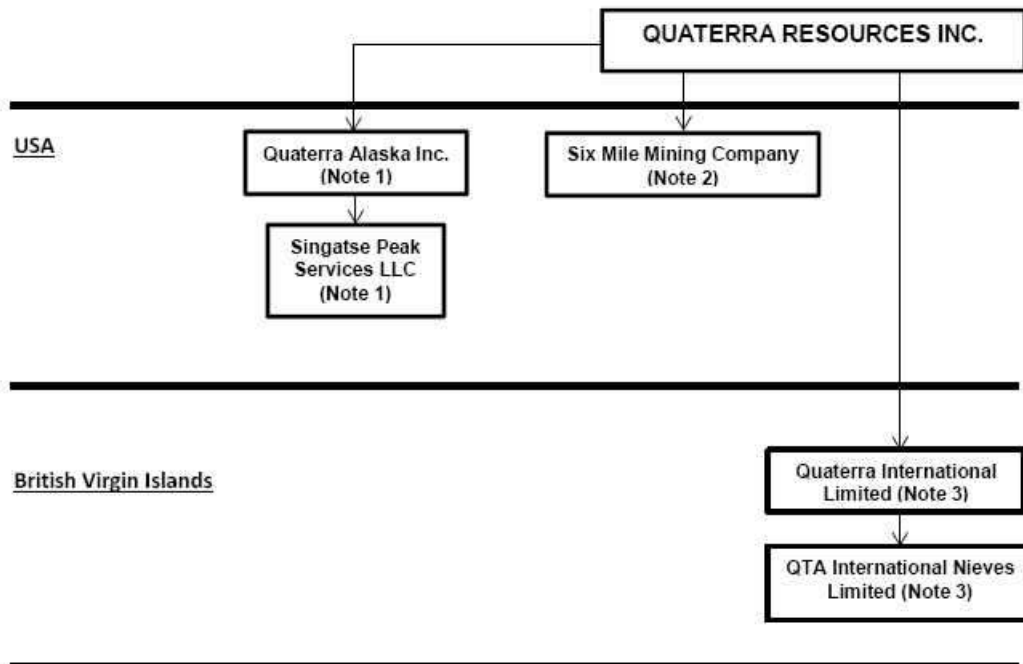
For more information about our business, please refer to Item 4.D – "*Property, Plant and Equipment*" below.



**C. Organizational Structure**

**Inter-corporate Relationships**

The flow chart below presents the Company’s legal corporate structure and the jurisdictions of the incorporation.



- Note 1: Quaterra Alaska, Inc. is 100% owned by Quaterra Resources Inc. Singatse Peak Services LLC holds the MacArthur, Bear, Yerington and Wassuk properties.
- Note 2: Six Mile Mining Company is 100% owned by Quaterra Resources Inc. It holds the option to earn a 90% interest in the Groundhog property.
- Note 3: Quaterra International Limited is 100% owned by Quaterra Resources Inc. and QTA International Nieves Limited is 100% owned by Quaterra International Limited.

**D. Property, Plant and Equipment**

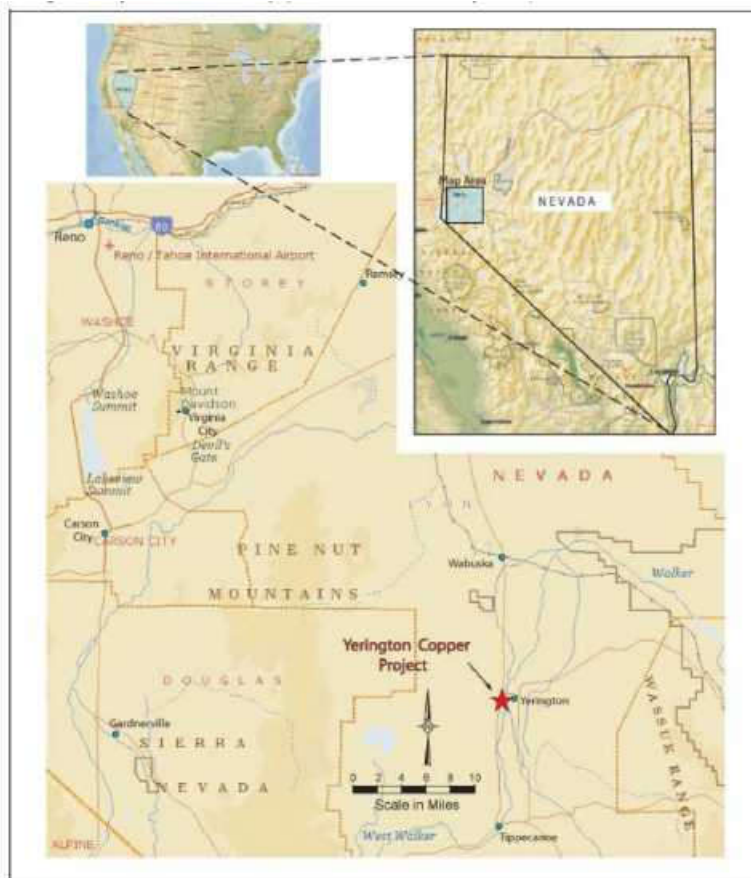
**GENERAL DEVELOPMENT OF THE BUSINESS**

**The Yerington Projects, Nevada**

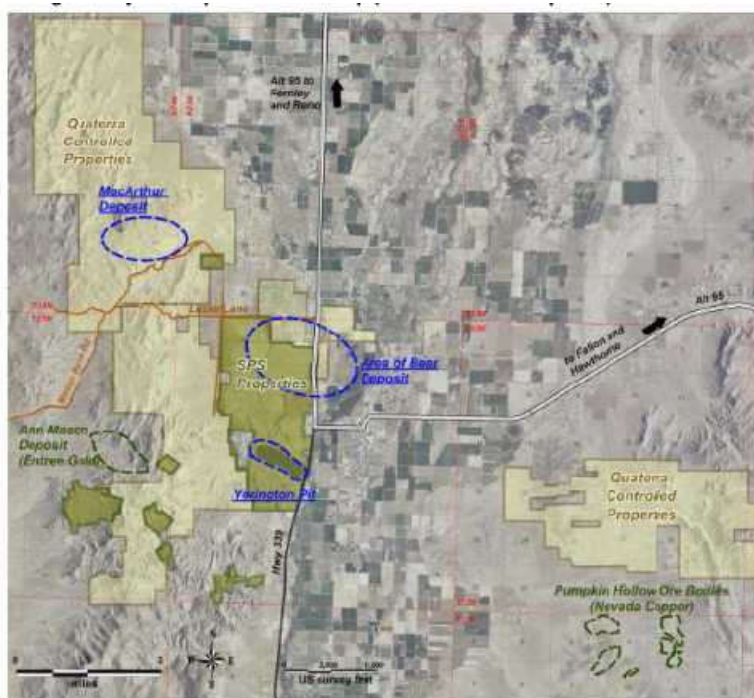
Quaterra’s Yerington Projects – located in the historic Yerington Copper District, about 70 miles southeast of Reno, Nevada, consist of the Yerington pit oxide-sulfide deposit previously mined by the Anaconda Mining Company; the MacArthur oxide and sulfide deposits; the Bear porphyry copper deposit; and a number of untested exploration targets. Quaterra’s 51-square-mile land package is situated in a mining-friendly jurisdiction with a history of copper production and good infrastructure. It also owns valuable water rights in the district.

The location of the Company's Yerington project is provided on the following maps.

**Yerington Project Location Map (Tetra Tech - February 2012)**



## Yerington Project Prospect Location Map (Tetra Tech February 2012)



### **a. Yerington Deposit – Nevada, USA**

The Yerington deposit refers to the former Anaconda mine site, a large partially mined porphyry copper system that includes the Yerington mine and a portion of the Bear copper deposits. The Anaconda Company conducted open pit mining from 1953 to 1978, producing 1.75 billion pounds of copper from first oxide, and later, sulfide ores. The Atlantic Richfield Company bought the Anaconda Company in 1977 and terminated work on the site shortly thereafter.

#### **Acquisition and Staking of Claims**

The Yerington Pit property totals approximately 11 square miles. The project mineral rights consist of 2,768 acres of fee simple mineral properties and patented mining claims as well as 201 unpatented lode and placer claims totaling 4,153 acres on lands administered by the BLM. The total reflects the transfer of 345 claims of the MacArthur Deposit from Quaterra Alaska Inc. to SPS in August 2015.

On May 1, 2007, SPS received the bankruptcy court approval for the acquisition of certain assets of Arimetco Inc. (“Arimetco”) in the Yerington Mining District, subject to completion of due diligence. The purchase price comprised \$500,000 cash, 250,000 of the Company’s common shares and a 2% net smelter return royalty capped at \$7.5 million dollars on production from any claims owned by the Company in the Yerington Pit and MacArthur Deposit mine areas.

SPS purchased the Yerington Mine properties along with the appurtenant ground water rights from the Arimetco bankruptcy court in April 2011. This included private land, patented claims, and 23 unpatented mining claims related to the Yerington Mine. The acquisition followed three years of due-diligence studies and negotiations with state and federal agencies and the receipt of Bona Fide Prospective Purchaser (“BFPP”) letters from the U.S. Environmental Protection Agency (“EPA”), the Nevada Division of Environmental Protection (“NDEP”) and the US Bureau of Land Management (“BLM”) to protect SPS from liability emanating from activities of the former mine owners and operations.

SPS purchased the Anaconda mine and MacArthur Deposit mine properties along with the appurtenant ground water rights in 2011. SPS owns approximately 6,700 acre-feet/yr of primary ground water rights that have senior priority standing. These water rights are specifically permitted for mining and milling and have significant value. Based on the price set at the close of its recent sale of water rights to a large agricultural concern in Yerington, these rights could be valued at about \$20 million. In addition to these primary ground water rights, SPS also has decree, supplemental and storage water rights associated with options it holds on private land over the property’s Bear deposit.

Private properties related to the Arimetco acquisition are located in Township 13 North, Range 25 East in Sections 4, 5, 8, 9, 16, 17, and 21, and patented claims are located within Township 13 North, Range 25 East in Sections 16, 17, 19-21, 31-33 and in Township 13 North, Range 24 East in Sections 22-27 and 36. An additional 434 unpatented claims in Sections 1, 2, 11-13, 23-26, 35, and 36 Township 13 North, Range 24 East and in Sections 4-9, 16-21, and 30 Township 13 North, Range 25 East, and in Sections 1, 2 Township 12 North, Range 24 East Mount Diablo Base & Meridian were staked prior to or subsequent to the acquisition by SPS.

#### **Expenditures to Date**

Acquisition and exploration costs incurred by the Company for the Yerington Pit to December 31, 2018 were \$10.58 million (2017 - \$10.57 million) net of recovery or option payments made by Freeport Nevada.

#### **Location, Access and Infrastructure**

The Yerington Mine property is located near the geographic center of Lyon County, Nevada, USA, along the eastern flank of the Singatse Range. The property centers on the historical Anaconda open pit mine, flanked on the west by Weed Heights, Nevada (a small private community; the original company town of Anaconda) and on the east by the town of Yerington, Nevada. The property is easily accessed from Yerington by a network of paved roads that were used as principal transportation and access routes during the former operating period of the mine. SPS controls approximately 6,700 acre feet of groundwater rights and the Yerington Pit contains an estimated 40,000 acre feet of water. Power is currently on-site and a new substation is being constructed a quarter mile to the South. Nevada Energy operates a 226 Megawatt natural gas fueled power plant within ten miles of the site. Power for future mining operations is expected to be readily available. Topographic coverage is on US Geological Survey “Yerington” and “Mason Butte” 7.5’ topographic quadrangles. The nearest major city is Reno, Nevada, approximately 80 miles to the northwest.

#### **History**

Recorded production in the Yerington mining district dates back to 1883 (Moore, 1969) as prospectors were attracted to and investigated colorful oxidized copper staining throughout the Singatse Range. Knopf (1914) reported that oxidized copper cropped out at the historic Nevada-Empire mine located above the south center of the present-day Yerington open pit. Knopf does not show or reference other mines or prospects that are underlain by the Yerington open pit footprint, as gravel and alluvial cover obscure bedrock over an approximate 0.75 -mile radius around the Nevada-Empire Mine.

During the 1940s, Anaconda, at that time one of world’s major copper producers, outlined a 60 million-ton resource over the Yerington Pit. During the early 1950s, the US government, citing the need for domestic copper production, offered “start-up” subsidies to Anaconda to open a copper mine in the Yerington district. Anaconda sank two approximately 400-foot-deep shafts in the present-day open pit and drove cross cuts to obtain bulk samples of oxidized rock for metallurgical study. Anaconda began operating the Yerington Pit in 1952 and mined continuously through 1978, producing approximately 1.744 billion pounds of copper from an ore body that contained 162 million tons averaging 0.54% Cu. Approximately 104 million tons of this total were oxidized copper ore that was “vat-leached” with sulfuric acid in 13,000-ton cement vats on a seven day leach cycle. Sulfide ores were concentrated on site in a facility that was dismantled and sold following termination of mining in 1979.

In 1976, all assets of Anaconda, including the Yerington Pit, were purchased by the Atlantic Richfield Company (ARCO) which in 1979 shut down dewatering pumps in the pit and closed the Yerington Pit due to low copper prices. In 1982, ARCO sold the entire Yerington Pit complex and Weed Heights town site to Mr. Don Tibbals of Yerington, Nevada, who scrapped the plant and equipment. At closure, before dewatering pumps were shut off, the Yerington Pit plan hosted a pre-stripped, non NI 43-101 compliant historic "reserve" of 98 million tons averaging 0.36% Cu containing approximately 696 million pounds of copper (K. L. Howard, Jr., Anaconda Internal Memo, 1979) within the ultimate pit design. The estimate was prepared from a geologic section calculation using a 0.2 %TCu cut-off grade. A qualified person has not done sufficient work to classify these historic estimates as a current mineral resource and Quaterra does not treat them as such. Although the 1979 estimate contained no classification for measured, indicated, or inferred resources as defined by NI 43-101, the total estimate compares favorably to an independent resource estimate completed by Tetra Tech under NI 43-101 in February 2012. An additional 22.8 million tons of material containing 136.8 million pounds copper was identified adjacent to the pit in this historic estimate. The K. L. Howard, Jr., Anaconda Internal Memo (1979) addressing this material is considered reliable because it cites mine reconciliation calculations and geologic projections from drill holes using a 0.2% Cu grade cutoff in an internal Anaconda memo by T. Leigh to W.C. Norem (1979).

In 1989, Arimetco purchased the mine property from Tibbals, commissioned a 50,000-pound-per-day solvent extraction/electrowinning plant, and began heap leaching "sub-grade" dump rock stripped from the Yerington Pit by Anaconda. Arimetco also added an unknown tonnage of "vat leach tailings" (minus 3/8 inch oxidized tailings leached during Anaconda's operation) to some heap leach pads ("HLP's") as well as trucking oxidized ore from the MacArthur Deposit located approximately five miles north of the Yerington Pit site. Arimetco produced some 95 million pounds of copper from 1989 to 1999 before declaring bankruptcy due to low copper prices and abandoning the property.

Soil and groundwater contamination, alleged to stem from the former mining operations at Yerington, have been identified on the property. As a result, a portion of the property acquired by SPS in 2011 previously under the jurisdiction of the EPA is now being managed by the Nevada Division of Environmental Protection ("NDEP"), a division of the Nevada Department of Conservation and Natural Resources. Liability for the contamination on site is the responsibility of a third party which is actively engaged in remedial investigation and remediation activities under the supervision of the NDEP.

In order to establish SPS's position and rights, the acquisition by SPS of the Arimetco properties required a series of rigorous environmental, legal, and technical due diligence studies. The Chambers Group Inc. and Golder Associates Inc. completed a Phase 1 Environmental Site Assessment Report to allow SPS to establish liability protection as a Bona Fide Prospective Purchaser ("BFPP"). Prior to closing on the property, SPS received letters from the NDEP, BLM and the USEPA indicating the post-closing requirements then applicable to the Yerington Pit site for SPS to maintain its defense to liability as a BFPP regarding the activities of the former mine owners and operators.

In September 2012, SPS reached a voluntary agreement with the EPA to participate in upgrading the system that manages fluids from the historic mining operation at the Yerington mine site. In exchange for SPS's participation in this work, the Company obtained a site-wide 'Covenant Not to Sue' for the contamination left at the site by former owners and operators of the historic mine operations.

The agreement provides for immediate environmental improvements to the site and allows SPS to continue exploration at the site while working cooperatively with the EPA, Nevada Division of Environmental Protection ("NDEP") and the community. The Agreement's 'Covenant Not to Sue' strengthens SPS's 'Bona Fide Prospective Purchaser Defense' against liability resulting from the contamination at the site prior to SPS's purchase.

The first phase of the fluid management project was completed in Q4 of 2012. The Company co-funded the repairs to the on-site fluid management system (“FMS”) by the EPA as well as the relining of one of the system ponds. During Phase 2 of the project, the Company completed a study of the FMS to determine what additional repairs or other modifications are necessary to ensure that the system is capable of handling the fluids from the former mine operations for a period of five years. The Study was completed by the Company’s contractor in June 2013. EPA decided not to implement the five-year capacity alternative recommended in the Study. Rather, EPA decided to build new ponds to address the FMS capacity issues.

The Company decided not to fund construction of the additional ponds. Rather, the Company agreed to provide property at the site to construct the new ponds.

In September 2014, SPS submitted to EPA a Final Report that documented the work SPS performed under the EPA Agreement. On January 7, 2015, the EPA issued a Notice of Completion to SPS confirming that the obligations of the Work to Be Performed and the Payment of Response Costs sections of the Settlement Agreement had been met. With the issuance of the Notice of Completion, SPS believes it does not have further obligations under the Agreement, except for those as a landowner and as a Bona Fide Prospective Purchaser.

In December 2015, the EPA sent a request to the Nevada Governor seeking the State’s support for listing the Anaconda-Yerington Mine Site on the EPA National Priorities List (“NPL”). EPA has been considering an NPL listing as a mechanism to provide federal funds for remediation of contamination of the site left by former owners Arimetco Inc. This portion of the Site is referred to as Operable Unit 8 (OU8) and is an unfunded liability due to Arimetco’s bankruptcy. The Governor responded to the EPA noting that the State will not object to the initiation of the listing process.

On September 9, 2016, via publication in the Federal Register, the EPA proposed 10 new sites for NPL listing. The Anaconda Copper Mine in Yerington Nevada was one of those ten sites proposed for listing. EPA proposed to list the entire Site despite the fact that there is a responsible party, Atlantic Richfield Company, which has and continues to perform its obligations at the Site. SPS has a ‘Covenant Not to Sue’ with the EPA, and believes it qualifies for the ‘Bona Fide Prospective Purchaser Defense’ to CERCLA liability. The existing contamination at the Site, other than that for which EPA seeks the listing is the responsibility of the Atlantic Richfield Company that has been working with EPA to study the contamination, design remedial activities and implement remediation at the Site. SPS’s work program at the Bear deposit was not affected by the EPA proposed listing of the Site. Also, SPS does not believe that an NPL listing precludes advancing mineral exploration and development at the Site. Only the Yerington mine site falls within the area of the proposed NPL listing; the Company’s other targets in the district occur outside the area of the proposed listing.

In July 2017, NDEP made a formal request to EPA to defer the listing of the Site on the NPL. Since the original request, NDEP, EPA and Atlantic Richfield have worked toward a deferral of the listing process noted above. In support of a deferral action NDEP and EPA are negotiating the terms of a Deferral Agreement, NDEP and Atlantic Richfield are negotiating the terms of an Interim Administrative Order on Consent, and Atlantic Richfield and NDEP are negotiating a Statement of Work for a Site-Wide Remedial Investigation and Feasibility Study. These documents have not yet been provided in final form. As recently as January 2018, NDEP corresponded with EPA to address concerns noted by EPA as to the Interim Administrative Order on Consent. Neither Quaterra nor SPS have direct involvement in the negotiation of these documents but support the deferral process.

The Company is negotiating an agreement with Atlantic Richfield that will provide the framework for how the two entities will work together on the Site allowing Atlantic Richfield to complete its remedial activities and the Company to move forward with its development of the Site.

## Geology and Mineralization

The Yerington Pit property includes both the Yerington deposit (the “Yerington Deposit”) and a portion of the Bear Deposit which represent two of three known porphyry copper deposits in the Yerington copper district. The porphyry systems are hosted in middle Jurassic intrusive rocks of the Yerington Batholith. Unless noted otherwise, the following discussions refer to the Yerington Deposit.

Mineralized porphyry dikes associated with three phases of intrusive activity related to the Yerington Batholith form an elongate body of mineralization that extends 6,600 feet along a strike of N118°E. The mineralization has an average width of 2,000 feet and has been defined by drilling to an average depth of 250 feet below the Yerington Pit bottom at the 3,800-ft elevation. Because of the economic constraints of low copper prices at the time, many of the 792 historic Anaconda drill holes used in the SPS study were stopped in mineralization and very few were drilled below the 3,400-ft level where the porphyry system remained largely unexplored.

Only four historic holes have actually explored the deep vertical projection of copper mineralization in the pit. Three of the holes were drilled along a single N-S oriented section through the center of the pit. According to M. T. Einaudi in an internal 1970 Anaconda report, the deep drilling program defined a series of nested, concave upward, grade shells that are elongated down the N 70° dip of the dikes with the 0.2% Cu zone extending to approximately the 2,600-ft level; an overall dip distance of 2,200 feet. Although the program encountered an increasing ratio of pyrite to chalcopyrite, there was no indication of a “barren core”, the porphyry dikes showed a “remarkable continuity” down dip and molybdenum mineralization became more abundant with increasing depth.

Secondary oxide copper formed much of the upper Yerington Deposit. Chrysocolla was the dominant copper oxide mineral, occurring as fracture coatings and fillings to a depth of approximately 400 feet below the surface. Below the 4,100-ft level, chalcopyrite is the dominant copper sulfide mineral with minor bornite primarily hosted in A-type quartz veins in the older porphyry dikes. The un-mined mineralized material below the current pit bottom is primarily of chalcopyrite mineralization.

## Exploration and Drilling Results

Exploration work on the Yerington Pit project commenced with a technical review of all available historical information relating to mineralization in and around the Yerington Pit. A huge inventory of Anaconda data was available at the Anaconda Collection – American Heritage Center, University of Wyoming at Laramie. Approximately 10,000 pages of drill hole records from the library were scanned. The records included drill hole lithology, assays, and/or survey coordinates for almost 800 drill holes. Although some holes contained only lithologic or assay summary information, 892 holes contained adequate detailed assay, hole location and orientation information to be used in a resource estimation. Core from historical drilling left on site by Anaconda was photographed, described and selected intervals from 45 Anaconda core holes were shipped to Skyline Labs for re-assay.

Information obtained from the review of historical information was used to guide a two-pronged program of drilling during the last half of 2011. A total of 21,887 feet were drilled in 42 holes. The core holes and four RC holes were drilled to twin Anaconda core holes, while the remaining RC holes were targeted for expansion of mineralization laterally and below historic drill intercepts along the perimeter of the Yerington Pit to support a NI 43-101 compliant resource estimate and technical report.

The data review and drilling results of the 2011 program clearly indicated that mineralization at Yerington is open to depth and along strike. Many of the historic holes in the pit were stopped in mineralization. Drill hole intercepts along the western edge of the pit are some of the best in the SPS database. Twin hole SP-04, drilled by SPS at the northwest end of the pit, intercepted 524.5 feet averaging 0.35%TCu starting at a depth of 228 feet including 88 feet of 0.69%TCu at a depth of 265 feet. Exploration hole SP-36, located along south central margin of the pit intercepted 95 feet averaging 0.28% TCu at a depth of 230 feet. Details of the 2011 drilling program are in the NI 43-101 technical report for the Yerington Pit project completed by Tetra Tech, Inc. of Golden, Colorado (“Tetra Tech”) in February 2012 (the “Yerington Technical Report”).

A drilling program to sample residuals (historic dumps and tailings) at the Yerington Pit site was completed in September 2012. A total of 9,585 feet of sonic drilling in 95 holes have provided material for the characterization of the vat leach tails, heap leach pads, and the W-3 sub-grade waste dump. Selected samples were sent to Metcon Labs in Tucson, Arizona for metallurgical testing. These residuals have been historically estimated to total 124 million tons of mineralized material. The residuals are referenced in the MacArthur Deposit PEA and the Yerington Technical Report, as “mineralized material” and therefore are neither an NI 43-101 compliant resource nor a historical resource. Additional details regarding the residuals are described in the Yerington Technical Report. The residuals are not included in the resource estimate at the Yerington Pit site or in the MacArthur Deposit PEA or resource estimate at the MacArthur Deposit site.

### **Sampling, Analysis and Security of Samples**

Tetra Tech’s review of sample preparation, handling, analyses, and security procedures for the Yerington drilling and sampling program has determined that the Company’s current practices meet NI 43-101 and CIM defined requirements.

Samples taken during the period from 1952 to 1979, when Anaconda operated the Yerington Pit, including samples used for the determination of mine head grades, lithology, densities, and metallurgical performance were determined by Tetra Tech to be representative of the deposit. While no details are available regarding Anaconda’s exact assaying protocol and quality control during the period the Yerington Pit copper mine was operating, public records of profit and cost confirmed that the techniques and procedures implemented conformed to industry standards for that era.

SPS explored the Yerington Pit copper property with both RC and diamond core drilling methods. The drilling program was supervised in the field by the project geologist for monitoring recovery, proper sample handling and accuracy in labeling. Approximately 4,300 samples were collected during the 2011 program and shipped for sample analyses. The samples were analyzed for total copper (TCu), gold, and a 47-element trace element package. Samples representing oxide mineralization and acid soluble sulfide copper were also analyzed for acid soluble copper and for ferric sulfate soluble copper. Rock quality designations (“RQD”) and magnetic susceptibility measurements were taken on all core which was photographed following geologic logging.

The RC samples are collected in a conventional manner via a cyclone and standard wet splitter, placed in cloth bags that are pre-marked by SPS personnel at five-foot intervals and include a numbered tag inserted into a plastic bag bearing the hole number and footage interval. Collected samples, weighing approximately 15 to 20 pounds each, are wire tied and then loaded onto a ten-foot trailer with wood bed allowing initial draining and drying. Each day SPS personnel or the drillers at the end of their shift, haul the samples to SPS’s secure sample preparation warehouse in Yerington, Nevada where the samples are dried, loaded on plastic lined pallets, weighed, and trucked by Skyline Assayers and Laboratories (“Skyline”) personnel to Skyline’s sample preparation facility in Battle Mountain, Nevada. A chain of custody form accompanies all shipments from Yerington to Battle Mountain. Once Skyline preps each sample in its Battle Mountain facility, approximately 50-gram sample pulps are air-freighted to Skyline’s analytical laboratory in Tucson, Arizona for analyses and assay.

Samples from the core drilling program are handled in a similar manner. Core samples with a diameter of approximately 2.75 -inches (HQ) are placed in wax-impregnated, ten-foot capacity cardboard boxes and delivered to SPS’s secure sample warehouse in Yerington, Nevada by the drill crew following each 12-hour shift. The core is logged by a SPS geologist who marks appropriate sample intervals (one to nominal five feet) with colored flagging tape. Lines are marked along the length of core with red wax crayons to indicate where the core piece should be sawed. Each core box, bearing a label tag showing drill hole number, box number, and box footage interval, is then photographed. RQD, magnetic susceptibility, and recovery measurements are taken. Core is then loaded on a pallet, shrink wrapped, and secured with wire bands for trucking by Skyline personnel to Skyline’s sample preparation facility in Battle Mountain, Nevada. The core is sawed in half by Skyline personnel, one half designated for sample preparation/assay, the second half placed in its core box for return to SPS. Chain of custody procedures for core shipments picked up by Skyline at the SPS core shed follow the format for RC samples.



Drilling samples from the Yerington Pit project were analyzed by Skyline in Tucson, Arizona, which is accredited by the American Association for Laboratory Accreditation (A2LA - certificate no. 2953.01) and by ISO17025-compliant ALS Minerals Laboratories in Sparks, Nevada. SPS implements a quality assurance and quality control assay protocol whereby either one blank or one standard is inserted with every ten samples into the assay stream. Rejects from the previously analyzed samples are sent to ALS Minerals in Reno, Nevada for check assays.

## Mineral Resources

Tetra Tech completed an independent resource estimate and technical report update under NI 43-101 for the mineralization in and around the historic Yerington Pit titled “*NI 43-101 Technical Report Mineral Resource Update Yerington Copper Project Lyon County, Nevada*” and dated January 3, 2014 (effective November 20, 2013), which supersedes its previous report completed in February 2012 (the “Updated Yerington Technical Report”). The Updated Yerington Technical Report is based upon an additional 232 historic Anaconda holes unavailable when the previous report was completed. The current resource now includes over 800 boreholes.

These additional holes are well distributed throughout the deposit and provided infill and extensional information to the previously used data, allowing upgrades in classification, improved grade estimate and a new resource definition.

The increases to the February 2012 resource are as follows. Using a 0.12% TCu copper cutoff, measured and indicated oxide and chalcocite resources increased 28% in tons, 9% in grade, and 37% in pounds of contained copper while the inferred resource increased 5% in tons, 14% in grade, and 21% in contained copper. Using a 0.15% TCu copper cutoff, the primary measured and indicated resources increased 12% in tons, 12% in grade, and 25% in contained copper while the inferred resource increased 4% in tons, 11% in grade, and 13% in contained copper.

Using a cutoff grade of 0.12%, the Yerington Pit’s measured and indicated acid-soluble oxide/chalcocite mineralization includes a measured and indicated resource of 23.5 million tons averaging 0.25% TCu (118 million pounds of copper) and an inferred resource of 25.9 million tons of 0.23% TCu (118 million pounds of copper). Using a cutoff of 0.15% TCu, the measured and indicated primary copper resource contains 105 million tons averaging 0.30% TCu (633 million pounds of copper) and an inferred primary copper resource of 128 million tons of 0.23% TCu (600 million pounds of copper).

Cutoff grades of 0.12% and 0.15% for the oxide/chalcocite and sulfide mineralization, respectively, were used in the Updated Yerington Technical Report based on benchmarking of the Yerington Deposit to similar deposits using open pit mining. The cutoff values are representative of grades and recoveries used in calculating the mineral resources for the preliminary economic assessment for the Company’s adjacent MacArthur Copper Project, which is described in a NI 43-101 technical report filed in January of 2014 using an effective date for the resource calculation of May 2012. The MacArthur study indicates that using the cutoff grades in the report, the project has reasonable prospects for economic extraction of mineralization. The Yerington and MacArthur deposits are adjacent, geologically similar and have similar grade continuity. Open pit mining methods are proposed for both deposits. They will use similar metallurgical processes. The cutoff grades are based on similar costs, metal prices and mining/metallurgic parameters. The benchmark values applied to the Yerington Project from the MacArthur project are:

Price and Recovery	
Copper Price (average)	\$2.42/lb
Oxide Ore recovery	65% of TCu
Sulfide Ore recovery	27% of TCu
Costs:	
Process (Heap and SXEW)	\$1.02/lb recovered copper
G&A Cost	\$0.50/ton ore
Ore Haul and Heap dozing	\$0.25/ton ore
Mining (ore and waste), base cost	\$1.50/ton
Mining Lift Charge	\$0.02/ton per 20 ft bench below 4760

The following table summarizes the resource estimates contained in the Updated Yerington Technical Report, including changes from the previous report prepared in February of 2012:

YERINGTON COPPER PROJECT RESOURCES USING SELECTIVE CUTOFF FOR OXIDE AND SULFIDE <sup>1,2,3</sup>							
MEASURED	Cutoff	2013 ESTIMATE			% CHANGE FROM 2012 ESTIMATE		
		Tonsx1000	Grade	Lbsx1000	Tonsx1000	Grade	Lbsx1000
Oxide and Chalcocite Material	0.12	6,500	0.25	33,000	8%	10%	17%
Sulfide (Primary Material)	0.15	31,000	0.33	205,000	-3%	10%	8%
<i>Combined</i>	<i>0.12,0.15</i>	<i>37,500</i>	<i>0.32</i>	<i>238,000</i>	<i>-1%</i>	<i>10%</i>	<i>9%</i>
INDICATED	Cutoff	2013 ESTIMATE			% CHANGE FROM 2012 ESTIMATE		
		Tonsx1000	Grade	Lbsx1000	Tonsx1000	Grade	Lbsx1000
Oxide and Chalcocite Material	0.12	17,000	0.25	85,000	37%	9%	47%
Sulfide (Primary Material)	0.15	74,000	0.30	428,000	19%	15%	35%
<i>Combined</i>	<i>0.12,0.15</i>	<i>90,000</i>	<i>0.29</i>	<i>513,000</i>	<i>22%</i>	<i>12%</i>	<i>37%</i>
MEASURED + INDICATED	Cutoff	2013 ESTIMATE			% CHANGE FROM 2012 ESTIMATE		
		Tonsx1000	Grade	Lbsx1000	Tonsx1000	Grade	Lbsx1000
Oxide and Chalcocite Material	0.12	23,500	0.25	118,000	28%	9%	37%
Sulfide (Primary Material)	0.15	105,000	0.30	633,000	12%	12%	25%
<i>Combined</i>	<i>0.12,0.15</i>	<i>128,000</i>	<i>0.29</i>	<i>751,000</i>	<i>14%</i>	<i>11%</i>	<i>26%</i>
INFERRED	Cutoff	2013 ESTIMATE			% CHANGE FROM 2012 ESTIMATE		
		Tonsx1000	Grade	Lbsx1000	Tonsx1000	Grade	Lbsx1000
Oxide and Chalcocite Material	0.12	25,900	0.23	118,000	5%	14%	21%
Sulfide (Primary Material)	0.15	128,000	0.23	600,000	4%	11%	13%
<i>Combined</i>	<i>0.12,0.15</i>	<i>154,000</i>	<i>0.23</i>	<i>718,000</i>	<i>4%</i>	<i>10%</i>	<i>14%</i>

<sup>1</sup>Independent qualified person, Dr. Rex Bryan, prepared and supervised the preparation of these mineral resources.

<sup>2</sup>All estimated resources are shown using a 0.12% and 0.15% copper cutoff for oxide and sulfide respectively

<sup>3</sup> Effective date November 20, 2013

The results of the 2013 NI 43-101 compliant resource estimate compare favorably to the estimates of copper remaining in and around the Yerington Pit after the mine shut down (K.L. Howard, Jr., Anaconda Internal Memo, 1979). The 1979 estimate contained no classification for measured, indicated, or inferred, so direct comparison can only be made when considering all classes of the current estimate, but was reported at 121 million tons with an average grade of 0.34% TCu.

The 1979 estimate cited approximately 84% of the total contained copper (696 million pounds of copper in 97.8 million tons with an average grade of 0.356% Cu) as being within the original Anaconda pit design, suggesting that a significant portion of the Yerington Pit resource may be mined without a pushback or major changes to the upper walls of the Anaconda pit.

The current Tetra Tech resource estimate is based upon SPS's 2011 drilling as well as 792 historic drill holes taken from approximately 10,000 scanned pages of assay and/or geologic data which were reviewed and digitally recorded by SPS personnel and from 57 Anaconda cross sections in use at the time of mine closure. The digital data entry was validated by Tetra Tech against historic sections and was considered to be compliant, based upon results of 18 twin holes and 5,446 feet of core from Anaconda holes which were assayed by SPS. The twinned drill intercepts statistically confirmed that the new compliant data support use of the historical data, as did the new core assays which were well within the expected norms for corroborating the old with new data.

The Tetra Tech resource estimate is included with a description of the project history, geology, mineralization, sampling procedures, and laboratory Quality Assurance/Quality Control procedures. The Updated Yerington Technical Report is available at [www.sedar.com](http://www.sedar.com). The Qualified Person for the Yerington Pit project resource estimate and the Updated Yerington Technical Report is Rex Clair Bryan, Ph.D., Sr. Geostatistician for Tetra Tech.

### **2017 Drill Program**

In March 2017, Quaterra and SPS commenced drilling at Yerington with the area in and around the historic Yerington pit as the primary focus. The drill program was funded by option payments by Freeport Nevada.

Hole YM-041A-17, drilled at - 55 degrees, intersected 561.7 feet averaging 0.20% copper, including several narrower intercepts with plus 0.30% copper. Hole YM-042-17, also drilled at - 55 degrees, collared in the pit about 1,000 feet further west, intersected a similar but lower grade interval averaging 0.12% copper. Hole YM-043-17, drilled at - 55 degrees, intersected 1,269.5 feet averaging 0.15% copper. Hole YM-045-17, also drilled at - 55 degrees, collared in the pit about 900 feet further east, intersected several thinner intervals with grades ranging to 0.55% copper, including a shallow oxide zone. Hole YM-044-17, drilled on the northwest rim of the Yerington pit at - 50 degrees, intersected several narrow zones of mineralization averaging less than 0.2% copper.

**Significant intercepts from Yerington holes YM-041A-17, YM-042-17, YM-043-17, YM-044-17 and YM-045-17 in 2017 drill program**

<b>HOLE YM-041A-17</b>	From	To	Interval	%
	feet	feet	feet	Cu
	1411.7	1973.4	561.7	0.20
includes	1454.3	1488.8	34.5	0.31
includes	1558.5	1619.8	61.3	0.33
includes	1683.5	1770.5	87.0	0.32
<b>HOLE YM-042-17</b>	From	To	Interval	%
	460.0	515.0	55.0	0.14
	630.2	701.8	71.6	0.13
	1022.0	1491.6	469.6	0.12
<b>HOLE YM-043-17</b>	From	To	Interval	%
	feet	feet	feet	Cu
	692.0	1961.5	1269.5	0.15
includes	1077.3	1151.4	74.1	0.23
includes	1592.0	1656.0	64.0	0.26
<b>HOLE YM-044-17</b>	From	To	Interval	%
	1016.9	1089.0	72.1	0.16
	1665.8	1726.0	60.2	0.10
	1789.1	1842.0	52.9	0.14
<b>HOLE QM-045-17</b>	From	To	Interval	%
Oxide	65.2	140.9	75.7	0.17
	992.0	1006.0	14.0	0.36
	1060.2	1076.0	15.8	0.55
	1147.0	1378.6	231.6	0.15
includes	1236.5	1322.0	85.5	0.23
includes	1346.0	1363.8	17.8	0.28
	1568.5	1584.0	15.5	0.26
	1736.0	1993.5	257.5	0.13

\*Drill intercepts are based on actual core lengths and may not reflect the true width of mineralization

Drilling extended sulfide mineralization from 600 to 800 feet below the currently defined resource identified at the Yerington pit across a strike length of 4,400 feet. The absence of higher-grade mineralization in widely spaced holes decreases the likelihood that better grades over appreciable widths exist at greater depth below the pit. Mineralization, primarily chalcopyrite, is hosted in a quartz monzonite-quartz monzonite porphyry complex and occurs as sheeted veins and vein swarms that are steeply dipping and strike northwesterly parallel to the long axis of the pit. Copper grades are directly related to vein intensity and spacing, which vary markedly over short distances.

**Quality assurance and control**

Drilling included both reverse circulation (RC) and core, contracted to Layne Christensen Company, Chandler, Arizona, which provided both drill rigs. Core samples were either sawed or split by SPS personnel in Yerington, Nevada, and shipped to Bureau Veritas Minerals NA – Inspectorate America Corporation, an ISO certified assaying/geochemistry facility, in Reno, Nevada, for sample preparation. Gold analyses are assayed in Bureau Veritas’ lab in Reno using their “FA430” procedure (fire assay with atomic absorption finish) with a 5 ppb Au detection limit. Prepared pulps are shipped to Bureau Veritas’ lab in Vancouver, B.C., Canada, for analysis using their “MA 300” procedure for 35 element ICP-ES analysis. Commercially prepared standards and blanks are inserted by SPS at 50-foot intervals to insure precision of results as a quality control measure. SPS has a chain of custody program to ensure sample security during all stages of sample collection, cutting, shipping, and storage.

SPS also engaged a reverse circulation (RC) drill rig in the program. RC samples were shipped to the Bureau Veritas Minerals NA facility in Reno, Nevada, for sample preparation and analyses following the same procedure and protocol, including inserted blanks and standards, as that of the core samples described above.

#### **Future Work Plans**

Quaterra believes the Yerington Pit project has potential for additional copper resources. Historic and current drilling data indicate that horizontal and vertical limits to the mineralization at the Yerington Pit have not yet been found. Additional exploration and in-fill drilling is planned to both expand and upgrade the current copper resources of the project prepared under NI 43-101.

#### **b. MacArthur Deposit, Nevada, USA**

##### **Acquisition and Staking of Mineral Claims**

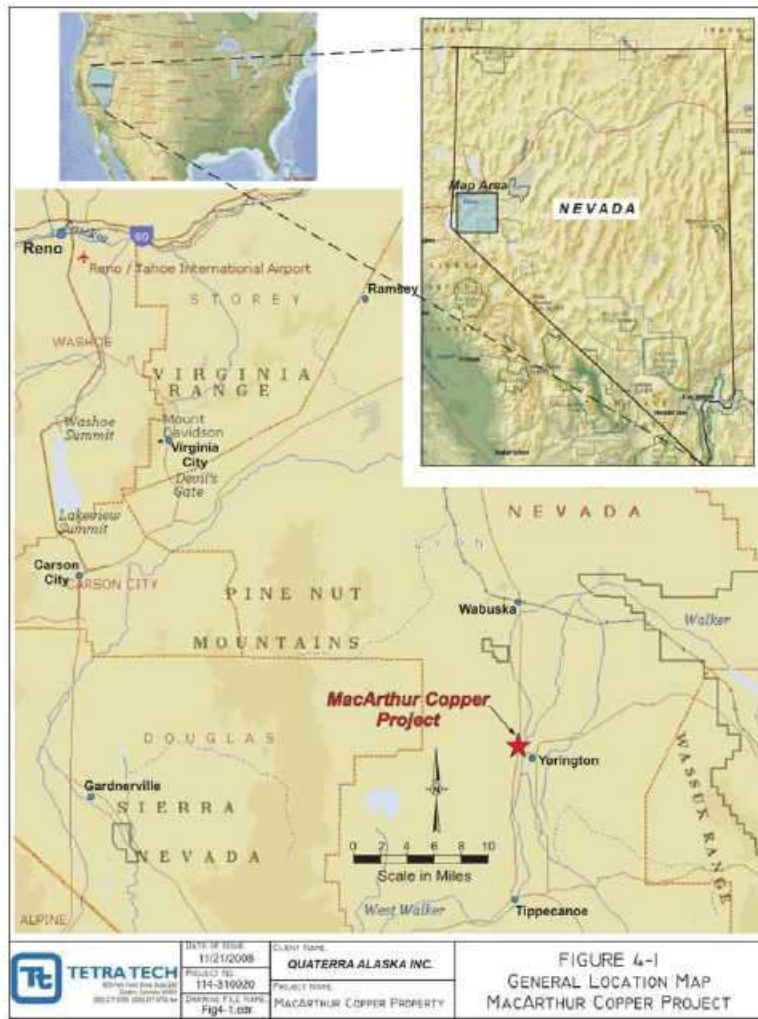
The MacArthur Deposit consists of 897 unpatented lode claims totaling approximately 18,533 acres on lands administered by the BLM. A significant number of the claims were held by means of a mineral lease with an option to purchase, executed with North Exploration LLC (“North”) on August 27, 2005, and subsequently amended. The option was exercised and the final payment of \$212,000 plus interest to North was made on February 10, 2015. Quaterra’s purchase is subject to a 2% NSR royalty, 1% of which may be purchased for \$1,000,000, leaving a perpetual 1% NSR. The agreement with North is in good standing.

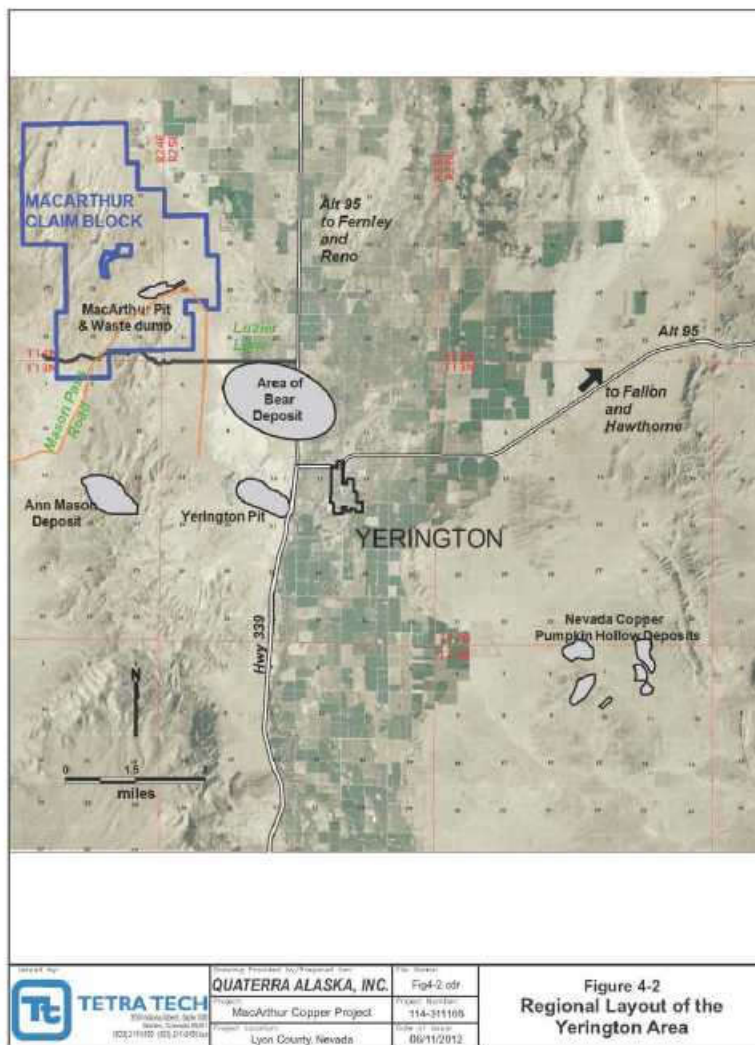
##### **Expenditures to Date**

Acquisition and exploration costs incurred by the Company for the MacArthur Deposit to December 31, 2018 were \$18.22 million (2017 - \$17.89 million) net of option payments made by Freeport Nevada.

##### **Location, Access and Infrastructure**

The MacArthur Deposit is located near the geographic center of Lyon County, Nevada, USA, along the northeastern flank of the Singatse Range approximately seven miles northwest of the town of Yerington, Nevada. The project is accessible from Yerington by approximately five miles of paved roads and two miles of maintained gravel road. A 100-foot wide gravel haul road that accessed the MacArthur open pit copper mine during the 1990s leads 3.5 miles south to the Yerington Mine Site. Beyond the MacArthur Deposit pit area are several existing historic two-track dirt roads that provide access throughout the property. Topographic coverage is on US Geological Survey “Mason Butte” and “Lincoln Flat” 7.5’ topographic quadrangles. The nearest major city is Reno, Nevada approximately 80 miles to the northwest. Following are maps providing information on the location of the MacArthur Deposit.





**History**

Prior to 1989, the MacArthur Deposit was explored and drilled by several operators who have contributed to the current database of more than 740 holes totaling approximately 282,000 feet. During the early 1970s, The Anaconda Company (“Anaconda”) conducted an extensive trenching and rotary drilling program consisting of more than 280 rotary holes totaling approximately 56,000 feet over and adjacent to the present day MacArthur Deposit pit.

Arimetco purchased the property in 1989 and mined a total of six million tons at an estimated grade of 0.36 % total copper using open pit methods from the MacArthur Deposit in the period of 1995 to 1998. Due to financial difficulties resulting primarily from the low price of copper, Arimetco sought protection under Chapter 11 of the U.S. bankruptcy Code in January 1997 and suspended all operations in 2000. After Arimetco’s departure, the mining claims over the deposit were allowed to lapse.

Quaterra acquired the MacArthur Deposit in August 2005. The acquisition was motivated by Quaterra's belief in the potential of the property to host an oxide copper deposit capable of sustaining a large run-of-mine heap leach operation using a solution extraction/electrowinning (SXEW) process for low cost production. The Company initiated exploration drilling in April 2007 and by November 2011, completed a total of 204,700 feet of drilling in 401 holes on the property. The drilling program has defined a widespread blanket of acid soluble copper oxide and chalcocite mineralization above primary copper mineralization that is believed to be the fringe or top of a major copper porphyry system.

## **Geology**

The MacArthur Deposit forms part of the Yerington mining district which includes at least three large, porphyry copper deposits (Yerington, Ann Mason, Bear), as well as two large iron-oxide copper gold (IOCG) deposits (Pumpkin Hollow, and Minnesota). Mineralization ranges from disseminated porphyry copper occurrences to skarn, limestone replacement, and vein type deposits.

The Yerington area is underlain by early Mesozoic volcanic and sedimentary rocks now exposed along uplands in the Singatse Range in the west and the Wassuk Range to the east. These Mesozoic rocks were intruded by two Middle Jurassic batholiths, an older granodiorite (Yerington Batholith) and younger quartz monzonite (Bear Quartz Monzonite) that comprise the majority of outcropping rocks in the district. The batholiths were themselves intruded by another Middle Jurassic quartz monzonite event moderately to steeply north dipping quartz-biotite-hornblende porphyry dike swarms, associated with copper mineralization, striking north-northwesterly across the entire mining district. The Mesozoic section is overlain by Early to Middle Tertiary volcanics deposited ash flow tuffs prior to the advent of normal faulting associated with Late Tertiary basin-and-range extension that displaced and tilted all of the above-mentioned rocks. These faults dip east and are curved, concave upward, so that the dip of the fault flattens eastward. Net displacements are in an east-west direction. The geologic section is completed by post-faulting conglomerates and alluvium.

At the MacArthur Deposit, the older granodiorite underlies most of the northern and western parts of the Company's claim block. Along the east part of the claim, block quartz monzonite is dominant and underlies the MacArthur Deposit pit. In bench walls at the MacArthur Deposit pit, the quartz monzonite hosts conspicuous light brown limonite alteration banding (averaging 4 to 6 per foot) sub-parallel to the steeply north dipping, west-northwest trending quartz porphyry dikes.

Quartz porphyry dikes that host a large portion of the primary copper mineralization at Anaconda's Yerington mine are associated with all copper occurrences in the district. The porphyry dikes at the MacArthur Deposit are classified by dominant mafic minerals into quartz biotite porphyry and quartz hornblende porphyry, each subdivided further based on composition and alteration. Dikes contain feldspar crystals and either hornblende or biotite crystals set in an aphanitic matrix. The structures are typically ridge-formers with widths to 50 feet, dip steeply to the north, and follow a penetrative north-northwest (S60°E to S80°E) structural fabric. Narrow (<10 feet) fine grained, post porphyry andesite dikes follow the same NNW structural fabric.

## **Mineralization**

The MacArthur Deposit is part of a large, partially defined porphyry copper system that has been complicated by complex faulting and possible post-mineral tilting. Events leading to the current geometry and distribution of known mineralization include: 1) emplacement of primary porphyry copper mineralization; 2) supergene enrichment resulting in the formation of a widespread, tabular zone of secondary chalcocite mineralization below outcrops of totally oxidized rocks called a leached cap; and 3) oxidation of outcropping and near-surface parts of this chalcocite blanket, as well as oxidation of the primary porphyry sulfide system coupled with partial remobilization of copper to form the upper zone of oxide copper now exposed in the MacArthur Deposit pit and throughout the MacArthur Deposit. Oxide, chalcocite, and primary copper mineralization at the MacArthur Deposit is hosted in both



granodiorite and quartz monzonite, and in lesser amounts within quartz biotite-hornblende (monzonite) porphyry dikes, all of middle Jurassic age. Oxide copper is also hosted in northwest striking andesite dikes less than one to ten feet wide with contacts forming favorable loci for mineralization. Andesite dikes make up less than approximately one to two percent of the host rocks on the property. Fracturing and ground preparation supplied the passage ways for the copper to migrate.

Copper oxide minerals are exposed throughout the MacArthur Deposit, particularly in the pit walls as primarily green and greenish-blue chrysocolla  $\text{CuSiO}_3 \cdot 2\text{H}_2\text{O}$  along with black neotocite, aka copper wad  $(\text{Cu, Fe, Mn}) \text{SiO}_2$ , azurite  $\text{Cu}_3(\text{OH})_2(\text{CO}_3)$  and malachite  $\text{Cu}_2(\text{OH})_2\text{CO}_3$ , while tenorite  $(\text{CuO})$  was identified with the electron microprobe (Schmidt, 1996). Copper-enriched limonite was identified by Anaconda as the mineral delafossite  $(\text{CuFeO}_2)$ . Chalcocite has been identified in drill holes below the MacArthur Deposit pit and in drilling throughout the property. The sulfides digenite  $(\text{Cu}_9\text{S}_5)$  and covellite  $(\text{CuS})$  have been identified petrographically in drill cuttings from the western part of the property. The oxide copper mineralization is strongly fracture controlled, coating joint and fracture surfaces and within shears and faults. Both green and black copper oxides are frequently found on 1 to 5 millimeter fractures, as coatings and selvages and may be mixed with limonite. The fractures trend overall  $\text{N}60^\circ\text{W}$  to  $\text{N}80^\circ\text{W}$  (bearing  $300^\circ$  to  $280^\circ$  azimuth) and generally dip to the north. Limited turquoise is found on the property, mainly in one- to five-millimeter veinlets. On a minor scale, oxide copper mineralization replaces feldspar phenocrysts in the igneous host units, favoring andesite.

A significant amount of chalcocite has been intersected in drillholes. Chalcocite is seen on drill chips or drill core coating pyrite and chalcopyrite as weak to strong coatings and is strongest when occurring around the MacArthur Deposit fault. Chalcopyrite is present as disseminations and veinlets, with or without chalcocite. As much of the historic drilling was stopped at shallow (<400 foot) depths, the scope and extent of chalcopyrite mineralization have not been fully defined.

Both copper oxide and chalcocite mineralization occur over approximately 9,000 feet east-west by 4,500 feet north-south. Copper oxides are structurally controlled coating fractures, joint surfaces, and developed as green or black "streaks" within shears and faults over several feet. Chalcocite may similarly be seen as grayish "streaks" within shears. Oxide mineralization exhibits a generally flat-lying geometry extending with good continuity 150 feet below surface and less continuously up to 600 feet below surface. Chalcocite mineralization generally occurs as flat-lying zones 50 feet or more in thickness, mixed with or below oxide mineralization.

Primary chalcopyrite mineralization occurs irregularly with chalcocite and as porphyry style disseminations or as veinlets in quartz monzonite associated with potassic alteration below both the oxide and chalcocite mineralization. Quaterra's drilling program in the Gallagher area has delineated a zone of chalcopyrite mineralization that extends over a north-south distance of 2,500 feet. The primary sulfide zone has a defined width of 500 feet and extends to a depth of approximately 650 feet.

Porphyry copper style sulfide mineralization below the low-angle MacArthur Deposit fault zone at the North Porphyry Target has been defined over a distance of 2,500 feet between holes QM-68 and QM-164. Veinlet and disseminated primary chalcopyrite mineralization intercepted at a depth of 485 feet in QM-68 assayed 1.19% copper over a thickness of 110 feet. The same zone in QM-70 averaged 0.82% copper over a thickness of 60 feet at a depth of 420 feet and correlates to a thickness of 15 feet averaging 1.20% at a depth of 770 feet in hole QM-72. QM-100 intersected the sulfide mineralization with 0.58% copper over 65 feet. Approximately 1,000 feet to the north, hole QM-164 intercepted 64 feet of disseminated chalcopyrite mineralization in sodic altered granodiorite averaging 1.31% copper at a depth of 1,673 feet. The intercept includes a high-grade zone of 29 feet averaging 2.21%. Mineralized zones within potassic halos in holes QM-165 to the west and in QM-163 to the east are consistent with those that could fringe a porphyry copper center.

#### **Exploration and Drilling Results**

Quaterra acquired the digitized Anaconda exploration and drilling data package in August 2006 and commenced a review of the deposit geology and mineralization model using Datamine software. The data was used to assess the required drilling and sampling to complete a technical report on the MacArthur Deposit with the objective of preparing a NI 43-101 compliant resource estimate.

The lateral zonation of supergene copper minerals visible at the surface, a possible chalcocite blanket to the north of the pit, and a large, pervasive phyllic alteration zone to the north and west of the mine workings, all suggested to Quaterra that the MacArthur Deposit could have a potential for growth; both in the form of copper oxides and as primary sulfides in a related porphyry system.

In April 2007, the Company commenced a drilling program to twin approximately 10% of the shallow holes that defined the previously explored copper oxide mineralization at the MacArthur Deposit and to identify extensions of copper oxide and chalcocite mineralization in the vicinity of the open pit. The 20-month drilling program totaled 80,100 feet in 173 holes including 23,900 feet of core in 49 holes and 56,200 feet of RC drilling in 124 holes. The drilling successfully targeted a deeper chalcocite zone in step-out holes from the pit, expanded the known oxide mineralization, and encountered a large, underlying tabular blanket of mixed oxide-chalcocite mineralization that overlies primary chalcopyrite mineralization verified by deeper drill holes in the western and northern margins of the drilled area.

Drilling on the MacArthur Deposit was suspended through most of 2009 pending receipt of a Plan of Operations (“POO”) drilling permit. On October 28, 2009, the Company received the approval of the MacArthur Deposit POO and the BLM Record of Decision with a Finding of No Significant Impact. The POO environmental assessment anticipates a total surface disturbance of 200 acres as a result of drilling activities throughout much of the project area.

Quaterra initiated a second phase of RC and deep core drilling in early December 2009. Completed in August 2010, the program tested the northern extension to higher grade acid soluble copper mineralization on 500 foot centers northwest of the pit in-filled on 500 ft centers an undrilled area west of the pit. In the southern Gallagher area, the program confirmed a band of continuous near surface oxide mineralization ranging in thickness from 15 to 60 feet over a distance of 1,900 feet between holes QM-155 and 156.

Three deep holes tested surface IP/resistivity (“IPR”) anomalies to the north and northwest of the MacArthur Deposit pit where earlier drill holes intersected ore grade porphyry copper style sulfide mineralization below the low-angle MacArthur Deposit fault zone over a strike length of 1,000 feet. Hole QM-100, located 1,400 feet north of QM-68, intercepted porphyry-style chalcopyrite/biotite-chlorite veining at a depth 1,203 feet that assayed 0.58% copper over a thickness of 65 feet below the shallow-dipping MacArthur fault zone. QM-109, spotted on an IPR anomaly, failed to reach projected depth due to fractured, caving ground while QM-99 intersected massive pyrite impregnated breccia and scattered zones of secondary biotite and chlorite alteration; common elements of a porphyry system.

A total of 81,650 feet was drilled in 153 holes including 69,890 feet in 147 RC holes and 11,760 feet in 6 core holes during the 2011 drilling program. The program had the twin goals of enlarging and upgrading the status of the inferred resources through step-out and infill drilling and exploring for primary sulfide mineralization related to a copper porphyry system at depth.

The infill program encountered high grades of continuous chalcocite and copper oxide mineralization in zones averaging 40 feet or more in thickness along the western and northern margins of the deposit in the area referred to as the “Ridge Zone”. To test the high-angle mineralized structures that form an important component of the acid-soluble copper deposit, the program was completed on 250-foot centers in areas with higher grade potential and encountered some of the highest grades and best intercepts of acid soluble copper mineralization ever drilled on the property. Hole QM-187, drilled 2,000 feet north of the MacArthur Deposit pit, intersected 90 feet of predominantly chalcocite mineralization averaging 1.66% total copper (TCu) starting at a depth of 310 feet. This intercept includes 40 feet assaying 3.49% TCu. Hole QM-180 along the northwestern margin of the zone intercepted 40 feet averaging 1.37% TCu at a depth of 360 feet.

Exploration for a deep porphyry system at the MacArthur Deposit intercepted one of the best primary copper intercepts yet identified on the project with hole QM-164 intersecting 64 feet of disseminated chalcopyrite mineralization in sodic altered granodiorite averaging 1.31% TCu at a depth of 1,673 feet. The intercept includes a high-grade zone of 29 feet averaging 2.21% TCu. QM-164 also intercepted a shallower zone of both vein and disseminated chalcopyrite at a depth of 685 feet that averages 0.34% TCu over a thickness of 96.5 feet. QM-164 extended the mineralized zone identified in QM-100 a distance of 1,000 feet to the north where it remains open for extension.

## **Geophysics**

Quaterra contracted three surveys at the MacArthur Deposit in 2011 and 2012. A borehole geophysical survey and an IPR survey was carried out by Zonge International (“Zonge”) in 2011. A detailed helicopter magnetic survey was flown by Geosolutions Pty. Ltd. (“Geosolutions”) in 2012. These surveys supplement previous geophysical work on the MacArthur Deposit that includes: a 2009 IPR survey carried out by Zonge; a 2007 helicopter magnetic survey carried out by EDCON-PRJ; a series of historic aeromagnetic surveys (1966 to 1975) available in analog form from Anaconda’s archives; and a series of historic IPR surveys (1963 – 1964) carried out by Kennecott Exploration Company (“Kennecott”), Bear Creek Mining Company and Superior Oil.

The mineralized system at the MacArthur Deposit has an anomalous IP and resistivity response first detected in the Kennecott and Superior Oil IPR surveys in the 1960’s. The Quaterra 2009 and 2011 IPR surveys confirmed the reliability of the earlier surveys and further defined the depth extent of the IP anomalies. The 2009 and 2011 Quaterra surveys confirmed that the 1963-64 Kennecott data is of good quality and is useful for mapping anomalous IP zones within the upper 1,000 to 1,200 feet from the surface. Below this depth, the older data cannot effectively resolve the bottom of the IP anomalies nor determine if any of the anomalies extend to great depths.

The 2009 and 2011 data sets show this increased depth of exploration is important. Portions of the IP response are flat lying with limited depth extent. However both the 2009 and 2011 surveys have identified anomalous IP responses with depth extent in excess of 2000 feet and possibly feeder zones of the near surface zones. In 2011, two borehole IP surveys were run that demonstrate Quaterra’s ability to explore for deep sulfide responses below the depth of exploration of surface techniques. The modern data maps subtle low resistivity features which are interpreted to be porphyry alteration systems and have identified anomalous IP responses that extend under post-mineral volcanic cover to the north and west of the main MacArthur Deposit system. These buried anomalies are high priority drill targets.

Two high resolution helicopter magnetic surveys were flown over the MacArthur Deposit in 2007 (EDCON-PRJ) and 2012 (Geosolutions). The modern, high-resolution data has a broad frequency bandwidth and will be used for 3D modeling and exploring beneath the magnetic volcanic cover.

## **Sampling, Analysis and Security of Samples**

Quaterra has explored the MacArthur Deposit with both RC and diamond core drilling methods. RC holes were drilled by Diversified Drilling LLC, Missoula, Montana, USA, DeLong Construction Inc., Winnemucca, Nevada, USA and by Leach Drilling Inc., Silver Springs, Nevada, USA. During 2007-2008 the core drilling was contracted to Kirkness Diamond Drilling of Dayton, Nevada, USA and Kirkness Brothers Diamond Drilling (aka KB Drilling Co, Inc) of Carson City, Nevada, USA. Major Drilling America, Inc., Salt Lake City, Utah, conducted core drilling during 2009-2010. Core drilling during 2011 was contracted to Ruen Drilling Inc, Clark Fork, Idaho, USA. The RC crews ran one 10 to 12 hour shift per day; the core drill crews operated 24 hours per day.

The MacArthur Deposit drilling program is supervised in the field by the project geologist for monitoring recovery, proper sample handling and accuracy in labeling. Drill core (HQ diameter) and RC samples are delivered from the drilling rigs to the core and sample storage facility in Yerington by the drillers at the end of each 12 hour shift for logging and sampling by the project geologists.

At the core storage/logging facility, core is photographed, measured, core recovery calculated, and the rock types, alteration minerals, textural features, structures, veining, and mineralized zones documented. Sample intervals on the first three holes were fixed at five feet. In subsequent drill holes the sample intervals are taken at each of the core runs marked by the driller's blocks. Exceptions are where full recovery occurs in numerous, short core runs in intervals less than about 6 feet, or where the geologists visually selected sample intervals based on rock type or structure. Sample intervals are measured and marked with permanent marker, orange ribbon and aluminum tag that is stapled to the core tray showing the sample number. Where the core sample is coherent a line is drawn with permanent marker along the stick so that it is sawn in half perpendicular to the "grain" in order to get a representative split. The core is stored on pallets to be picked up by the analytical laboratory.

When core from the MacArthur Deposit arrives at the laboratory, it is split, using a core saw, into halves and one half of each interval is placed into a sample bag that is marked with the sample number. The sample is then dried, crushed to -10 mesh, rotary split to 1,000 grams, pulverized to -150 mesh, and split to 350 gram pulps. The pulps are assayed for total copper using a 2 gram-3 acid volumetric ore grade atomic-absorption (AA) spectroscopy analysis. The solution from the total Cu analysis is assayed by inductively coupled plasma (ICP) spectrometry for 34 elements. The acid soluble copper oxide (asCu) content of the sample is then analyzed by using a weak, sulfuric acid solution leach of a 1 gram pulp. The acid leachable copper sulfide content is analyzed by using ambient temperature concentrated sulfuric acid and hydrated ferric sulphate to determine Ferric Sulfate Soluble Copper (FSCu) content. Internal quality assurance and quality control procedures include the insertion of standards and duplicates into the sample sequences. Rejects from the previously analyzed samples are also sent to another accredited laboratory for check analyses. The remaining half core is placed back into the core box in its original position and the core boxes are returned to the Yerington core storage/logging facility by the laboratory truck, where it is then stacked and stored in order and by hole number. Reject and pulps are also returned with the core to the Yerington facility for archiving.

American Assay Laboratories located in Sparks, Nevada ("AAL") prepared and assayed samples from the MacArthur Deposit drilling program in 2007. AAL is ISO/IEC 17025 certified and participates in CANMET, PTP MAL certification analyses twice a year and in GEOSTATS, SMA, and IOAG testing twice a year. Core samples from subsequent programs have been prepared and analyzed by ISO17025 compliant ALS Chemex Laboratories in Sparks, Nevada ("ALS Chemex") and Skyline Assayers and Laboratories in Tucson, Arizona ("Skyline").

The MacArthur Deposit RC drilling program is supervised in the field by the project geologist for sample accuracy, proper handling and accuracy in labeling. Methods and procedures for splitting and packaging of samples are conducted such that the quality of the sample splitting meets or exceeds standards required under NI 43-101 and a chain of custody starts with the drillers collecting, splitting and bagging of RC drill cuttings.

For logging of drilled lithologies, a continuous chip sample is collected in a plastic chip tray over five foot intervals and stored for logging by the project geologists. A 5/16 continuous split of five-foot sample intervals is collected for assaying from 5.2 inch diameter drill holes through a wet splitter mounted on the rig. The samples are placed in sample bags and transported from the drilling rig to the Company's storage facility in Yerington at the end of each 12-hour shift. The samples are then inventoried by Company personnel, dried, placed on pallets, wrapped in plastic and shipped via United Parcel Service to the Skyline laboratory in Tucson, Arizona for sample preparation and assaying. Rejects and pulps are returned to the Yerington facility for archiving.

Skyline is accredited by the American Association for Laboratory Accreditation (A2LA - certificate no. 2953.01) in the Chemical field of Testing. Skyline is a recognized industry leader for all types of base metal, ferrous and non-ferrous analysis including high quality ore-grade assays, sequential copper analyses of ores, and umpire assays of metallurgical products. The Tucson laboratory has provided analytical service to the copper mining industry for over 70 years.

At Skyline, the RC samples are crushed to plus 75% passing a -10 mesh, split and pulverized at the laboratories for assay using analytical techniques as described for the core drilling program. Internal quality assurance and quality control procedures include the insertion of standards into the sample sequences. Rejects from the previously analyzed samples are sent to ALS Chemex Laboratories in Sparks, Nevada for check assays.

## Mineral Resources

Tetra Tech completed an updated independent resource estimate under NI 43-101 for the MacArthur Deposit preliminary economic assessment (the “MacArthur Deposit Resource Estimate”) titled “*MacArthur Copper Project – Amended NI 43-101 Technical Report Preliminary Economic Assessment, Lyon County, Nevada, USA*” and dated January 17, 2014 (effective date May 23, 2012). At a 0.12% cutoff, the tonnage of the measured oxide and chalcocite resource was 71.8 million tons at 0.218% copper containing 313 million lbs. of copper, the indicated oxide and chalcocite resource was 87.3 million tons at 0.208% copper containing 362 million lbs. of copper, and the inferred oxide and chalcocite resource was 243.4 million tons at 0.201% copper containing 979.5 million lbs. of copper.

The MacArthur Deposit’s indicated sulfide resource at a 0.15% cutoff is 1.1 million tons averaging 0.292% copper containing 6.4 million pounds of copper and the inferred sulfide resource was 134.9 million tons averaging 0.283% copper containing 764 million lbs. of copper.

The Qualified Person for the updated MacArthur Deposit resource estimate is Dr. Rex Clair Bryan of Tetra Tech.

## Metallurgy

The MacArthur Deposit has a long history of metallurgical testing from 1976 through 2011 including bottle roll and column leach testing and full-scale heap leach operations. Anaconda performed the first test work in 1976 and multiple subsequent owners continued test work through 2011. The most comprehensive test work was performed by Quaterra during 2010 and 2011. Quaterra contracted METCON Research of Tucson, Arizona to run a substantial number of bottle roll leach tests along with 32 column leach tests, on samples from 27 large diameter (PQ) size core drill holes. These drill holes are generally representative of the MacArthur Deposit mineral resources. The test work, both historic and that most recently performed, shows the mineralized material is amenable to standard heap leaching with good copper extraction.

The Qualified Person for the metallurgical portion of the MacArthur Deposit Resource Estimate is Dr. Richard Jolk of Tetra Tech.

## Preliminary Economic Assessment

M3 Engineering & Technology Corp. of Tucson, Arizona (“M3”) completed a preliminary economic assessment for the MacArthur Deposit on May 23, 2012 and titled “*MacArthur Copper Project – Amended NI 43-101 Technical Report Preliminary Economic Assessment Lyon County, Nevada, USA*” (the “MacArthur Deposit PEA”). The MacArthur Deposit PEA was amended and restated on January 27, 2014. The study concluded that the project has potential for development as a large-scale copper oxide heap leach operation that would provide long-term cash flows for a relatively modest capital outlay.

A PEA should not be considered to be a pre-feasibility or feasibility study as the economics and technical viability of the Project have not been demonstrated at this time. Mineral resources that are not mineral reserves do not have demonstrated economic viability. A PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too geologically speculative at this time to have economic considerations applied to them to be categorized as Mineral Reserves. Thus, there is no certainty that the production profile concluded in the MacArthur Deposit PEA will be realized. Actual results may vary, perhaps materially.

The MacArthur Deposit PEA set out the following key project parameters:

- An open pit mine based on an acid soluble measured and indicated copper resource model of 159 million tons at 0.212% copper and an inferred resource of 243 million tons at 0.201% copper.
- Recovery of 747 million pounds of copper over the 18-year mine life at an average mining rate of 15 million tons per year with a waste to ore stripping ratio averaging 0.90.

- Initial capital expenditure of \$232.7 million.
- Average life-of-mine operating costs of \$1.89 per pound.
- An after tax net present value (“NPV”) of \$201.6 million at an 8% discount rate and a base case copper price of \$3.48 per pound. (The project breaks even at a copper price of \$2.56 per pound until the capital is paid off in 3.1 years. Thereafter, the breakeven is \$2.23 per pound.)
- An after tax internal rate of return (“IRR”) of 24.2% with a 3.1-year pay back.

Mine operating costs were provided by Independent Mining Consultants Inc. of Tucson, Arizona (“IMC”), based on an average 41,000 ton per day mine plan.

The project financials were enhanced by including in the above cash flows a sulfuric acid plant at the site compared to purchasing and transporting acid to the site. An on-site acid plant provides more long term certainty for the highest operating cost item (sulfuric acid), reduces the requirement for purchased electric power, and would leverage future consolidation and development of other oxide deposits in the District.

The SX/EW capital cost estimate was prepared based on M3 in-house information of similar SX/EW facilities. It includes the heap leach pads, SX/EW facility and tank farm based on a design flow rate of 10,400 gal/min. Additional upfront capital costs were included for mining equipment and infrastructure improvements (power, water, roads) needed at the site. Capital costs are considered accurate to -20% to +25%.

The Qualified Person for the MacArthur Deposit PEA is Mr. Rex Henderson with M3. The Qualified Person for the mining portion of the MacArthur Deposit PEA is Herb Welhener of IMC. The 2012 PEA is available at [www.sedar.com](http://www.sedar.com).

In August 2014, as part of the Freeport Nevada Option Agreement, the MacArthur Deposit was transferred to SPS, a wholly owned subsidiary of Quaterra Alaska Inc.

### **Future Plans**

On January 10, 2018, Quaterra announced that it has initiated preparation of a prefeasibility study at MacArthur. In November 2017, Quaterra approached M3 to review opportunities to optimize the near-term production potential at MacArthur as laid out in the 2012 PEA.

The 2012 PEA identified several areas for potential improvement, including additional metallurgical work and focused resource drilling. In addition, M3’s review indicated that it may be more economic to buy sulfuric acid in the market than to build an acid plant to process purchased sulfur. The acid plant represented \$65.4 million or 28% of the total pre-production capital costs of \$232.7 million in the 2012 PEA.

Following the review and a final evaluation, and depending on the availability of funds, Quaterra intends completing a prefeasibility study in order to further de-risk MacArthur, and add more certainty to its economic potential. Specifically, as part of the prefeasibility study there will be, among others, an investigation of:

- Updating the resource model and optimizing the mine plan.
- Reducing initial capital costs by eliminating the acid plant.
- Investigating ways to improve copper recovery by testing various crush sizes to replace the original plan to use Run-of-Mine (ROM) material. The new metallurgical test work program will help define the ultimate recovery, acid consumption, and leach cycle for ROM and crushed ore as well as optimal leach pad parameters. Bulk leach tests of copper oxide material are included in the test work plan.
- Evaluating the cost-recovery trade-offs of leaching ROM material compared with crushed material.

Quaterra has also engaged Independent Mining Consultants to update the MacArthur mineral resource estimate by incorporating the results of work completed since the 2012 PEA, re-evaluate the assumptions in the 2012 PEA, and identify additional opportunities to enhance the mine plan.

### **c. Bear Deposit**

A portion of the Bear deposit lies on the northeast portion of the Yerington Mine property that was acquired with the SPS purchase of Arimetco's assets from bankruptcy court. In December 2013, Quaterra announced the signing of four option agreements totaling 1,305 acres of private land north and east of the Yerington Mine Site that covers additional portions of the Bear Deposit. In May 2015, the Company entered into an option agreement to acquire a fifth property covering approximately 1,020 acres of additional private land covering a portion of the Bear Deposit. Under the terms of the five option agreements, Quaterra (now SPS) has an exclusive right to acquire these properties with all mineral rights and certain water rights, and to explore these parcels.

The Bear Deposit was discovered in 1961 by Anaconda condemnation drilling in the sulfide tailings disposal area and was further delineated in the 1960s and 1970s. Currently the deposit is open in several directions and has never been consolidated under a single owner. A part of Quaterra's recently acquired acreage was not previously accessible for exploration and is adjacent to the highest grade mineralization discovered during previous exploration of the area.

Historical information compiled for the Bear Deposit includes 126,400 feet of drilling in 49 drill holes that define a mineralized system covering an area of at least two square miles. The portion controlled by Anaconda in the 1960s covered approximately 25% of this area and includes an estimated 500 million tons of mineralized material averaging 0.40% copper (Dilles and Proffett, 1995). The Bear Deposit tonnage and grade estimate is historic in nature. A qualified person has not done sufficient work to classify this historic estimate as a current mineral resource and Quaterra does not treat it as such. In order to do so, this estimate will have to be confirmed by additional drilling.

The Bear Deposit is a large porphyry copper system that occurs below 500 to 1,000 feet of valley fill and volcanic rocks of Tertiary age. Mineralization occurs predominantly in quartz monzonite, border phase quartz monzonite, and quartz monzonite porphyry dikes of Jurassic age. There does not seem to be any relation between the Jurassic rock type and the sulfide occurrence. Copper mineralization occurs most commonly as chalcopyrite with minor bornite within platings and veinlets of fresh feldspar and shreddy biotite. No copper oxide mineralization is present and only minor occurrences of chalcocite have been noted. Molybdenite is a common sulfide within the deposit, usually occurring with the best copper mineralization. However, only about 20% of the historic core samples have been analyzed for molybdenite and more studies are necessary to better understand its average grade and distribution.

The deposit is displaced by the gently east-dipping normal fault known as the Bear fault. The fault is defined by strongly sheared dark clay gouge with andesite and sulfide fragments. On the western part of the deposit the mineralization occurs within the foot wall of the fault while to the east the mineralization occurs deeper within the hanging wall.

The Bear Deposit is a high priority because of its very large size, historic drilling and potential for higher grades than district averages. Molybdenum could also represent a by-product credit. Exploration to expand and upgrade the historic Bear Deposit resource into a resource under NI 43-101 is a high priority.

Acquisition and exploration costs incurred by the Company for the Bear Deposit to December 31, 2018 were \$1.01 million (2017 - \$0.32 million) net of option payments made by Freeport Nevada.

### **Exploration and Drilling Results**

On August 13, 2015, the Company commenced a five to seven-hole exploration drilling program at the Bear Deposit funded by Freeport Nevada. The drilling program was designed to assess historic assay results and determine geological controls for higher-grade mineralization. A magneto telluric (MT) geophysical survey was also carried out over the Bear Deposit target area to assist in the drill site selection. Assays from the three holes completed in 2015 were released sequentially on November 17, December 23, 2015 and February 8, 2016. (Please see press releases at [www.quaterra.com](http://www.quaterra.com) issued on those dates for details).

Highlights from **Hole B-048** include an intercept of 1,157.5 feet of 0.42% copper containing 123.6 feet of higher grade mineralization beginning at 2,588.5 feet averaging 1.07% copper, 0.03% molybdenum, 0.036ppm gold, and 0.9ppm silver. **Hole B-049**, drilled vertically to a depth of 3,635 feet, intercepted 1,138 feet (407.9 meters) of 0.26% copper beginning at a depth of 1,588 feet. Higher-grade mineralization, although present, is restricted to narrow zones varying from 3.0 to 5.5 feet in width. This hole extends an already large mineralized system an additional 770 feet to the north. **Hole B-050**, drilled vertically to a depth of 3,838 feet, intercepted 521.9 feet (159.1 meters) of 0.36% copper beginning at a depth of 2,429.2 feet. Included within this interval is 279.3 feet (85.1 meters) of 0.44% copper starting at 2,491.4 feet. A 6.1 -foot (1.9 -meter) interval of massive pyrite-magnetite-chalcopyrite skarn starting at 2,330.5 feet averages 1.91% copper, 0.22 ppm gold and 5.7 ppm silver.

Three additional holes were drilled in 2016, and results were released on April 6, 2016, May 24, 2016, and June 9, 2016. (Please see press releases at [www.questrada.com](http://www.questrada.com) issued on those dates for details).

**Hole B-051**, drilled vertically to a depth of 3,878 feet, intercepted 1,483.3 feet (452.1 meters) of 0.26% copper beginning at a depth of 2,191.2 feet. Included within this interval is 1,213.8 feet (370.0 meters) of 0.30% copper starting at 2,191.2 feet. Several narrower intervals contain > 0.40% copper with anomalous gold and molybdenum. Hole B-051 is a significant step-out. The nearest holes are B-049, approximately 1,150 feet to the west and historic hole B-22, about 1,300 feet to the southwest.

The thickness of the mineralized intercept in B-051 is larger than those in the three previous holes of the drilling program. Bornite also is more common than in previous SPS holes, occurring with chalcopyrite and molybdenite in quartz-sulfide veins, veinlet swarms and stockworks. The quartz-sulfide veins appear to correlate with higher gold and molybdenum values found in B-051 compared to the three previous drill holes. The interval 3,253 to 3,278 feet averaged 0.43% copper, 182 ppm molybdenum and 0.12 ppm gold over 25 feet; the interval 2,218 to 2,241.9 feet averaged 445 ppm molybdenum over 23.9 feet.

**Hole B-052**, drilled vertically to a depth of 3,468 feet, intercepted two zones of 0.4% copper, the first of 43 feet (13.1 meters) with 201 ppm molybdenum starting at 2,508 feet and another of 29 feet (8.8 meters) starting at 2,667 feet. Overall, the hole intercepted 666.2 feet (203.1 meters) of 0.14% copper mineralization beginning at a depth of 2,081.3 feet.

The lower copper and gold grades, combined with a higher pyrite/chalcopyrite ratio, indicate that hole B-052 was drilled in a more distal part of the system. Additional drilling will be necessary to test this concept as Bear mineralization remains open in three directions.

**Hole GHH-001**, the sixth and final drill-hole of the program, is located in Ground Hog Hills about 6,000 feet south of previous SPS holes. It was drilled vertically to a depth of 2,017.5 feet and cased for possible future deepening. Sporadic zones of copper mineralization were intersected which are interpreted as an extension of Bear mineralization to the north.

The entire six-hole exploration drilling program, which commenced in August 2015, totaled 20,274.5 feet. The five holes at Bear, including twin hole B-048, totaled 18,257 feet. Results from Hole B-048 supported historic assays from Hole 23B drilled in 1966 by Anaconda. Drilling results from holes B-049 to B-052 were successful in extending the Bear mineralization an additional 2,000 feet north-northeast by 3,000 feet northwest-southeast, with the average mineralized intercept in these four step-out holes averaging approximately 1,000 feet in thickness. The Bear system remains open in three directions. Copper mineralization is overlain by ubiquitous propylitic alteration with moderate to strong phyllic alteration, often laced with tourmaline veining and flooding. Significantly higher grades, if present, will most likely be found where quartz monzonite is cut by quartz monzonite porphyry dikes as occurs at the nearby Yerington mine. The Bear porphyry copper deposit currently covers more than two square miles.



## **Quality assurance and control**

Core samples were either sawed or split by SPS personnel in Yerington, Nevada, and shipped to Bureau Veritas Minerals NA – Inspectorate America Corporation (“Bureau Veritas”), an ISO certified assaying/geochemistry facility, in Reno, Nevada for sample preparation. Gold analyses are assayed in Bureau Veritas’ lab in Reno using their “FA430” procedure (fire assay with atomic absorption finish) with a 5 ppb Au detection limit. Prepared pulps are shipped to Bureau Veritas’ lab in Vancouver, B.C., Canada, for analysis using their “MA 300” procedure for 35 element ICP-ES analysis. Commercially prepared standards and blanks are inserted by SPS at 50-foot intervals to insure precision of results as a quality control measure. SPS has a chain of custody program to ensure sample security during all stages of sample collection, cutting, shipping, and storage.

### **d. Groundhog copper project, Alaska**

The Groundhog copper project is a 40,000-acre property situated in an established copper porphyry belt situated 200 miles southwest of Anchorage, Alaska. It is located on State of Alaska claims covering the northern extension of a 10-kilometer wide north-northeast trending structural zone that hosts a number of porphyry copper-gold prospects, including the large Pebble porphyry copper, gold and molybdenum project, which is approximately three miles south of the Groundhog claim boundary.

### **Acquisition and Staking of Claims**

In April 2017, Quaterra signed a lease agreement with Chuchuna Minerals Company (“Chuchuna”), an Alaska corporation, giving Quaterra an option to purchase a 90% interest in the Groundhog copper prospect. Quaterra committed to funding \$1 million for exploration in the first year of the agreement, and a minimum of \$500,000 in each of the following four years. Quaterra can earn its 90% interest in Groundhog by providing a total of \$5 million in funding for exploration over five years, and by paying Chuchuna a lump sum of \$3 million by the end of the fifth year. Quaterra has no obligation to exercise its option and can terminate the agreement at its discretion annually. Chuchuna will be the operator of the project and will plan, implement and manage exploration field programs as set out in a budget and work plan approved by Quaterra.

If Quaterra exercises its option to acquire 90% of Groundhog, Chuchuna and Quaterra will enter into a joint venture agreement. Chuchuna will retain a 10% interest in the property carried to production, and a net smelter returns (NSR) royalty of 1.75%. Within the first ten years Quaterra may purchase 50% of the NSR royalty by paying Chuchuna \$25 million.

### **Location and Access**

The property is located in the Bristol Bay region of southwest Alaska, 300 km (186 mi) southwest of Anchorage within the Lake and Peninsula Borough. It lies 27 km (16 mi) north of the village of Iliamna and 10km (6 mi) west of the village of Nondalton. The southern portion of the claim group is accessible by ATV but the majority of the property is best accessed by helicopter. The general location of the Groundhog property is provided on the following map.



### Property Status

The Groundhog property currently consists of 283 State of Alaska 160-acre claims (45,280 acres 18,324 ha) immediately to the northeast (3 miles) of the Pebble porphyry copper-gold deposit. The claims lie within a 78,240-acre prospective area of interest.

### History

During the 1980s and 1990s COMINCO explored the area north of Iliamna Lake and discovered several porphyry copper and epithermal gold prospects. Northern Dynasty Minerals Ltd. acquired the COMINCO properties in the early 2000s and began an aggressive exploration program that resulted in the discovery of the large and high-grade Pebble East Cu-Au-Mo deposit in 2006. By 2004 Liberty Star, Full Metal Minerals and Alaska Earth Sciences had become active in the area and over 1,000 state claims were staked.

The Groundhog property was staked by Alaska Earth Sciences Inc. (“AES”) in late 2004 and early 2005 consisting of 489 160-acre claims for Greg Ellis, a private investor. Kennecott Exploration (a subsidiary of RioTinto) optioned the Groundhog property from 2009 to 2013 from AES. Kijik Corporation (an Alaskan native corporation) and AES formed Chuchuna Minerals Co. (“Chuchuna”) which created a joint venture to explore the Groundhog property in 2016. In April 2017, Quaterra entered into an agreement with Chuchuna to acquire 90% interest in the Groundhog project.

### Regional Geology

The Groundhog property is located in the Kahiltna Terrane near the northeast trending, crustal-scale Lake Clark fault system that separates the Kahiltna Terrane to the northwest and the Peninsular Terrane to the southeast. The Kahiltna is characterized by a Jurassic-Cretaceous flysch sequence of andesitic turbidites deposited in a basinal setting. Tectonic activity since the Cretaceous has been controlled by a compressional system due to northwest dipping subduction of the Pacific plate below the North American plate. The flysch sequence is intruded by various Cretaceous and early Tertiary plutons such as the nearby Kaskanak batholiths and the multi-phased intrusive corridor and is uncomfortably overlain by Tertiary volcanics and sediments. Displacements along major dextral strike-slip and thrust faults within the Lake Clark fault system have accommodated most of the compressional stress. Late northeast and northwest-striking Tertiary normal and graben faults are common on the property. The area has been glaciated with a variety of glacial-fluvial deposits present in many areas.

In the Pebble and Groundhog area the older basement units are gently folded Jurassic-Cretaceous andesitic argillite, siltstone, graywacke with some diorite and gabbro sills. A variety of Cretaceous intrusions occur in a northeast trending structural corridor which extends onto the Groundhog property. Older intrusions (98-96Ma) have an alkali affinity and are comprised of biotite pyroxenite, monzosyenite, and monzonite. Subalkalic granodiorite intrusions (91-89 Ma) include the Kaskanak Batholith which is genetically related to the Cu-Au-Mo mineralization at Pebble.

### **Property Geology**

Geologic mapping and geochemical sampling of the Groundhog claim block has been completed by AES geologists in 2005-2007, KEX geologists 2010-2012, and AES geologists in 2017. A variety of geophysical surveys were completed in 2006, 2007, 2010, 2011, and 2017 by various geophysical contractors.

### **Jura-Cretaceous Meta-Sedimentary and Intrusive Rocks**

The oldest unit exposed on the property is the Kahiltna flysch, a meta-sedimentary basement flysch sequence of fine-grained, thinly-bedded siltstone, mudstone and massive greywacke. The sediments are regionally metamorphosed from greenschist to low amphibolite facies with some contact metamorphism near mafic intrusions. Some andesitic flows are interbedded with the sediments which are andesitic in composition. The Kahiltna flysch is intruded by some intermediate to mafic intrusive bodies a few kilometers in length. These intermediate to mafic bodies are mainly composed of fine- to medium-grained gabbro with subordinate pyroxenite and diorite-granodiorite.

Three main strongly magnetic bodies from south to north on the Groundhog property are the Alpha, Beta, and Gamma anomalies. The Alpha anomaly is a late Jurassic (U-Pb date 149.2 Ma) medium-grained banded ophitic gabbro. The Beta anomaly is a Late Cretaceous (U-Pb date 98.2 Ma) medium-grained biotite granodiorite. The Gamma anomaly is a very poorly exposed fine-grained magnetite-rich massive gabbro of unknown age. Quartz-feldspar veinlets containing pyrite and traces of chalcopyrite along with locally abundant epidote-carbonate-pyrite veinlets are found at several locations at the Alpha and Beta anomalies.

### **Tertiary Volcanics**

Tertiary volcanic rocks are the most common and best exposed units on the property and occupy the higher elevation areas encompassing most of Groundhog Mountain. It consists of a post-mineral sequence of volcanic flows and tuffaceous beds of various compositions that can be subdivided into intermediate volcanic rocks, intermediate tuffaceous rocks, mafic volcanic rocks, rhyolite tuff and volcanic breccias. A medium- to fine-grained light-colored diorite is present extending northeast from Groundhog Mountain.

### **Structural Setting**

Deformation on the Groundhog property is dominated by late brittle faults that cut the Tertiary volcanics. The Jura-Cretaceous sedimentary package is regionally known to be affected by broad open folding. The basement sediments generally dip north 60-70 degrees, but dip to the south 35-60 degrees in the vicinity of the Alpha anomaly. The Tertiary stratigraphy well exposed on Groundhog Mountain is upright and tilted about 10 degrees to the south-southwest.

Most faults on the property have been interpreted from airborne magnetic data acquired in 2010. Two major sets of faults have been interpreted, one striking northeast and the other striking west-northwest. The northwest structures appear to be cut by the northeast faults. Extending major faults from the Pebble property combined with IP data observations, the northeast faults appear to be southeast dipping normal faults. Fault breccias have been observed in Groundhog Mountain Tertiary volcanics.

## Geophysics

Geophysical work undertaken on the property includes the following:

- Airborne Magnetic Survey (USGS 2001, KEX 2010).
- CSAMT/IP Survey (AES 2006-7).
- Magnetotelluric Survey (KEX 2010).
- Reconnaissance IP survey/Dipole-dipole IP Surveys (KEX 2011, AES 2017).

## Exploration and Drilling Results

The objectives of the 2017 reconnaissance drilling program were to determine the source of numerous IP anomalies identified by historic and 2017 surveys and to confirm the prospectiveness of the area for porphyry copper mineralization. Four widely-spaced core holes totaling 4,073 feet – the first ever drilled on the property – were drilled to test induced polarization (IP) anomalies over an area approximately six miles north-south by three miles east-west.

The holes targeted only the southernmost of three magnetic anomalies that have been defined on the property by historic surveys and 26.1 kilometers of new IP completed by Zonge International in June and July this year:

- **Hole 3/3A**, drilled to a depth of 1,178 feet (S65E at - 70 degrees), encountered strong propylitically altered Jurassic-age gabbro-pyroxenite -basalt basement rocks in the entire hole from 0 to 1,178 feet. The strongly altered and pyritized core was uniformly anomalous in copper (25 to 612 ppm) with scattered anomalous molybdenum (trace to 177 ppm) and gold (trace to 827 ppb). The hole did not penetrate the full extent of the IP anomaly. The strong alteration and anomalous copper, molybdenum, and gold suggest that the hole may be above or adjacent to a porphyry copper system.
- **Hole 4**, collared approximately six miles south of Hole 3, encountered variably pyritized and silicified multi-phase intrusive porphyry rocks over its entire 985-foot length (S45E at -77 degrees). The dominant rock was a crowded quartz-plagioclase-potassium feldspar porphyry intruded by a more altered and mineralized feldspar porphyry, both of which were intruded by a late unmineralized intrusive breccia. The strongly altered and pyritized porphyritic rocks contain weakly anomalous copper and zinc values.
- **Holes 1 and 2**, drilled approximately three miles apart midway between Holes 3 and 4, intersected weak sulfide mineralization currently interpreted as Tertiary epithermal mineralization and syngenetic pyrite, respectively.

Drill results confirm that pyrite is the source of all IP anomalies tested and will be an effective tool for exploring the project's large land position; and that intrusive rocks similar to those at Pebble were intersected in Holes 3 and 4 and extend well into the Groundhog land block. IP surveying to date has defined a large sulfide anomaly(s) open laterally and at depth whose ultimate extent and source will be determined by additional surveys and deeper drilling. Data compilation and analysis will be completed and drill permits secured prior to finalizing further work plans.

## Quality assurance and control

Core drilling was contracted to AES which completed four BTW core holes with a Discovery 1 drill rig. Core samples were sawed in half and sealed in heavy plastic bags into two- to three-meter samples by AES personnel. The samples were then sealed into two foot by three foot rice bags and shipped by a commercial air carrier from Nondalton, Alaska, to Anchorage, Alaska. In Anchorage the samples were picked up by AES personnel who then inserted sample blanks from a local rock quarry approximately every tenth sample. The samples were then shipped by Lynden Transport trucks to the ALS USA's Prep Laboratory in Fairbanks, Alaska, where they were crushed, pulverized and split. ALS then shipped a split of the samples to their Reno Nevada analytical lab where they were analyzed by ME-MS41 ultra trace Aqua Regia ICP-MS and Au-AA23 (Au 30g fire assay with AA finish, 0.005 ppm Au detection limit). ALS routinely inserts about 15 duplicate samples, blanks, and standards with each sample shipment.

## Future plans

Previous geologic, geochemical, and geophysical studies conducted on the property by a major international mining company, have identified a number of large, high priority, magnetic and induced polarization (IP) targets. It is the intention to evaluate these, and other targets identified by more recent work by Chuchuna, by mapping, sampling, additional IP and drilling.

### ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

### ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

*The information in this section is presented in accordance with International Financial Reporting Standards, ("IFRS") as issued by International Accounting Standards Board. The following is a discussion of our financial condition and results of operations for the fiscal years ended December 31 and should be read in conjunction with our consolidated financial statements included in Item 17 of this annual report.*

#### Critical Accounting Estimates

The accounting estimates believed to require the most difficult, subjective or complex judgments, and which are the most critical to our reporting of results of operations and financial position, which are not limited to, are as follows:

##### *Impairment of mineral properties*

The assessment of the impairment indicators involves the application of a number of significant judgments and estimates to certain variables including metal price trends, plans for properties, and the results of exploration and evaluation to date.

##### *Fair value of derivative liabilities*

Fair value of derivative liabilities that are not traded in an active market is determined by using a valuation technique. Management makes estimates and utilizes assumptions in determining the fair value for share-based payments, warrants and the (gain) loss on the revaluation of the derivative liability in determining inputs to be used for the Black-Scholes option pricing model.

The critical judgments that the Company's management has made in the process of applying the Company's accounting policies, apart from those involving estimations, that have the most significant effect on the amounts recognized in the Company's consolidated financial statements are related to the economic recoverability of the mineral properties and the assumption of no material restoration, rehabilitation and environmental exposure.

#### A. Operating Results

##### 2018 versus 2017

For the year ended December 31, 2018, the Company incurred a loss of \$1.419 million compared to \$1.273 million for the year ended December 31, 2017. Losses related the marketable securities have been reclassified retrospectively from other comprehensive income (loss) to deficit upon the adoption of IFRS 9 effective January 1, 2018. Significant differences in the comparative amounts were mainly caused by the unrealized loss on the marketable securities, the non-cash fair value calculation on share based payments, interest expenses on convertible notes, plus a onetime respective gain and loss recognized from the disposal of non-core asset and debt settlement in 2017.

Administration and office are mainly comprised of salaries, rent, insurance and general office expenses in addition to other costs related to operating a publicly listed company in Canada. The scale and nature of the Company's corporate and administrative activity has remained relatively consistent over the periods presented.

Under the option agreement with Freeport Nevada, all SPS operating expenses including its salaries for U.S. personnel and certain executive officers were funded by Freeport Nevada. For presentation purposes, these costs were presented in previous periods as part of mineral property expenditures with an associated recovery from Freeport Nevada for no net impact on mineral property carrying values. Since the termination of the option agreement, all personnel costs are expensed in the profit and loss resulting in a higher personnel cost in 2018. Interest expense was primarily related to the interest on convertible notes, loans and extension fee paid to Freeport Nevada on the \$500,000 borrowed in May 2015.

The Company holds 1,942,795 common shares of Grande Portage Resources Ltd. Of those shares, 760,464 were issued to the Company in 2017 resulting in a gain on disposal of assets of \$185,742. The Company recorded an unrealized loss reflecting the change in the market value of these shares of \$129,848 during 2018 year end (\$31,324 - 2017).

The Company assesses for any indication of impairment at each reporting date or upon a triggering event that may identify an impairment of a property's value. The carrying amount of the Company's exploration and evaluation assets represent mineral property costs net of recoveries and write-downs to date and does not necessarily reflect present or future values.

The fact the Company successfully sold a portion of the water rights within Yerington property for gross proceeds of \$6.02 million demonstrated that the water rights alone support the recoverability of certain of the Company's mineral properties. As per the Company's accounting policy, proceeds from the water rights sale are recorded as a reduction of the carrying value of the related mineral properties. To date all mineral claims and option payments have been maintained in good standing, no impairment was recorded for the years ended December 31, 2018 and 2017.

During the year ended December 31, 2018, the Company spent \$0.11 million on Groundhog. Excess exploration expenditures from 2017 were carried forward to meet the required \$500,000 minimum expenditures in 2018.

On March 16, 2017, the Company issued 7,489,898 common shares to settle the principal and certain interest on a debt entered into in July 2014. As a result, a \$100,000 loss was recorded for the 2017 year end resulting from the difference between the market price of the shares issued and the conversion rate of the debt.

#### **2017 versus 2016**

During the year ended December 31, 2017, the Company's net loss was \$1.242 million compared to \$1.865 million and \$3.104 million for the comparative periods of 2016 and 2015, respectively. Both years ended December 31, 2017 and 2016 were impacted by non-cash fair value calculations on derivative liabilities and gains or losses on disposal of assets.

The Company evaluates the carrying value of its assets at the end of each reporting period or upon a triggering event that may identify an impairment of a property's value. During the year ended December 31, 2017, all properties were active with mineral claims and/or earn-in option payments made up to date. Despite the fact that Freeport Nevada terminated its Yerington assets Option Agreement in September 2017, the Company believes in the economic potential of its wholly owned Yerington assets and has determined to carry on exploration programs. No impairment was recorded for the year ended December 31, 2017.

During the year ended December 31, 2017, the Company spent \$1.51 million at Groundhog including 4,073 feet of drilling. Excess 2017 exploration expenditures were carried forward to 2018 year end to meet its minimum work commitment.

Under the Option Agreement, all SPS operating expenses including its U.S. personnel were covered by funds provided by Freeport Nevada. Since the third quarter of 2017, the Company has expensed those costs in the profit and loss resulting in a higher personnel cost in 2017.

In July 2016, the Company sold the Herbert Gold property for 1.18 million shares of Grande Portage, and recognized a \$1.48 million impairment during the year ended December 31, 2016. In November 2017, Grande Portage delivered an additional 760,464 of its common shares to the Company at a market value of \$185,742 pursuant to the property sale agreement.

On June 30, 2016, the Company concluded the sale of its 50% indirect interest in the Nieves silver property in Zacatecas State, Mexico, to its joint-venture partner Blackberry Ventures I, LLC. Legal fees related to the completion of this transaction resulted in higher professional fees in 2016.

Overall, the general administrative expense of \$1.53 million in 2017 was comparable to the same period in 2016 of \$1.34 million. Higher personnel cost was offset by reduced professional costs; higher investor relations and communication represented the Company's marketing and fund raising efforts.

On February 28, 2017, the Company's shares had achieved a closing price of C\$0.12 or more for 10-consecutive trading days on the TSXV, and in accordance with the terms of the convertible notes issued on July 2, 2014, the principal of the notes was automatically deemed to have been converted to shares at a rate of C\$0.10 per share. The \$79,973 interest portion due on some of the notes was paid in shares with the remaining interest of \$53,315 paid in cash. A total of 7,489,898 shares were issued to settle the convertible notes.

As a result, a \$100,000 loss on the settlement of the convertible notes was recorded during the year ended December 31, 2017, resulting from the difference between the market price of the shares issued and the conversion rate.

As at December 31, 2017, derivative liability was \$587,100 compared to \$938,580 at December 31, 2016. 5,721,100 warrants classified as derivatives expired unexercised on January 2, 2018.

Interest expense (net) was primarily related to the \$85,558 interest accretion on the convertible and 5% interest, compounded daily, on the \$500,000 loan payable to Freeport Nevada due September 6, 2018.

## **B. Liquidity and Capital Reserves**

The Company is an exploration stage company and has not earned any production revenue. It has been dependent on funding from Freeport Nevada and sale proceeds of its non-core assets in the last few years.

On March 1, 2019, the Company closed the sale of certain primary ground water rights at Yerington and received total net proceeds of \$6.03 million of which \$312,960 was received in October 2018. As at March 28, 2019, the Company has cash and cash equivalents of approximately \$4.5 million and believes it has sufficient working capital to sustain its operations for the next several years.

In August and September 2018, the Company completed a non-brokered private placement in tranches of secured 10% convertible notes of the Company for gross proceeds of \$550,000 and CAD \$550,000. Subsequent to the 2018 year end, the Company issued 3,000,000 common shares for a gross proceed of CAD \$150,000. These funds were used in property payments and general corporate purposes.

During the year ended December 31, 2018, the Company incurred \$1.519 million in exploration expenditures comprised of mineral property maintenance, prefeasibility study preparation on MacArthur, and ongoing environmental monitoring at Yerington.

In March 2019, the Company repaid the principal and interest on the loans from Freeport Nevada and related party advances from its CEO Thomas Patton. Following these repayments, the Company has no debt other than the convertible notes.

**C. Research and Development, Patents and Licenses, etc.**

We do not have a research and development policy, nor do we hold any patents, licenses, or other intellectual property.

**D. Trend Information**

Mineral property expenditures can vary from quarter to quarter depending when option payments are due and the stage of the exploration program. For example, drilling may slow down for a period of time when results are analyzed, resulting in lower costs during that period.

We have had no revenue from mining operations since our inception. Income was generated through management fees on certain properties and interest earned on banker's acceptance investments.

**E. Off- Balance Sheet Arrangements**

None.

**F. Tabular Disclosure of Contractual Obligations**

The following table outlines our contractual and optional obligations at December 31, 2018 and the period such payments are due by:

	Total	1 Year	2-3 Years	4-5 years	> 5 years
Mineral properties <sup>(a)</sup>	\$ 1,268,000	\$ 293,000	\$ 811,000	\$ 114,000	\$ 50,000

(a) We are required to make option payments and other expenditure commitments to maintain control of these properties.

**G. Safe Harbor**

The safe harbor provided in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, shall apply to forward-looking information provided pursuant to this Item 5.F. Please see "Cautionary Statement Regarding Forward-Looking Information" at the outset of this annual report.



## ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

### A. Directors and senior management

The following tables and biographies set forth information about our directors and executive officers:

Name	Age	Positions Held	Period as Director or Officer	Jurisdiction of Residence
Thomas C. Patton	75	Director & Chairman & Chief Executive Officer	Since 1998	Washington, U.S.A.
Gerald Prosalendis	62	Director & President & Chief Operating Officer	Since 2016	British Columbia, Canada
Lei Wang	51	Chief Financial Officer	Since 2016	British Columbia, Canada
Lawrence Page, Q.C.	79	Corporate Secretary	Since 1995	British Columbia, Canada
John Kerr	78	Director	Since 1993	British Columbia, Canada
LeRoy Wilkes	76	Director	Since 2006	Colorado, U.S.
Terrence Eyton	72	Director	Since 2015	British Columbia, Canada

#### Dr. Thomas Patton, Director, Chairman & Chief Executive Officer

Dr. Patton graduated from the University of Washington in 1971 (Ph.D.) and has worked with both junior and senior mining companies. He served as the President and Chief Operating Officer for Western Silver Corporation (“Western Silver”) from January 1998 to May 2006. Among his accomplishments at Western Silver were the discovery and delineation of the world-class Peñasquito silver-gold-lead zinc deposit in Zacatecas, Mexico, and the subsequent sale of the company to Glamis Gold Ltd. Prior to joining Western Silver, Dr. Patton held senior positions with Rio Tinto PLC and Kennecott Corporation, where he served as Senior Vice President, Exploration and Business Development. Dr. Patton is a member of the Society of Economic Geologists and the American Institute of Mining & Metallurgical Engineers.

#### Gerald Prosalendis, Director, President & Chief Operating Officer

Mr. Prosalendis has been an officer or director of a number of publicly traded mining exploration and development companies. He was the Vice President Corporate Development of Western Silver and was involved in the successful sale of that company in 2006 to Glamis Gold Ltd. He was also Vice President Corporate Development of Dia Met Minerals, a member of the team that developed the Ekati diamond mine and was involved in the sale of Dia Met to BHP Billiton in 2001. He has worked with company executives to develop and implement strategic plans; identify opportunities for growth including property acquisitions, M&A activity, joint ventures and partnerships; facilitate corporate financings; and, build companies’ profiles in the investment community.

#### Lei Wang, Chief Financial Officer

Ms. Wang, CPA, CGA, has worked in the mineral resource sector for more than 20 years, and has experience in financial reporting, regulatory compliance, internal control and corporate finance activities. She is currently CFO of GoviEx Uranium Inc. Prior to coming to Canada, Ms. Wang worked at Schlumberger in Aberdeen, Scotland, and Glencore International in Beijing, China. Ms. Wang holds a Bachelor of Science in Engineering from Qingdao University, China.

#### Lawrence Page, Q.C., Corporate Secretary

Lawrence Page, Q.C. obtained his law degree from the University of British Columbia in 1964 and was called to the Bar of British Columbia in 1965. He has been admitted to the Bar of Ontario for the purpose of acting as counsel in specified litigation. Mr. Page was awarded the distinction of Queen’s Counsel in 1988. Mr. Page practices on his own in Vancouver in the areas of natural resource law and corporate and securities law. He is the principal of Manex Resource Group, which provides administrative, financial, corporate and geological services to a number of public companies in the mineral resource sector, including Quaterra. Mr. Page also serves as a director of the following public companies: Valterra Resource Corporation, Southern Silver Exploration Corp. and Bravada Gold Corporation.

John R Kerr, Director

John R. Kerr graduated from the University of British Columbia in 1964 with a Bachelor of Applied Science (B.ASc) degree in Geological Engineering. He has participated in the mining industry continuously since graduation as an exploration geologist. Mr. Kerr has gained experience in recognition and identification of mineral potential in a diversified field of geological environments. Mr. Kerr also serves as director of Bravada Gold Corporation. He currently operates a geological consulting practice out of Vancouver, B.C., with projects located in all areas of North America.

LeRoy Wilkes, Director

LeRoy Wilkes was President of Washington Group International's mining business unit where he was responsible for the operating and financial performance of the unit's international operations in the coal, metals and industrial minerals markets. He has 38 years of mining experience in the precious metals, coal industrial metals, and base metals mining and processing. Prior to joining the Washington Group International, Mr. Wilkes served as executive vice-president and chief operating officer of Santa Fe Pacific Gold Corporation of Albuquerque, New Mexico from 1988 to 1995. Mr. Wilkes also previously served as executive vice-president of Washington Corporation of Missoula, Montana, responsible for merger and acquisition activities. He earlier served as vice-president and general manager of Kennecott Ridgeway Mining Company of Ridgeway, South Carolina, and director of business development of Anaconda Minerals Co. of Denver, Colorado. He has held management and supervisory positions at surface and underground mines producing molybdenum, copper, limestone, lead silver and zinc. Mr. Wilkes has a degree in mining engineering from the Montana School of Mines. Mr. Wilkes previously served as a director and chairman of the Board of Sabina Gold & Silver Corp.

Terrence (Terry) Eyton, FCA, ICD.D, Director

Mr. Eyton graduated from Lakehead University in 1967 in Business Administration. He obtained his Chartered Accountant designation in 1971 and was elected to Fellowship of the Institute of Chartered Accountants in 1983. He completed the Institute of Corporate Directors program in 2008 and obtained the designation of ICD.D.

Mr. Eyton practiced the profession of accounting in both public practice and corporate entities. Currently Mr. Eyton is a Director and Chair of the Audit Committee for Quaterra Resources Inc. Mr. Eyton has also served as a director and chair of audit committees for other reporting issuers including, Sabina Gold & Silver Corp; Southern Silver Exploration Corp; Homestake Resource Corporation; Bravada Gold Corporation; and Potash North Resource Corp.

Mr. Eyton is currently retired from active employment.

**B. Compensation**

Executive Officers

The following table sets forth the compensation paid to executive officers for the fiscal year ended December 31, 2018.

Name	Salary (\$)	Bonus (\$)	Securities Under Options Granted (#) <sup>(4)</sup>	Share-Based Payment Under Options (\$) <sup>(5)</sup>	All other Compensation	Total (\$)
Thomas C. Patton <sup>(1)</sup> <i>CEO</i>	150,000	nil	250,000	11,380	nil	161,380
Lei Wang <sup>(2)</sup> <i>Chief Financial Officer</i>	69,461	nil	200,000	7,054	nil	76,515
Gerald Prosalendis <sup>(3)</sup> <i>President and Chief Operating Officer</i>	173,651	nil	250,000	11,380	nil	185,031

- (1) Mr. Patton received a salary payment of \$150,000 per year, and has assumed role of President and CEO of the Company in September 2015 and Chairman and CEO since April 14, 2016.
- (2) Ms. Wang received a salary payment of CAD\$90,000 and was appointed as Chief Financial Officer effective January 1, 2016.
- (3) Mr. Prosalendis received a salary payment of CAD\$225,000 per year and was appointed as President and Chief Operating Officer effective April 14, 2016.
- (4) We granted stock options on September 20, 2018 under our Incentive Stock Option Plan at an exercise price of C\$0.06 per share for a five year term to the executive officers named above.
- (5) The assumptions used to calculate share-based payment for 2018 options were: risk-free interest rate 1.32%, expected share price volatility 103%, expected option life 5 years, forfeiture rate 0%, and expected dividend yield 0%.

#### Board of Directors

The Company reinstated from July 2015 the Directors' annual fees to non-executive directors as follows:

Independent Directors	CAD\$10,000
Chairman of the Audit Committee	CAD\$7,500
Chairman of any other committee	CAD\$5,000

The following table sets forth the compensation paid to independent directors for the fiscal year ended December 31, 2017.

Name	Fees (\$)	Bonus (\$)	Securities Under Options Granted (#) <sup>(1)</sup>	Share-Based Payment Under Options (\$) <sup>(2)</sup>	All other Compensation	Total (\$)
John Kerr <i>SHSE Chair</i>	11,577	nil	200,000	7,054	nil	18,631
Terry Eyton <i>Audit Chair</i>	13,506	nil	200,000	7,054	nil	20,560
Roy Wilkes <i>CGNC Chair</i>	11,577	nil	200,000	7,054	nil	18,631

- (1) The Company granted stock options on September 20, 2018 under our Incentive Stock Option Plan at an exercise price of C\$0.06 per share for a five year term to the directors named above.
- (2) The assumptions used to calculate share-based payment for 2018 options were: risk-free interest rate 1.32%, expected share price volatility 103%, expected option life 5 years, forfeiture rate 0%, and expected dividend yield 0%.

## C. Board Practices

### Term of Office

Our directors are elected annually at our annual general meeting and each officer holds such office for one year, until the next annual general meeting of shareholders, or until replaced by his or her successor.

### Employment and Service Contracts

During the most recently completed financial year, four of our executive officers had service contracts in place which provide for benefits upon termination of employment.

*Thomas Patton:* Mr. Patton entered into an amended and restated employment agreement with the Company and its subsidiary, Quatterra Alaska Inc., effective January 1, 2016 and amended on April 14, 2016. This agreement was subsequently renewed on April 14, 2017 for an additional year and further renewed on April 14, 2018 until July 1, 2019. Under the employment agreement, Mr. Patton is entitled to receive an annual base salary of \$150,000. Upon the expiration of one year following the date of the employment agreement and each year thereafter, the Company will review Mr. Patton's salary with a view to its increase, giving consideration to the Company's financial position and the scope of its activities. Mr. Patton may be eligible to participate in future stock option grants. The Company may terminate the employment of Mr. Patton only for breach of the employment agreement or for cause. Mr. Patton is entitled to two months' notice of such discharge. If Mr. Patton becomes disabled and unable to perform his regular duties, he shall be entitled to receive his full salary for two months. Upon a change of control, as defined in the employment agreement, Mr. Patton has the right to terminate the employment agreement and receive an amount of money equal to the amount that would have been paid to him during the unexpired term of the Agreement.

*Gerald Prosalendis:* On April 14, 2016, Mr. Prosalendis entered into an employment agreement with the Company for a period of two years, whereby Mr. Prosalendis receives an annual salary of CAD\$225,000. On April 14, 2018, the employment agreement was renewed until July 1, 2019. After three months from the date of the employment agreement and every twelve months thereafter, the CEO will conduct a performance review of Mr. Prosalendis which shall include a general performance assessment and possible salary adjustments or bonus payments. Mr. Prosalendis may be eligible to participate in future stock option grants. The Company may terminate the employment of Mr. Prosalendis only for breach of the employment agreement or for cause. Mr. Prosalendis is entitled to two months' notice of such discharge. If Mr. Prosalendis becomes disabled and unable to perform his regular duties, he shall be entitled to receive his full salary for two months. Upon a change of control, as defined in the employment agreement, Mr. Prosalendis has the right to terminate the employment agreement and receive an amount of money equal to his annual salary for two years, that amount being CAD\$450,000.

*Lei Wang:* Effective January 1, 2017, Lei Wang entered into an employment agreement with the Company for a period of one year, whereby Ms. Wang is entitled to an annual salary of CAD\$90,000. On January 1, 2018, the employment agreement was renewed for a period of one year. Upon the expiration of one year following the date of the employment agreement, assuming the term is extended by mutual agreement, and each year thereafter, the Company will review Ms. Wang's salary with a view to its increase, giving consideration to the Company's financial position and the scope of its activities. Ms. Wang may be eligible to participate in future stock option grants. The Company may terminate the employment of Ms. Wang only for breach of the employment agreement or for cause. Ms. Wang is entitled to two months' notice of such discharge. If Ms. Wang becomes disabled and unable to perform her regular duties, she shall be entitled to receive her full salary for two months. Upon a change of control, as defined in the employment agreement, Ms. Wang has the right to terminate the employment agreement and receive an amount of money equal to her annual salary for one year, that amount being CAD\$90,000.

*Lawrence Page, Q.C.:* On July 15, 2011, Mr. Page entered into a consulting agreement with the Company for a period of five years, whereby Mr. Page provides corporate secretarial services to the Company and is entitled to receive an annual fee of CAD\$50,000. The consulting agreement was renewed on July 15, 2016, July 15, 2017 and July 15, 2018, for further one year periods. Mr. Page may be eligible to participate in future stock option grants. Upon a change of control, as defined in the agreement, Mr. Page has the right to terminate the agreement and receive an amount of money equal to his annual salary for one year, that amount being CAD\$50,000.

#### Committees

Our Board of Directors has established an Audit Committee and a Corporate, Governance, Nomination and Compensation Committee.

*Audit Committee* –The Company’s Board of Directors has a separately-designated standing audit committee (the “Audit Committee”) established in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended. The members of the Audit Committee are Terrence Eyton, John Kerr and LeRoy Wilkes. The Company’s Board of Directors has determined that each of Messrs. Eyton, Kerr and Wilkes are independent (as provided for under Rule 10A-3 of the Securities Exchange Act of 1934, as amended) and are financially literate. The Audit Committee is responsible for assisting directors to meet their responsibilities, providing better communication between directors and external auditors, enhancing the independence of the external auditor, increasing the credibility and objectivity of financial reports, and strengthening the role of the directors, facilitating in-depth discussions among directors, management, and the external auditor. The Audit Committee meets at least four times during a year. A copy of the Audit Committee Charter is available through our website at [www.quaterra.com](http://www.quaterra.com).

*Corporate Governance, Nomination and Compensation Committee* – The members of the Corporate Governance Nomination Compensation Committee (the “CGNCC”) are LeRoy Wilkes, Terrence Eyton and John Kerr all of whom are independent. The Board of Directors has determined that the composition of the CGNCC ensures an objective process for determining compensation of executive officers. The CGNCC meets regularly and considers matters of governance and compensation. The CGNCC may seek the advice of third party independent consultants as may be required in particular circumstances and submits reports to the full Board of Directors on a regular basis.

#### **D. EMPLOYEES**

During the fiscal years ended December 31, 2018, 2017 and 2016, we had direct employees as outlined below:

<b>Company</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>
Quaterra Resources Inc.	3	3	3
Quaterra Alaska Inc./Singatse Peak Services LLC	4	5	5
Minera Agua Tierra S.A. de C.V.	Nil	Nil	Nil
Quaterra International Limited	Nil	Nil	Nil

#### **E. SHARE OWNERSHIP**

All persons listed in subsection 6.B above beneficially own an aggregate of 6,128,839 Common shares or 3.05% of our common shares outstanding. Dr. Thomas Patton beneficially owns 5,214,762 or 2.59% of our common shares and he has the right to exercise or redeem various stock options that if fully exercised he will beneficially own 7,164,762 common shares of the Company or 3.53% of our outstanding shares. No other director or officer beneficially owns greater than 1% of our common shares.

We grant stock options to directors, officers, employees and consultants who provide services to us, including our subsidiaries, pursuant to our Incentive Stock Option Plan. The purpose of the Incentive Stock Option Plan is to provide increased incentive to contribute to our future success and prosperity, thus enhancing the value of our shares for the benefit of all the shareholders and increasing our ability to attract and retain skilled and motivated individuals in the service of us. Our Incentive Stock Option Plan is a “rolling” plan through which the maximum number of issuable shares underlying options is equal to 10% of our outstanding shares. As of December 31, 2018, there were 14,860,000 options outstanding under the Incentive Stock Option Plan.

**ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS****A. Major Shareholders**

We are not aware of any beneficial shareholder holding greater than 5% of our common shares as of the date of this annual report or during the prior three years, other than:

Goldcorp Inc.	10,294,825 common shares	5.12%
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To the Company's knowledge, Goldcorp's ownership of the Company has not changed in three years. The Company's major shareholder does not have different voting rights.

As of December 31, 2018, approximately 56% of our common shares were held in Canada and approximately 44% of our common shares were held in the U.S., with less than 1% of our common shares held in various other countries.

There are no arrangements known to us that may, at a subsequent date, result in a change in control.

**B. Related Party Transactions**

The Company amended the service agreement (the "Manex Agreement") with related party Manex Resource Group ("Manex"). These services are provided in the normal course of operations for consideration established and accepted by the Company and Manex. On February 9, 2012, the Company renewed the Manex Agreement with Manex at agreed market rates for a five-year term expired August 31, 2017. The Manex Agreement was amended further on September 1, 2013, March 1, 2014 and January 1, 2015 to reduce the fee for services to a monthly rate of CAD\$5,000 with the monthly office lease remaining at CAD\$8,000. During the year ended December 31, 2018 the Company was charged CAD\$156,000. Manex is located at the same address as the Company at Suite 1100, 1199 West Hastings Street, Vancouver, British Columbia, V6E 3T5. We believe the terms of the Manex Agreement are similar to that which would be obtainable from an unrelated party. Subsequent to the year end, the Company reduced its office space and entered into an agreement with Manex at a monthly rate of CAD\$7,500 with a 60-day period of written notice.

**C. Interests of Experts and Counsel**

Not applicable.

**ITEM 8. FINANCIAL INFORMATION**Financial Statements

The consolidated statements of financial position of Quaterra Resources Inc. as of December 31, 2018 and 2017 and the consolidated statements of loss and comprehensive loss, changes in equity and cash flows of Quaterra Resources Inc. for the years ended December 31, 2018, 2017 and 2016, as well as the auditors' report thereon, are presented at Item 17 of this annual report.

### Legal Proceedings

From time to time, we may be a party to pending or threatened legal proceedings and arbitrations that are routine and incidental to our business. Based upon information presently available, our management is not aware of any threatened or pending litigation.

### Dividends

We have never declared or paid any cash dividends on our common stock and we do not anticipate paying any cash dividends in the foreseeable future.

### Significant Changes

Except as otherwise disclosed in this annual report, including under Item 5. “*Operating and Financial Review and Prospects*”, there has been no significant change in our financial position since December 31, 2018.

## **ITEM 9. THE OFFER AND LISTING**

### **A. Offer and listing details**

Our common shares are listed on the TSX Venture Exchange under the symbol “QTA” and on the OTCQB under the symbol “QTRRF”.

### **B. Plan of Distribution**

Not applicable.

### **C. Markets**

See subsection 9.A. “Offer and Listing Details” above.

### **D. Selling Shareholders**

Not applicable.

### **E. Dilution**

Not applicable.

### **F. Expenses of the Issue**

Not applicable.

## **ITEM 10. ADDITIONAL INFORMATION**

### **A. Share Capital**

Not applicable.

## **B. Memorandum and Articles of Association**

### Incorporation

We are governed by notice of articles dated May 11, 2017, and articles of association dated June 13, 2005, as amended on December 11, 2007 (the "Articles"). Our Articles are on file with the Office of the British Columbia Registrar of Companies under Certificate of Incorporation No. BC0446713. Under the provisions of the *Business Corporations Act* (BC), we have the capacity and the rights, powers, and privileges of an individual of full capacity. There are no restrictions in our Articles on the business that we can carry on or the powers we can exercise.

### Powers and Functions of the Directors

Under Article 17, a director is obligated to disclose a potential interest in a contract or transaction being considered by us, and may not vote on a contract or transaction with a disclosable interest, but the director shall be counted in the quorum at the meeting of the Board of Directors at which the contract or transaction is approved.

Under Article 13, the Board of Directors may, in the absence of an independent quorum, vote compensation to themselves.

Under Article 8, there are no limitations on borrowing powers exercisable by our Board of Directors. There are no provisions in our Articles for the retirement or non-retirement of a director under an age limit. There is no requirement in our Articles for a director to hold any of our common shares.

### Rights and Restrictions Attached to the Common Shares

Our common shares rank equally as to dividend rights, voting rights, profits, and liquidation rights. The common shares are not subject to redemption or sinking fund provisions, liability to further capital calls, nor any provisions discriminating against any existing or prospective holder of such shares as a result of such shareholder owning a substantial number of shares.

### Alteration of Share Rights

In accordance with the *Business Corporations Act* (BC) and our Articles, a special resolution is required to change the rights of common shares, and must be (a) passed at a general meeting by a majority of not less than 2/3 of the voting common shareholders; or (b) consented to in writing by all common shareholders.

### Annual General Meetings

Articles 10 and 11 of our Articles, together with applicable corporate and securities laws, contain the conditions governing the manner in which annual and extraordinary general meetings of shareholders are called, including notice, proxy solicitation, and quorum requirements. Annual general meetings are called and scheduled upon decision by the Board of Directors. The Board of Directors may convene an extraordinary general meeting of the shareholders. Holders of common shares may not requisition an extraordinary meeting of the shareholders. All meetings may be attended by registered shareholders or persons who hold powers of attorney or proxies given to them by registered shareholders.

### Foreign Ownership Limitation

Our Articles do not contain limitations on the rights of non-residents, foreigners, or other groups to own common shares.



### Change of Control

There are no provisions in our Articles that would have the effect of delaying, deferring or preventing a change in control, or that operate only with respect to a merger, acquisition or corporate restructuring involving us or any of our subsidiaries.

### Share Ownership Reporting Obligation

Our Articles do not contain provisions governing the threshold above which shareholder ownership must be disclosed.

### Differences between Canadian and U.S. Law

The securities laws of the Province of British Columbia require disclosure of shareholdings by (i) persons who are our directors or senior officers; and (ii) a person who has direct or indirect beneficial ownership of, control or direction over, or a combination of direct or indirect beneficial ownership of and control or direction over our securities carrying more than 10% of the voting rights attached to all of our outstanding voting securities.

The threshold of share ownership percentage requiring disclosure of ownership is higher in the home jurisdiction of British Columbia than the U.S. where U.S. securities law prescribes a 5% threshold for ownership disclosure.

### Capital Changes

There are no conditions imposed by our Articles governing changes in our share capital that are more stringent than is required by law.

#### **C. Material Contracts**

We have not entered into any material contracts other than in the ordinary course of business and other than those described in Item 4. – “*Information on the Company*” or elsewhere in this annual report.

#### **D. Exchange Controls**

There currently are no laws, decrees, regulations, or other legislation in Canada that restrict the export or import of capital, or impose foreign exchange controls or affect the remittance of interest, dividends, or other payments to nonresident holders of our common shares, other than the withholding tax requirements described under Subsection E – “*Taxation*” below. Canada has no system of exchange controls.

There are no limitations imposed by Canadian laws or our Articles on the right of non-resident to hold our common shares, other than as provided by the *Investment Canada Act*, as amended (the “*Act*”), as amended by the *North American Free Trade Agreement Implementation Act* (Canada), and the *World Trade Organization (WTO) Agreement Implementation Act*. The Act requires notification and, in certain cases, advance review and approval by the Government of Canada of the acquisition by a “non-Canadian” of “control of a Canadian business”, all as defined in the Act. Generally, the threshold for review will be higher in monetary terms for a member of the WTO or NAFTA.

#### **E. Taxation**

We encourage you to consult with your own tax advisors about the Canadian and U.S. federal, state, provincial, local, and foreign tax consequences of purchasing, owning, and disposing of our common shares.
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## *Certain Canadian Federal Income Tax Consequences*

The discussion under this heading summarizes the principal Canadian federal income tax consequences of acquiring, holding and disposing of shares of common shares for a shareholder who is not a resident of Canada but is a resident of the United States and who will acquire and hold a corporation's common shares as capital property for the purposes of the Income Tax Act (Canada) (the "*Canadian Tax Act*"). This summary does not apply to a shareholder who carries on business in Canada through a "permanent establishment" situated in Canada or performs independent personal services in Canada through a fixed base in Canada if the shareholder's holding is effectively connected with such permanent establishment or fixed base. This summary is based on the provisions of the Canadian Tax Act and the regulations thereunder and on an understanding of the administrative practices of Canada Customs & Revenue Agency, and takes into account all specific proposals to amend the Canadian Tax Act or regulations made by the Minister of Finance of Canada as of the date hereof.

**This discussion is general only and is not, nor is it intended to provide a detailed analysis of the income tax implications of any particular shareholder's interest. Investors are advised to obtain independent advice from a shareholder's own Canadian and U.S. tax advisors with respect to income tax implications pertinent to their particular circumstances.** The provisions of the Canadian Tax Act are subject to income tax treaties to which Canada is a party, including the Canada-United States Income Tax Convention (1980), as amended (the "Convention").

### Dividends on Common Shares and Other Income

Under the Canadian Tax Act, a non-resident of Canada is generally subject to Canadian withholding tax at the rate of 25 percent on dividends paid or deemed to have been paid to him or her by a corporation resident in Canada. The corporation is responsible for the withholding of tax at the source. The Convention limits the rate to 15 percent if the shareholder is a resident of the United States and the dividends are beneficially owned by and paid to such shareholder and to 5 percent if the shareholder is also a corporation that beneficially owns at least 10 percent of the voting stock of the payor corporation.

The amount of a stock dividend (for tax purposes) would generally be equal to the amount by which the paid up or stated capital of the corporation had increased by reason of the payment of such dividend. The corporation will furnish additional tax information to shareholders in the event of such a dividend. Interest paid or deemed to be paid on the corporation's debt securities held by non-Canadian residents may also be subject to Canadian withholding tax, depending upon the terms and provisions of such securities and any applicable tax treaty.

The Convention generally exempts from Canadian income tax dividends paid to a religious, scientific, literary, educational or charitable organization or to an organization constituted and operated exclusively to administer a pension, retirement or employee benefit fund or plan, if the organization is a resident of the United States and is exempt from income tax under the laws of the United States.

### Dispositions of Common Shares

Under the Canadian Tax Act, a taxpayer's capital gain or capital loss from a disposition of a common share is the amount, if any, by which his or her proceeds of disposition exceed (or are exceeded by, respectively) the aggregate of his or her adjusted cost base of the share and reasonable expenses of disposition. The capital gain or loss must be computed in Canadian currency using a weighted average adjusted cost base for identical properties. The capital gains net of losses included in income since October 17, 2000 is 50%. The amount by which a shareholder's capital loss exceeds the capital gain in a year may be deducted from a capital gain realized by the shareholder in the three previous years or any subsequent year, subject to certain restrictions in the case of a corporate shareholder.

Under the Canadian Tax Act, a non-resident of Canada is subject to Canadian tax on taxable capital gains, and may deduct allowable capital losses realized on a disposition of "taxable Canadian property." Common shares of a corporation will constitute the taxable Canadian property of a shareholder at a particular time if the shareholder used the shares in carrying on business in Canada, or if at any time in the five years immediately preceding the disposition, 25% or more of the issued shares of any class or series in the capital stock of the corporation belonged to one or more persons in a group comprising the shareholder and persons with whom the shareholder and persons with whom the shareholder did not deal at arm's length and in certain other circumstances.

The Convention relieves United States residents from liability for Canadian tax on capital gains derived on a disposition of shares, unless: (i) the value of the shares is derived principally from “real property” in Canada, including the right to explore for or exploit natural resources and rights to amounts computed by reference to production; (ii) the shareholder was resident in Canada for 120 months during any period of 20 consecutive years preceding, and at any time during the 10 years immediately preceding, the disposition and the shares were owned by him when he ceased to be resident in Canada; or (iii) the shares formed part of the business property of a “permanent establishment” that the holder has or had in Canada within the 12 months preceding the disposition.

### ***Certain United States Federal Income Tax Consequences***

The following is a discussion of material United States federal income tax consequences generally applicable to a U.S. Holder (as defined below) of our common shares. This discussion does not cover any state, local or foreign tax consequences. This discussion is based upon the sections of the Internal Revenue Code of 1986, as amended (“the Code”), Treasury Regulations, published Internal Revenue Service (“IRS”) rulings, published administrative positions of the IRS and court decisions that are currently applicable, any or all of which could be materially and adversely changed, possibly on a retroactive basis, at any time. In addition, the discussion does not consider the potential effects, both adverse and beneficial, or recently proposed legislation which, if enacted, could be applied, possibly on a retroactive basis, at any time.

#### U.S. Holders

As used herein, a U.S. Holder includes a holder of common shares who is a citizen or resident of the United States, a corporation (or an entity which has elected to be treated as a corporation under Treasury Regulations created or organized in or under the laws of the United States or of any political subdivision thereof, any estate other than a foreign estate (as defined in the Code) or, a trust subject to the primary supervision of a court within the United States and control of a United States fiduciary as described in the Code. This summary does not address the tax consequences to, and U.S. Holder does not include, persons subject to special provisions of federal income tax law, such as tax-exempt organizations, qualified retirement plans, financial institutions, insurance companies, real estate investment trusts, regulated investment companies, broker-dealers, non-resident alien individuals, persons or entities that have a “functional currency” other than the U.S. dollar, shareholders who hold common shares as part of a straddle, hedging or conversion transaction, and shareholders who acquired their common shares through the exercise of employee stock options or otherwise as compensation for services. This summary is limited to U.S. Holders who own common shares as capital assets. This summary does not address the consequences to a person or entity holding an interest in a shareholder or the consequences to a person of the ownership, exercise or disposition of any options, warrants or other rights to acquire common shares.

#### Distribution on Common Shares

U.S. Holders receiving dividend distributions (including constructive dividends) with respect to common shares are required to include in gross income for United States federal income tax purposes the gross amount of such distributions equal to the U.S. dollar value of such distributions on the date of receipt (based on the exchange rate on such date), to the extent that the corporation has current or accumulated earnings and profits, without reduction for any Canadian income tax withheld from such distributions. Such Canadian tax withheld may be credited, subject to certain limitations, against the U.S. Holder’s United States federal income tax liability or, alternatively, may be deducted in computing the U.S. Holder’s United States federal taxable income (see more detailed discussion at “Foreign Tax Credit” below). To the extent that distributions exceed current or accumulated earnings and profits of the corporation, they will be treated first as a return of capital up to the U.S. Holder’s adjusted basis in the common shares and thereafter as gain from the sale or exchange of the common shares. Dividend income will be taxed at marginal tax rates applicable to ordinary income while preferential tax rates for long-term capital gains are applicable to a U.S. Holder which is an individual, estate or trust. There are currently no preferential tax rates for long-term capital gains for a U.S. Holder which is a corporation.

In the case of foreign currency received as a dividend that is not converted by the recipient into U.S. dollars on the date of receipt, a U.S. Holder will have a tax basis in the foreign currency equal to its U.S. dollar value on the date of receipt. Gain or loss may be recognized upon a subsequent sale or other disposition of the foreign currency, including the exchange for U.S. dollars.

Dividends paid on the common shares of a corporation will not generally be eligible for the dividends received deduction provided to corporations receiving dividends from certain United States corporations. A U.S. Holder which is a corporation may, under certain circumstances, be entitled to a 70% deduction of the United States source portion of dividends received from a corporation (unless the corporation qualifies as a “foreign personal holding company” or a “passive foreign investment company”, as defined below) if such U.S. Holder owns shares representing at least 10% of the voting power and value of the corporation. The availability of this deduction is subject to several complex limitations which are beyond the scope of this discussion.

#### Foreign Tax Credit

A U.S. Holder who pays (or has withheld from distributions) Canadian income tax with respect to the ownership of common shares may be entitled, at the option of the U.S. Holder, to either a deduction or a tax credit for such foreign tax paid or withheld. Generally, it will be more advantageous to claim a credit because a credit reduces United States Federal income taxes on a dollar-for-dollar basis, while a deduction merely reduces the taxpayer’s income subject to tax. This election is made on a year-by-year basis and applies to all foreign income taxes (or taxes in lieu of income tax) paid by (or withheld from) the U.S. Holder during the year. There are significant and complex limitations which apply to the credit, among which is the general limitation that the credit cannot exceed the proportionate share of the U.S. Holder’s United States income tax liability that the U.S. Holder’s foreign source income bears to his/her or its worldwide taxable income. The various items of income and deduction must be classified into foreign and domestic sources. Complex rules govern this classification process. In addition, this limitation is calculated separately with respect to specific classes of income such as “passive income”, “high withholding tax interest”, “financial services income”, “shipping income”, and certain other classifications of income. Dividends distributed will generally constitute “passive income” or, in the case of certain U.S. Holders, “financial services income” for these purposes. The availability of the foreign tax credit and the application of the limitations on the credit are fact specific and holders and prospective holders of common shares should consult their own tax advisors regarding their individual circumstances.

For individuals whose entire income from sources outside the United States consists of qualified passive income whose total amount of creditable foreign taxes paid or accrued during the taxable year does not exceed \$300 (\$600 in the case of a joint return) and for whom an election is made under section 904(j), the limitation on credit does not apply.

#### Disposition of Common Shares

A U.S. Holder will recognize gain or loss upon the sale of common shares equal to the difference, if any, between (i) the amount of cash plus the fair market value of any property received, and (ii) the tax basis in the common shares. Preferential tax rates apply to long-term capital gains of U.S. Holders which are individuals, estates, or trusts. This gain or loss will be capital gain or loss if the common shares are capital assets in the hands of the U.S. Holder, which will be a short-term or long-term capital gain or loss depending upon the holding period of the U.S. Holder. Gains and losses are netted and combined according to special rules in arriving at the overall capital gain or loss for a particular tax year. Deductions for net capital losses are subject to significant limitations. For U.S. Holders which are not corporations, any unused portion of such net capital loss may be carried over to be used in later tax years until such net capital loss is thereby exhausted, but individuals may not carry back capital losses. For U.S. Holders which are corporations (other than corporations subject to Subchapter S of the Code), an unused net capital loss may be carried back three years from the loss year and carried forward five years from the loss year to be offset against capital gains until such net capital loss is thereby exhausted.

### Foreign Personal Holding Company

If at any time during a taxable year more than 50% of the total combined voting power or the total value of the our outstanding shares is owned, actually or constructively, by five or fewer individuals who are citizens or residents of the United States and 60% (50% after the first tax year) or more of our gross income for such year was derived from certain passive sources, then we would be treated as a “foreign personal holding company.” In that event, U.S. Holders that hold common shares would be required to include in gross income for such year their allocable portions of such passive income to the extent we do not actually distribute such income.

We do not believe we currently have the status of a “foreign personal holding company”. However, there can be no assurance that we will not be considered a foreign personal holding company for any future taxable year.

### Passive Foreign Investment Company

As a foreign corporation with U.S. Holders, we potentially could be treated as a passive foreign investment company (“PFIC”), as defined in Section 1297 of the Code, depending upon the percentage of our income which is passive, or the percentage of our assets which are held for the purpose of producing passive income. We believe we currently are a PFIC.

The rule governing PFICs can have significant tax effects on U.S. Holders of foreign corporations. These rules do not apply to non-U.S. Holders. Section 1297 of the Code defines a PFIC as a corporation that is not formed in the United States and, for any taxable year, either (i) 75% or more of its gross income is “passive income”, which includes interest, dividends and certain rents and royalties or (ii) the average percentage, by fair market value (or, if the corporation is a controlled foreign corporation or makes an election, by adjusted tax basis), of its assets that produce or are held for the production of “passive income” is 50% or more. The taxation of a US Holder who owns stock in a PFIC is extremely complex and is therefore beyond the scope of this discussion. U.S. Holders should consult with their own tax advisors with regards to the impact of these rules.

### Controlled Foreign Corporation

If more than 50% of the voting power of all classes of our common shares entitled to vote is owned, actually or constructively, by citizens or residents of the United States, United States partnerships, corporations, or estates or trusts other than foreign estates or trusts, each of whom own actually or constructively own 10% or more of the total combined voting power of all classes of our capital stock (“United States Shareholders”), then we would be a “controlled foreign corporation” (CFC). We do not believe we currently are a CFC.

The CFC classification would affect many complex results, one of which is that certain income of a CFC would be subject to current U.S. tax. The United States generally taxes United States Shareholders of a CFC currently on their pro rata shares of the Subpart F income of the CFC. Such United States Shareholders are generally treated as having received a current distribution out of the CFC’s Subpart F income and are also subject to current U.S. tax on their pro rata shares of the CFC’s earnings invested in U.S. property. The foreign tax credit described above may reduce the U.S. tax on these amounts. In addition, under Section 1248 of the Code, gain from the sale or exchange of shares by a U.S. Holder of common shares of a corporation which is or was a United States Shareholder at any time during the five-year period ending with the sale or exchange is treated as ordinary income to the extent of earnings and profits of the corporation (accumulated only while the shares were held by the United States Shareholder and while the corporation was a CFC attributable to the shares sold or exchanged). If a foreign corporation is both a PFIC and a CFC, the foreign corporation generally will not be treated as a PFIC with respect to the United States Shareholders of the CFC. This rule generally will be effective for taxable years of United States Shareholders beginning after 1997 and for taxable years of foreign corporations ending with or within such taxable years of United States Shareholders. The PFIC provisions continue to apply in the case of a PFIC that is also a CFC with respect to the U.S. Holders that are less than 10% shareholders.

### **F. Dividends and Paying Agents**

Not applicable.

**G. Statement by Experts**

Not applicable.

**H. Documents on Display**

Any document referred to in this annual report may be inspected at our principal executive offices at Suite 1100, 1199 West Hastings Street, Vancouver, British Columbia Canada V6E 3T5 during regular business hours.

Various documents referenced in this annual report also are included as exhibits to this annual report in accordance with Item 19 of this Form 20-F. We are required to file periodic reports and other information with the SEC. You may read and copy any materials we file with the SEC at its Public Reference Room at 100 F Street, NE, Washington, DC 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room. The SEC further maintains an internet website at [www.sec.gov](http://www.sec.gov) that contains reports and other information about issuers like us who file electronically with the SEC.

In addition, we file various documents on the Canadian Securities Administrator's System for Electronic Document Analysis and Retrieval (SEDAR) at [www.sedar.com](http://www.sedar.com) as required by applicable Canadian law and stock exchanges.

**I. Subsidiary Information**

Not applicable.

**ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

Not applicable.

**ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES**

Not applicable.

**PART II**

**ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES**

None.

**ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS**

Effective June 21, 2018, in accordance with the vote of shareholders at the 2018 Annual General Meeting, we adopted a rights plan applicable to our common shares (the "Rights Plan"). This Rights Plan replaced an earlier shareholder rights plan dated June 12, 2013. The Rights Plan will remain in effect until termination of the annual meeting of shareholders in 2021 unless the shareholders vote by ordinary resolution at that meeting to ratify and confirm the Rights Plan.

The purpose of the Rights Plan is to ensure, to the extent possible, that all shareholders are treated equally and fairly in connection with any take-over bid or similar proposal to acquire our common shares. Take-over bids may be structured in such a way as to be coercive or discriminatory in effect, or may be initiated at a time when it will be difficult for our Board of Directors to prepare an adequate response. Such offers may result in shareholders receiving unequal or unfair treatment, or not realizing the full or maximum value of their investment in us.

The Rights Plan discourages the making of any such offers by creating the potential of significant dilution to any offeror who does so. This potential is created through the issuance to all shareholders of contingent rights to acquire additional common shares of the Company at a significant discount to then prevailing market prices, which could, in certain circumstances, become exercisable by all shareholders other than an offeror and its associates, affiliates and joint actors.

An offeror can avoid that potential by making an offer that either: (i) qualifies as a “Permitted Bid” under the Rights Plan, and therefore meets certain specified conditions (including a minimum deposit period of 105 days) which aim to ensure that all shareholders are treated fairly and equally; or (ii) does not qualify as a “Permitted Bid” but is negotiated with and has been exempted by our Board of Directors from the application of the Rights Plan in light of the opportunity to bargain for agreed terms and conditions to the offer that are believed to be in the best interests of shareholders.

## **ITEM 15. CONTROLS AND PROCEDURES**

### Disclosure Controls and Procedures

Our management carried out an evaluation, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the fiscal year covered by this report. Based on the evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2018, our disclosure controls and procedures were effective.

### Management’s Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (“ICFR”) as such term is defined in Rule 13a-15(f) or Rule 15d-15(f) promulgated under the Exchange Act. Management (under the supervision and with the participation of the Chief Executive Officer and the Chief Financial Officer) assessed the effectiveness of our ICFR as of December 31, 2018, using the framework set forth in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO 2013 framework). Based on this assessment, our management concluded that our ICFR were effective as of December 31, 2018.

This annual report does not include an attestation report of our registered public accounting firm regarding our ICFR. Our management's report was not subject to attestation by our registered independent public accounting firm because we are not an accelerated filer or large accelerated filer and exempt as an Emerging Growth Company.

### Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the fiscal year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

### **Item 16A. Audit Committee financial expert**

Our Board of Directors has determined that Terrence Eyton is an “audit committee financial expert”, as defined in Item 16A(b) of Form 20-F, serving on the Audit Committee of the Company as within the criteria prescribed under SEC.

### **Item 16B. Code of Ethics**

We have adopted a Code of Business Conduct and Ethics for all our directors, officers, and employees. It includes a Code of Ethical Conduct for Financial Managers that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. The Code of Business Conduct and Ethics is available in the Governance section of our website at [www.querterra.com](http://www.querterra.com). All applicable amendments to and waivers of the Code of Business Conduct Ethics governing our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions will be posted on our website and furnished to the SEC on Form 6-K.

The Company will provide to any person without charge, upon request via email at info@quaterra.com, a copy of the Code of Business Conduct and Ethics.

**Item 16C. Principal Accountant Fees and Services**

The following table shows the aggregate fees billed to us by our independent auditor PricewaterhouseCoopers LLP for 2018 and 2017, in each of the last two fiscal years.

CAD\$	Year ended December 31,	
	2018	2017
Audit Fees	\$44,500	\$42,500
Audit-Related Fees	Nil	Nil
Tax Fees	Nil	Nil
All Other Fees	-	-

*Audit fees* are the aggregate fees billed by the Company’s independent auditor for the audit of the Company’s annual consolidated financial statements, reviews of interim consolidated financial statements and attestation services that are provided in connection with statutory and regulatory filings or engagements.

*Audit-related fees* are fees charged by the Company’s independent auditor for assurance and related services that are reasonably related to the performance of the audit or review of financial statements and are not reported under “Audit Fees”.

*Tax fees* are fees for professional services rendered by the Company’s independent auditors for tax compliance and tax advice on actual or contemplated transactions.

The Audit Committee recommends to the Board of Directors the external auditor to perform audit, review, and attestation services. The Audit Committee pre-approves all non-audit services provided by our external auditors, and pre-approved the tax fees and the all other fees listed in the table above.

**Item 16D. Exemptions from the listing standards for Audit Committees**

Not applicable.

**Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers**

None.

**Item 16F. Change in Registrant’s Certifying Accountant**

Not applicable.



**Item 16G. Corporate Governance**

Not applicable.

**Item 16H. Mine Safety Disclosure**

Not applicable.

**PART III****ITEM 17. FINANCIAL STATEMENTS**Index to Consolidated Financial Statements:

	Page
<a href="#">Report of Independent Registered Public Accounting Firm dated March 28, 2019</a>	<a href="#">62</a>
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**ITEM 18. FINANCIAL STATEMENTS**

Not applicable.

**ITEM 19. EXHIBITS**

The following documents are filed as exhibits to this annual report on Form 20-F:

Exhibit Number	Description of Exhibit
<a href="#">1.1</a>	<a href="#">Articles of Quaterra Resources Inc., dated December 11, 2007 (incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form 8-A12G (0-55319) filed February 5, 2014).</a>
<a href="#">1.2</a>	<a href="#">Notice of Articles of Quaterra Resources Inc., dated May 11, 2017 (incorporated by reference to Exhibit 1.2 to the Company's Form 20-F (0-55139) filed on March 29, 2018)</a>
<a href="#">2</a>	<a href="#">Shareholder Rights Plan, dated June 21, 2018 (incorporated by reference to Exhibit 99.1 to the Company's Form 6-K (0-55139) filed on June 26, 2018)</a>
<a href="#">4.1</a>	<a href="#">Amended and Restated Service Agreement between Manex Resource Group and Quaterra Resources Inc. dated as of February 9, 2012 as amended September 1, 2013, March 1, 2014 and January 1, 2015 (incorporated by reference to Exhibit 4 to the Company's Form 20-F (0-55139) filed on April 1, 2016).</a>
<a href="#">4.2</a>	<a href="#">Service Agreement between Manex Resource Group and Quaterra Resources Inc. dated April 1, 2019 (filed herewith)</a>

[8](#) [List of Subsidiaries \(filed herewith\)](#)

[12.1](#) [Certification of the principal executive officer filed pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 \(filed herewith\)](#)

[12.2](#) [Certification of the principal financial officer filed pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 \(filed herewith\)](#)

[13.1](#) [Certification of the principal executive officer furnished pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 \(filed herewith\)](#)

[13.2](#) [Certification of the principal financial officer furnished pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 \(filed herewith\)](#)

**SIGNATURES**

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

**QUATERRA RESOURCES INC.**

Dated: April 3, 2019

By: /s/ Lei Wang  
Lei Wang  
Chief Financial Officer



**(An Exploration Stage Company)**

**Consolidated Financial Statements**

**For the year ended December 31, 2018**

**(In U.S. Dollars)**

## Management's Responsibility for Financial Reporting

The management of Quaterra Resources Inc. is responsible for the integrity and fair presentation of the financial information contained in this annual report. Where appropriate, the financial information, including consolidated financial statements, reflects amounts based on management's best estimates and judgments. The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards, as issued by the International Accounting Standards Board. Financial information presented elsewhere in the annual report is consistent with that disclosed in the consolidated financial statements.

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Management has established and maintains a system of internal accounting control designed to provide reasonable assurance that assets are safeguarded from loss or unauthorized use, financial information is reliable and accurate and transactions are properly recorded and executed in accordance with management's authorization. This system includes established policies and procedures, the selection and training of qualified personnel, and an organization providing for appropriate delegation of authority and segregation of responsibilities. Any system of internal control over financial reporting, no matter how well designed, has inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Board of Directors oversees management's responsibility for financial reporting and internal control systems through an Audit Committee, which is composed entirely of independent directors. The Audit Committee meets periodically with management and the independent auditors to review the scope and results of the annual audit and to review the consolidated financial statements and related financial reporting and internal control matters before the consolidated financial statements are approved by the Board of Directors and submitted to the Company's shareholders.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the Company's consolidated financial statements in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States) and has expressed its opinion in the independent auditor's report.

*"Thomas C. Patton" (signed)*  
Thomas C. Patton  
Chairman and Chief Executive Officer

*"Lei Wang" (signed)*  
Lei Wang  
Chief Financial Officer

March 28, 2019  
Vancouver, British Columbia, Canada



## Report of Independent Registered Public Accounting Firm

### Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Quaterra Resources Inc.

#### *Opinion on the Financial Statements*

We have audited the accompanying consolidated statements of financial position of Quaterra Resources Inc. and its subsidiaries (together, the Company) as of December 31, 2018 and 2017, and the related consolidated statements of loss and comprehensive loss, cash flows and changes in equity for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and their financial performance and their cash flows for each of the three years in the period ended December 31, 2018 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS).

#### *Basis for Opinion*

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. 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, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

#### **(signed) PricewaterhouseCoopers LLP**

Chartered Professional Accountants

Vancouver, Canada  
March 28, 2019

We have served as the Company's auditor since 2016

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*PricewaterhouseCoopers LLP*  
*PricewaterhouseCoopers Place, 250 Howe Street, Suite 1400, Vancouver, British Columbia, Canada V6C 3S7*  
*T: +1 604 806 7000, F: +1 604 806 7806*

"PwC" refers to PricewaterhouseCoopers LLP, an Ontario limited liability partnership.

**Quaterra Resources Inc.**  
**Consolidated Statements of Financial Position**  
(In thousands of U.S. Dollars)

	Note	December 31, 2018	December 31, 2017	January 1, 2017
<b>Assets</b>			(Restated - Note 2(l))	(Restated - Note 2(l))
<b>Current assets:</b>				
Cash and cash equivalents		\$ 47	\$ 1,575	\$ 6,665
Other receivable		2	3	3
Marketable securities	3	156	286	132
Prepaid and other		4	28	47
		209	1,892	6,847
<b>Non-current assets:</b>				
Exploration and evaluation assets	4	32,533	31,295	27,597
Reclamation bonds		62	60	70
		32,595	31,355	27,667
<b>Total Assets</b>		\$ 32,804	\$ 33,247	\$ 34,514
<b>Liabilities</b>				
<b>Current liabilities:</b>				
Accounts payable and accrued liabilities		\$ 365	\$ 130	\$ 111
Loan payable	5	305	571	540
Related party loan payable	10 (c)	210	-	-
Convertible notes		-	-	540
		880	701	1,191
<b>Non-current liability</b>				
Convertible notes	6	721	-	-
Derivative liabilities	7	572	587	938
		1,293	587	938
<b>Total Liabilities</b>		2,173	1,288	2,129
<b>Shareholders' Equity</b>				
Share capital		100,729	100,729	100,051
Share-based compensation reserve		18,820	18,729	18,560
Deficit		(88,918)	(87,499)	(86,226)
		30,631	31,959	32,385
<b>Total Liabilities and Shareholders' Equity</b>		\$ 32,804	\$ 33,247	\$ 34,514

Nature of operations and liquidity (Note 1)

Subsequent events (Note 16)

(See the accompanying notes to the consolidated financial statements)

Approved on behalf of the Board of Directors on March 28, 2019:

/s/ "Thomas Patton"  
Director

/s/ "Terrence Eyton"  
Director

**Quaterra Resources Inc.**  
**Consolidated Statements of Loss and Comprehensive Loss**  
(In thousands of U.S. Dollars, except for shares and per share amounts)

	Note	Year ended December 31,		
		2018	2017	2016
			(Restated - Note 2(l))	(Restated - Note 2(l))
<b>General administrative expenses</b>				
Administration and office		\$ 283	\$ 335	\$ 346
Consulting		-	-	46
Investor relations and communications		75	104	69
Personnel costs	4	838	645	419
Professional fees		113	120	199
Transfer agent and regulatory fees		38	70	43
Travel and promotion		50	91	70
		(1,397)	(1,365)	(1,192)
<b>Fair value gain on derivative liabilities</b>	7	358	351	454
<b>Foreign exchange gain (loss)</b>		11	(33)	23
<b>Gain on disposal of assets</b>		-	186	536
<b>Loss on marketable securities</b>	3	(130)	(31)	(31)
<b>Loss on settlement of convertible notes</b>		-	(100)	-
<b>Impairments</b>		-	-	(1,480)
<b>Interest expense and other</b>		(170)	(112)	(70)
<b>Share-based compensation</b>	9 (a)	(91)	(169)	(136)
		(22)	92	(704)
<b>Loss and comprehensive loss for the year</b>		\$ (1,419)	\$ (1,273)	\$ (1,896)
<b>Loss per share - basic and diluted</b>		\$ (0.01)	\$ (0.01)	\$ (0.01)
<b>Weighted average number of common shares outstanding</b>		200,969,314	199,450,814	193,479,416

(See the accompanying notes to the consolidated financial statements)



**Quaterra Resources Inc.**  
**Consolidated Statements of Cash Flows**  
(In thousands of U.S. Dollars)

	Year ended December 31,		
	2018	2017	2016
<b>Operating activities</b>		(Restated - Note 2(l))	(Restated - Note 2(l))
Net loss for the year	\$ (1,419)	\$ (1,273)	\$ (1,896)
Items not involving cash:			
Depreciation	-	-	14
Fair value gain on derivative liabilities	(358)	(351)	(454)
Impairments	-	-	1,480
Interest expense	141	79	70
Gain on disposal of assets	-	(186)	(536)
Loss on settlement of convertible notes	-	100	-
Unrealized loss on marketable securities	130	31	31
Share-based compensation	91	169	136
	(1,415)	(1,431)	(1,155)
Changes in non-cash working capital			
Other receivable	1	-	2
Prepaid and other	24	19	34
Accounts payable and accrued liabilities	202	(31)	92
<b>Cash used in operating activities</b>	(1,188)	(1,443)	(1,027)
<b>Financing activities</b>			
Loan repayment	(295)	-	-
Related party loan payable	210	-	-
Convertible notes proceeds	973	-	-
<b>Cash provided by financing activities</b>	888	-	-
<b>Investing activities</b>			
Expenditures on mineral properties	(1,518)	(6,122)	(5,145)
Recovery from exploration partners	-	-	48
Proceeds from option agreement	-	2,393	5,075
Proceeds from sale of assets	313	-	3,343
Reclamation bonds	2	(10)	(18)
<b>Cash (used) provided by investing activities</b>	(1,203)	(3,739)	3,303
<b>Effect of foreign exchange on cash</b>	(25)	92	(133)
<b>(Decrease) increase in cash and cash equivalents</b>	(1,528)	(5,090)	2,143
<b>Cash and cash equivalents, beginning of year</b>	1,575	6,665	4,522
<b>Cash and cash equivalents, end of year</b>	\$ 47	\$ 1,575	\$ 6,665
<b>Supplemental cash flow information</b>			
Exploration expenditures included in accounts payable	\$ 95	\$ 63	\$ 75
Interest paid in cash	\$ 45	\$ 53	\$ -
Shares issued for interest	\$ -	\$ 80	\$ -

(See the accompanying notes to the consolidated financial statements)

**Quaterra Resources Inc.**  
**Consolidated Statements of Changes in Equity**  
(In thousands of U.S. Dollars, except for shares)

	Common Shares		Share-based payment reserve	Deficit (Restated - Note 2 (1))	Total (Restated - Note 2 (1))
	Number of Shares	Amounts			
Balance, December 31, 2015	193,479,416	\$ 100,051	\$ 18,424	\$ (84,330)	\$ 34,145
Share-based compensation	-	-	136	-	136
Net loss for the year	-	-	-	(1,896)	(1,896)
Balance, December 31, 2016	193,479,416	100,051	18,560	(86,226)	32,385
Shares issued to settle convertible notes	7,489,898	678	-	-	678
Share-based compensation	-	-	169	-	169
Net loss for the year	-	-	-	(1,273)	(1,273)
Balance, December 31, 2017	200,969,314	100,729	18,729	(87,499)	31,959
Share-based compensation	-	-	91	-	91
Net loss for the year	-	-	-	(1,419)	(1,419)
<b>Balance, December 31, 2018</b>	<b>200,969,314</b>	<b>\$ 100,729</b>	<b>\$ 18,820</b>	<b>\$ (88,918)</b>	<b>\$ 30,631</b>

(See the accompanying notes to the consolidated financial statements)

**Quaterra Resources Inc.**  
**Notes to the Consolidated Financial Statements**  
**For the year ended December 31, 2018**  
**(In U.S. Dollars, tabular amounts in thousands of U.S. dollars except per share amount)**

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**1. NATURE OF OPERATIONS AND LIQUIDITY**

Quaterra Resources Inc. (together with its subsidiaries, “**Quaterra**” or the “**Company**”) is a copper exploration company working on its mineral properties located in Nevada and Alaska, United States. The Company is incorporated in British Columbia, Canada. Its head office is located at 1100 - 1199 West Hastings Street, Vancouver, British Columbia, Canada, V6E 3T5.

The Company acquires its mineral properties by way of option or lease agreements, and defers all acquisition, exploration and evaluation costs related to the properties. The underlying value of the amounts recorded as mineral properties does not reflect current or future values. The Company’s continued existence is dependent upon the existence of economically recoverable mineral reserves and the ability of the Company to acquire new properties and obtain funding to complete the exploration activities.

During the year ended December 31, 2018 (“**2018**”), the Company closed a non-brokered private placement of 10% convertible debentures for gross proceeds of \$ 0.97 million (Note 6). Subsequent to the 2018 year end, the Company closed the sale of certain water rights in Nevada for \$6.02 million (Notes 4 & 16).

These consolidated financial statements are prepared on a going concern basis which assumes that the Company will be able to realize its assets and discharge its liabilities in the normal course of business. As of December 31, 2018, the Company had a working capital deficiency of \$0.67 million, however the Company believes that based on the water rights sale proceeds it has sufficient funds to sustain its operations for at least the next 12 months.

**2. SIGNIFICANT ACCOUNTING POLICIES**

**Significant Accounting Policies**

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (“**IFRS**”) as issued by the International Accounting Standards Board.

a) **Basis of presentation and consolidation**

These consolidated financial statements have been prepared on a historical cost basis, except for marketable securities and the derivative financial liability, which are stated at their fair values.

The Company consolidates an entity when it has power over that entity, is exposed, or has rights, to variable returns from its involvement with that entity and has the ability to affect those returns through its power over that entity. All material intercompany transactions, balances and expenses are eliminated on consolidation.

These consolidated financial statements incorporate the financial statements of Quaterra and its wholly-owned subsidiaries: Quaterra Alaska Inc., Singatse Peak Services, LLC (“**SPS**”), Six Mile Mining Corporation, Quaterra International Limited, and QTA International Nieves Limited.

b) **Accounting estimates and judgments**

The preparation of the financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of policies, reported amounts and disclosures. Actual results could differ from those estimates. Differences may be material.

**Quaterra Resources Inc.**  
**Notes to the Consolidated Financial Statements**  
**For the year ended December 31, 2018**  
**(In U.S. Dollars, tabular amounts in thousands of U.S. dollars except per share amount)**

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Judgment is required in assessing whether certain factors would be considered an indicator of impairment. Both internal and external information are considered to determine whether there is an indicator of impairment present and accordingly, whether impairment testing is required.

The critical judgments have been made that may have a significant impact on the Company's consolidated financial statements are related to economic recoverability of its exploration and evaluation assets, the determination of functional currency, and the assumption that the Company will continue as a going concern.

c) Translation of foreign currencies

The Company's presentation currency is the U.S. dollar (" \$" or "USD"). The functional currency of the Company and its significant subsidiaries is the USD.

In preparing the financial statements, transactions in currencies other than an entity's functional currency ("foreign currencies") are recorded at the rates of exchange prevailing at the dates of the transactions. At each balance sheet date, monetary assets and liabilities are translated using the period end foreign exchange rate. Non-monetary assets and liabilities are translated using the historical rate on the date of the transaction. All gains and losses on translation of these foreign currency transactions are included in the statement of loss.

d) Exploration and evaluation assets

Direct costs related to the acquisition and exploration of mineral properties held or controlled by the Company are capitalized on an individual property basis until the property is put into production, sold, abandoned, or determined to be impaired. Administration costs and general exploration costs are expensed as incurred.

When the technical feasibility and commercial viability of extracting a mineral resource are demonstrable, the exploration and evaluation costs are tested for impairment and subsequently transferred to property and equipment. When a property is placed into commercial production, capitalized costs will be depleted using the units-of-production method.

Proceeds from the sale of properties, property water rights or cash proceeds received from farm-out agreements are recorded as a reduction of the related mineral interest, with any excess proceeds accounted for in net income (loss).

Although the Company has taken steps to verify title to mineral properties in which it has an interest, these procedures do not guarantee the Company's title. Such properties may be subject to prior agreements or transfers, or title may be affected by undetected defects.

e) Impairment

The Company's assets are reviewed for indication of impairment at each reporting date. If any such indication exists, an estimate of the recoverable amount of the asset is undertaken, being the higher of an asset's fair value less costs of disposal and its value in use. If the asset's carrying amount exceeds its recoverable amount then an impairment loss is recognized in the statement of loss.

An impairment loss is reversed if there is an indication that there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that this does not exceed the original carrying amount that if no impairment loss had been recognized.

**Quaterra Resources Inc.**  
**Notes to the Consolidated Financial Statements**  
**For the year ended December 31, 2018**  
**(In U.S. Dollars, tabular amounts in thousands of U.S. dollars except per share amount)**

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f) Share-based compensation

The fair value of stock options granted to directors, officers, employees and consultants is calculated using the Black Scholes option pricing model and are expensed over the vesting periods. If and when the stock options are exercised, the value attributable to the stock options is transferred to share capital.

g) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, bank deposits and highly liquid investments with an original maturity of 90 days or less.

h) Financial instruments

Financial instruments are recognized in the statement of financial position when the Company becomes a party to a contractual obligation. At initial recognition, the Company classifies and measures its financial instruments as one of the following:

- at amortized cost if they are held to collect contractual cash flows which solely represent payments of principal and interest;
- at fair value through other comprehensive income (“FVOCI”) if they are held to both collect contractual cash flows and to sell where those cash flows represent solely payments of principal and interest;
- otherwise, they are classified at fair value through profit or loss (“FVPL”).

Financial assets are classified and measured at fair value with subsequent changes in fair value recognized in either profit and loss as they arise, unless restrictive criteria are met for classifying and measuring the asset at either amortized cost or FVOCI. Financial liabilities are measured at amortized costs unless they are required to be measured at fair value through profit and loss.

Financial assets are derecognized when the rights to receive cash flows from the assets have expired or have been transferred and the Company has transferred substantially all risks and rewards of ownership. Financial liabilities are derecognized when the obligations specified in the contract are discharged, cancelled or they expire.

At each reporting date, the Company uses the expected credit losses model to assess the impairment of its loans and receivables. The expected losses represent possible outcomes weighted by the probability of their occurrence, and the model focuses on the risk of default rather than whether a loss has been incurred. If there has been a significant increase in credit risk, an allowance would be recognized in the statement of loss.

i) Provisions

Provisions are recognized when a present legal or constructive obligation exists as a result of past events where it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and the amount of the obligation can be reliably estimated.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the reporting date, taking into account the risks and uncertainties surrounding the obligation.

The Company had no material provisions at December 31, 2018 and 2017 .

**Quaterra Resources Inc.**  
**Notes to the Consolidated Financial Statements**  
**For the year ended December 31, 2018**  
**(In U.S. Dollars, tabular amounts in thousands of U.S. dollars except per share amount)**

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j) Earnings (loss) per share

Basic earnings (loss) per share is calculated using the weighted average number of common shares outstanding during the year. The Company uses the treasury stock method to compute the dilutive effect of options, warrants and similar instruments. Under this method the dilutive effect on earnings per share is calculated presuming the exercise of outstanding options, warrants and similar instruments. It assumes that the proceeds of such exercise would be used to repurchase common shares at the average market price during the year. However, the calculation of diluted loss per share excludes the effects of various conversions and exercise of options and warrants that would be anti-dilutive.

k) Income tax

Income tax comprises current and deferred tax. Income tax is recognized in net loss, except to the extent it is related to items recognized directly in equity or in other comprehensive loss.

Deferred tax is recognized in respect of temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. Deferred tax is determined on a non-discounted basis using tax rates and laws that have been enacted or substantively enacted by the reporting date and are expected to apply when the deferred tax asset or liability is settled. Deferred tax assets are recognized to the extent that it is probable that the assets can be recovered.

l) Accounting Change - Adoption of IFRS 9 Financial Instruments

The Company adopted the provisions of IFRS 9 effective January 1, 2018 on a full retrospective basis.

The Company has elected to measure its investments in equity instruments of a public company at fair value through profit and loss instead of through other comprehensive income (loss) ("OCI"). As a result, amounts previously included in OCI has been reclassified to deficit as of January 1, 2017, and any subsequent changes in OCI during fiscal 2017 have been reversed and reclassified in the statement of loss for the period. For 2016 and 2017 losses of \$30,921 and \$31,324 respectively have been reclassified from OCI to loss for the period increasing the losses from those previously reported. The reclassification had no impact on closing shareholders' equity for each period.

There were no other material amounts arising from the adoption of IFRS 9.

From the date of transition, the Company classifies its financial instruments as follows:

<b>Financial assets and financial liabilities</b>	<b>Before</b>	<b>After</b>
Cash and cash equivalents	Loans and receivable	Amortized cost
Marketable securities	Available for sale	FVPL
Accounts payable and accrued liabilities, loan payable, and related party loan payable	Other financial liabilities	Amortized cost
Derivative liabilities	FVPL	FVPL
Convertible notes	Amortized cost	Amortized cost

The Company's accounts and loans payable approximate fair value due to their short term nature. The marketable securities are a Level 1 fair value measurement, the derivative warrants are a Level 2 fair value measurement.

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The convertible note is classified as a liability, less the portion relating to the conversion feature which is classified as a derivative liability. The debt liability was initially recorded at fair value and subsequently at amortized cost using the effective interest rate method and is accreted to the face value over the term of the convertible debenture.

m) Recent Accounting Pronouncements

The Company has reviewed new and revised accounting pronouncements that have been issued but are not yet effective.

IFRS 16, *Leases*, specifies how a Company will recognize, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. The standard is effective for annual periods beginning on or after January 1, 2019. The Company does not have any material leases, thus does not expect the adoption of IFRS 16 would have a significant impact on its financial statements.

**3. MARKETABLE SECURITIES**

The Company was issued 1,182,331 common shares of Grande Portage Resources Ltd. (“**Grande Portage**”), as a result of the sale of the Company’s 35% interest in the Herbert Gold project on July 29, 2016. On November 9, 2017, an additional 760,464 shares were allotted after Grande Portage completed financings up to \$1 million to maintain Quaterra’s interest at 9% pursuant to the terms of the sale agreement. As of December 31, 2018 and 2017, the Company held 1,942,795 common shares of Grande Portage with a fair value of \$156,654 (2017 - \$286,502).

During 2018, a \$ 129,848 loss was recognized in the profit and loss, following the adoption of IFRS 9 (see Note 2(l)).

**4. EXPLORATION AND EVALUATION ASSETS**

The Company owns a 100% interest in the MacArthur and Yerington properties, and has an option to earn a 100% interest in the Bear and Wassuk properties, which are located in Yerington District, Nevada.

On September 17, 2018, the Company announced a purchase and sale agreement to sell certain primary ground water rights associated with its Yerington property to Desert Pearl Farms LLC (“**Desert Pearl**”), a local company involved in agriculture in the Yerington district, Nevada, for \$6.26 million. Desert Pearl deposited an initial \$625,920 into escrow, half of which was released in October 2018 and the 2<sup>nd</sup> half was released in January 2019 for the Company’s corporate use.

The Company closed the sale of water rights on March 3, 2019, for a final value of \$6.02 million after adjusting for a small correction to one of the original permits. The balance owing of \$5.37 million was paid on that date (Note 16(b)).

On September 11, 2017, Freeport-McMoRan Nevada LLC (“**Freeport Nevada**”) terminated the Membership Interest Option Agreement (the “**Option Agreement**”) that was entered on June 13, 2014, as amended. During the Option Agreement period, the Company received a total of \$14.54 million funding used in exploration drilling, geological mapping, geophysics, land maintenance, environmental compliance, and general administration of the Yerington District properties. With Freeport Nevada’s exit, the Company regained its 100% ownership and control over its Yerington properties.

Since the termination of the Freeport Nevada Option Agreement, all personnel costs are expensed resulting an \$837,526 total personnel cost during the year ended December 31, 2018.

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In April 2017, the Company entered into a lease agreement with Chuchuna Minerals Company (“Chuchuna”) to earn a 90% interest in Groundhog property located in Alaska.

Total mineral property maintenance and exploration costs are listed in the table below:

(In thousands of U.S. Dollars)	MacArthur	Yerington	Bear	Wassuk	Groundhog	Other	Total
<b>Balance, December 31, 2015</b>	\$ 18,332	\$ 9,084	\$ (226)	\$ 660	\$ -	\$ 2,450	\$ 30,300
Additions:							
Property maintenance	150	63	1,388	152	-	-	1,753
Geological & mapping	-	376	732	-	-	-	1,108
Geophysical & survey	79	154	46	-	-	-	279
Assay & labs	4	1	80	-	-	-	85
Drilling	-	-	1,150	-	-	-	1,150
Other	47	78	322	-	-	-	447
	280	672	3,718	152	-	-	4,822
Impairment	-	-	-	-	-	(1,480)	(1,480)
Option payments/Recovery	(1,075)	(356)	(3,492)	(152)	-	(970)	(6,045)
<b>Balance, December 31, 2016</b>	<b>17,537</b>	<b>9,400</b>	<b>-</b>	<b>660</b>	<b>-</b>	<b>-</b>	<b>27,597</b>
Additions:							
Property maintenance	151	160	895	252	126	-	1,584
Geological & mapping	47	639	-	6	412	-	1,104
Geophysical & survey	34	240	95	1	525	-	895
Assay & labs	42	104	-	85	-	-	231
Drilling	300	1,393	4	-	200	-	1,897
Other	-	131	1	-	248	-	380
	574	2,667	995	344	1,511	-	6,091
Option payments	(223)	(1,495)	(675)	-	-	-	(2,393)
<b>Balance, December 31, 2017</b>	<b>17,888</b>	<b>10,572</b>	<b>320</b>	<b>1,004</b>	<b>1,511</b>	<b>-</b>	<b>31,295</b>
Property maintenance	150	52	692	101	40	-	1,035
Geological & mapping	66	45	-	-	10	-	121
Geophysical & survey	113	13	-	-	12	-	138
Environmental	-	196	-	-	6	-	202
Other	1	13	-	-	41	-	55
Technical consultant	-	-	-	-	-	-	-
	330	319	692	101	109	-	1,551
Recovery	-	(313)	-	-	-	-	(313)
<b>Balance, December 31, 2018</b>	<b>\$ 18,218</b>	<b>\$ 10,578</b>	<b>\$ 1,012</b>	<b>\$ 1,105</b>	<b>\$ 1,620</b>	<b>\$ -</b>	<b>\$ 32,533</b>

a) MacArthur, Nevada

The Company earned its 100% interest in the MacArthur property by paying \$2.2 million over 10 years. The property is subject to a 2% net smelter return royalty (“NSR”), which may be reduced to a 1% NSR royalty for a consideration of \$1.0 million.



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b) Yerington, Nevada

The Company acquired a 100% interest in the Yerington property from the Arimetco bankruptcy proceeding in April 2011 for \$ 500,000 cash and 250,000 common shares.

The acquisition followed years of due-diligence studies and negotiations with state and federal agencies and the receipt of Bona Fide Prospective Purchase letters from the U.S. Environmental Protection Agency (“EPA”), the Nevada Division of Environmental Protection and the Bureau of Land Management to protect SPS from liability emanating from activities of the former mine owners and operations.

The property has a 2% NSR royalty capped at \$7.5 million payable following commencement of commercial production.

c) Bear, Nevada

During 2013 the Company entered into four option agreements to acquire a 100% interest in private land in Yerington, Nevada, known as Bear deposit. In May 2015, the Company entered into the 5<sup>th</sup> option agreement for additional private land covering a portion of the Bear Deposit.

Under the terms of these option agreements, as amended, the Company is required to make approximately \$5.0 million in cash payments (\$4.405 million paid) in order to maintain the exclusive right to purchase the land, mineral rights and certain water rights and to conduct mineral exploration on these properties. Aggregate payments due in order to maintain the five option agreements by year are as follows:

- \$1,458,774 paid prior to December 31, 2015 (paid);
- \$1,363,258 due in 2016 (paid);
- \$895,258 due in 2017 (paid);
- \$688,000 due in 2018 (paid);
- \$238,000 due in 2019;
- \$188,000 due in 2020;
- \$63,000 each due in 2021 and 2022, respectively; and
- \$51,000 due in 2023

d) Wassuk, Nevada

The Company has an option, as amended, to earn a 100% interest in certain unpatented mining claims in Lyon County, Nevada, over ten years and is required to make \$1.515 million in cash payments (\$900,000 paid) and incur a work commitment of \$300,000 (\$92,112 incurred) by August 1, 2021. The remaining option balance is due on each anniversary August 1, 2019 to 2021 in the amounts of \$55,000, \$60,000 and \$500,000, respectively.

The property is subject to a 3% NSR royalty upon commencing commercial production, which can be reduced to a 2% NSR royalty in consideration for \$1.5 million.

e) Groundhog, Alaska

On April 25, 2017, the Company announced it signed a lease agreement with Chuchuna Minerals Company (“Chuchuna”) giving it an option to acquire a 90% interest in the Groundhog copper prospect, located 200 miles southwest of Anchorage, Alaska. To earn the 90% interest, the Company is required to fund a total of \$5.0 million of exploration expenditure over five years and to make a lump sum payment to Chuchuna of \$3.0 million by the end of the fifth year.

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The Company is required to spend a minimum of \$1.0 million in the first year and a minimum of \$0.5 million in each of the following four years. The Company spent \$1.5 million in 2017 of which \$0.5 million is carried forward to 2018 to meet the required minimum expenditures in 2018.

The Company has no obligation to exercise its option and can terminate the agreement at its discretion annually.

**5. LOAN PAYABLE**

On May 8, 2015, the Company entered into a \$500,000 secured note (“**Loan Payable**”) with Freeport Nevada in order to facilitate a real property interest acquisition within the Bear deposit area.

The Loan Payable bears an annual interest rate of 5%, compound daily, and was due March 10, 2018, 180 days following the termination notice of the Option Agreement.

During 2018, the Company paid a \$28,816 extension fee to Freeport Nevada to extend the repayment to September 6, 2018. On September 6, 2018, the Company repaid 50% of the outstanding amount including interest accrued. The remaining unpaid amount of \$295,467 has a maturity date of March 6, 2019 and bears an annual interest rate of 10%, compound daily.

Subsequent to the year end, the Company repaid the loan and interest totaling \$310,700 to Freeport Nevada.

**6. CONVERTIBLE NOTES**

On August 28, 2018 and September 20, 2018, the Company completed a non-brokered financing in tranches by way of secured convertible debentures for gross proceeds of \$550,000 and Canadian dollars (“**CAD**”) \$550,000. The convertible debentures bear simple interest at a rate of 10% per annum, payable in arrears, until February 28, 2020 and March 20, 2020. Interest may be paid in cash or shares at the option of the debenture holders, subject to regulatory approvals in the case of share payments.

The outstanding principal amount is convertible into units of the Company at a price of \$0.05 or CAD \$0.065 per unit in the first 12 months, and \$0.075 or CAD \$0.10 thereafter until the maturity date. Each unit consists of a common share and a warrant; each warrant would entitle the holder to acquire an additional common share at a price of \$0.05 or CAD \$ 0.065 for a period of four years.

In the event that the Company’s shares trade at no less than \$0.25 or CAD \$0.375 for a period of 10 consecutive trading days, the Company will have the right to convert the debentures or may elect to accelerate the expiry date of the warrants to 21 days thereafter, respectively.

The Company evaluated the convertible debentures and determined the conversion feature is a derivative liability based on the fact the conversion into units could result a variable number of shares to be issued.

As such, the net proceeds were allocated as \$618,572 to the debt component and \$342,535 to the derivative liability component of the convertible debentures.

At inception, the fair value of the convertible note was calculated using the Black-Scholes model with the following assumptions: volatility 99%, expected term 1.5 year, discount rate 1.46% and dividend yield 0%.

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<i>(In thousands of U.S. Dollars)</i>	Residual value
Convertible note at maturity	\$ 973
Convertible note at date of issue	\$ 619
Cumulative interest expenses	102
Balance at December 31, 2018	\$ 721

**7. DERIVATIVE LIABILITIES**

The Company has certain warrants that are either exercisable in a different currency from the Company's functional currency, or the number of shares to be issued upon exercising are subject to change. They are classified as derivative liabilities and carried at fair value and revalued at each reporting date.

In connection with the issuance of the convertible debentures (Note 6) and 19,000,000 warrants issued in an asset purchase agreement with Freeport-McMoRan Mineral Properties Inc. on October 3, 2014, the conversion option and the warrants are classified as derivative liabilities, carried at fair value and revalued at each reporting date.

As of December 31, 2018, the derivative liabilities were revalued using the Black Scholes model at weighted average assumptions: volatility 120%, expected term 3.5 year, discount rate 1.52% and dividend yield of 0%:

<i>(In thousands of U.S. Dollars)</i>	Fair value
At January 1, 2017	\$ 938
Change in fair value estimates	(351)
At December 31, 2017	587
Issuance of convertible notes	343
Change in fair value estimates	(358)
At December 31, 2018	\$ 572

**8. SHARE CAPITAL**

The Company is authorized to issue an unlimited number of common shares without par value.

There were no shares issued in the year ended December 31, 2018.

**9. SHARE-BASED COMPENSATION**

a) Stock options

The Company has a stock option plan under which the Company is authorized to grant stock options of up to 10% of the number of common shares issued and outstanding of the Company at any given time.

The following table presents changes in stock options outstanding and exercisable:

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	December 31, 2018		December 31, 2017	
	Number of Options	Weighted Average Exercise Price (CAD\$)	Number of Options	Weighted Average Exercise Price (CAD\$)
Outstanding, beginning of year	16,050,000	0.16	15,710,000	0.16
Granted	2,570,000	0.06	2,900,000	0.095
Expired	(3,760,000)	0.16	(2,500,000)	(0.45)
Forfeiture	-	-	(60,000)	(0.10)
Outstanding, end of year	14,860,000	0.09	16,050,000	0.16
Exercisable, end of year	14,860,000	0.09	15,850,000	0.17

The following table summarizes stock options outstanding by expiry dates with exercise price at the date of recording in Canadian dollars:

Expiry Date	Exercise Price (CAD\$)	Number of Options Outstanding	
		December 31, 2018	December 31, 2017
September 19, 2018	0.16	-	3,760,000
June 25, 2019	0.10	2,815,000	2,815,000
December 31, 2019	0.05	1,000,000	1,000,000
March 26, 2020	0.05	200,000	200,000
July 16, 2020	0.13	2,380,000	2,380,000
April 14, 2021	0.065	2,995,000	2,995,000
June 23, 2022	0.095	2,900,000	2,900,000
September 20, 2023	0.06	2,570,000	-
		14,860,000	16,050,000

Subsequent to year end 2018, 400,000 stock options were exercised for proceeds of CAD \$25,000.

The Company used the following assumptions in the Black-Scholes option pricing model:

	Year ended December 31,		
	2018	2017	2016
Weighted average share price	CAD 0.05	CAD 0.06	CAD 0.09
Risk-free interest rate	1.32%	0.60%	0.60%
Expected share price volatility	103%	85%	141%
Expected option life in years	5.0	5.0	5.0
Forfeiture rate	0%	0%	0%
Expected dividend yield	0%	0%	0%

Share-based payment expenses were allocated as follows:

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(In thousands of U.S. Dollars)	Year ended December 31,		
	2018	2017	2016
Consultants	\$ 22	\$ 55	\$ 30
Directors and officers	53	88	85
Employees	16	26	21
	\$ 91	\$ 169	\$ 136

b) Share purchase warrants

The following table summarizes warrants outstanding as of December 31, 2018 and 2017:

Expiry date	Exercise price	December 31, 2018	December 31, 2017
January 2, 2018	CAD 0.16	-	5,721,000
September 13, 2018	\$ 0.15	-	29,810,000
October 3, 2019	0.16	19,000,000	19,000,000
		19,000,000	54,531,000

**10. RELATED PARTY TRANSACTIONS**

- a) The Company's related parties include its directors and officers who are the key management of the Company. The remuneration of directors and officers was as follows, subject to change of control provisions for officers:

(In thousands of U.S. Dollars)	Year ended December 31,		
	2018	2017	2016
Salaries	\$ 432	\$ 431	\$ 367
Directors' fees	36	36	36
Share-based compensation	53	88	85
	\$ 521	\$ 555	\$ 488

As of December 31, 2018, \$96,765 salaries to the Company's executive officers and directors were outstanding and included in accounts payable and accrued liabilities. These amounts were paid on March 15, 2019.

- b) Manex Resource Group ("Manex") is a private company owned by the Company's Corporate Secretary Mr. Lawrence Page. Manex provided the Company for its Vancouver office space and general corporate services at a monthly rate of CAD \$8,000 and CAD \$5,000, respectively. Subsequent to the year end, the Company entered into an agreement with Manex at a monthly rate of CAD \$7,500 for such services with reduced Vancouver office space. Either party can terminate the agreement at any time with a 60-day written notice.

As of December 31, 2018, \$31,962 (2017 – \$nil) was due to Manex and included in the accounts payable and accrued liabilities.

- c) On June 13, 2018 and July 11, 2018, Mr. Thomas Patton, CEO of the Company, advanced a CAD \$300,000 and CAD \$100,000 loan to the Company to allow to meet its operating expense requirements. The loan is unsecured, bears an interest rate of 10% per annum and is due six months from the date of advance.

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During 2018, the Company repaid \$100,000 (CAD \$130,000) to Mr. Patton. As of December 31, 2018, \$210,462 or CAD \$287,112 including interest remained outstanding. Subsequent to the year end, the principal and interest totaling CAD \$292,134 was repaid.

**11. SEGMENTED INFORMATION**

The Company has one business segment, the exploration of mineral properties. As of December 31, 2018 and 2017, all the Company's significant non-current assets are located in the United States.

**12. COMMITMENTS**

To acquire certain mineral property interests as per Note 4, the Company must make optional acquisition expenditures in order to satisfy the terms of existing option agreements, failing which the rights to such mineral properties will revert back to the property vendors.

**13. DEFERRED INCOME TAXES**

A reconciliation of income tax provision computed at Canadian statutory rates to the reported income tax provision is provided as follows:

	<b>2018</b>	<b>2017</b>	<b>2016</b>
Loss for the year	\$ (1,419)	\$ (1,273)	\$ (1,896)
Canadian statutory tax rate	27%	26%	26%
Income tax benefit computed at statutory rates	(383)	(331)	(493)
Foreign tax rates different from statutory rates	14	(32)	(2,885)
Other	89	-	157
Rate difference between current and deferred taxes	-	4,317	(285)
Foreign exchange gains or losses	225	(425)	-
Permanent differences	(43)	(33)	(155)
Change in unused tax losses and tax offsets	98	(3,496)	3,661
	\$ -	\$ -	\$ -

The Company recognizes tax benefits on losses or other deductible amounts generated in countries where it is probable the deferred tax assets will be recovered. The Company's unrecognized deductible temporary differences and unused tax losses for which no deferred tax asset is recognized consist of the following amounts:

	<b>2018</b>	<b>2017</b>	<b>2016</b>
Non-capital losses	\$ 9,405	\$ 9,255	\$ 11,225
Capital loss	2,273	2,337	2,102
Tax value over book value of mineral properties	3,335	3,352	5,111
Tax value over book value of equipment	12	12	13
Tax value over book value of investments and share issue costs	43	16	20
Unrecognized deductible temporary differences	\$ 15,068	\$ 14,972	\$ 18,471

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The Company's unused non-capital losses expire as follows:

		Canada		United States
2020 - 2026	\$	542	\$	713
2027 - 2037		17,814		19,098
Total	\$	18,356	\$	19,811

The Company's unused capital losses of \$16.8 million are available to carry forward indefinitely.

**14. CAPITAL MANAGEMENT**

The Company considers its capital to be equity, comprising share capital, reserves and deficit. The Company's objectives are to ensure sufficient financial flexibility to achieve the ongoing business objectives including funding of future growth opportunities, pursuit of accretive acquisitions, and to maximize shareholder return through enhancing the share value.

The Company manages capital through its budgeting and forecasting processes. The Company reviews its working capital and forecasts its future cash flows based on operating expenditures, and other investing and financing activities.

To maintain its objectives, the Company may issue new shares, adjust capital spending, acquire or dispose of assets. There is no assurance that these initiatives will be successful.

There was no change in the Company's approach to capital management during the year ended December 31, 2018. The Company is not subject to any externally imposed capital requirements.

**15. FINANCIAL INSTRUMENT RISKS**

The board of directors has overall responsibility for the establishment and oversight of the Company's risk management framework. The Company examines the various financial instrument risks to which it is exposed and assesses the impact and likelihood of those risks. Financial instruments consist of cash and cash equivalents, marketable securities, accounts payable and accrued liabilities, loan payables and derivative liabilities.

a) Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company manages liquidity risk by forecasting cash flows. Cash is invested in highly liquid investments which are available to discharge obligations when they come due.

a) Currency risk

Foreign exchange risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Company operates in United States and Canada, it is therefore exposed to currency risk arising from transactions denominated in CAD.

Currently, the Company does not have any foreign exchange hedge programs in place and manages its operational CAD requirements through spot purchases in the foreign exchange markets. Based on the magnitude of CAD financial assets and liabilities, the Company does not have material sensitivity to CAD to USD exchange rates.

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b) Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in market interest rates. The Company is exposed to the interest rate risk on its liabilities through its outstanding borrowings and the interest earned on cash balances. The Company monitors its exposure to interest rates and maintain an investment policy that focus primarily on the preservation of capital and liquidity.

b) Credit risk

Credit risk is the risk of a financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations.

The Company is exposed to credit risk through its cash and cash equivalents. Cash and cash equivalents are held in large Canadian financial institutions that have high credit ratings assigned by international credit ratings agencies. Short-term investments are guaranteed by

c) Market risk

The Company is exposed to market risk because of the fluctuating values of its publicly traded marketable securities. The Company has no control over these fluctuations and does not hedge its investments. Marketable securities are adjusted to fair value at each reporting date.

**16. SUBSEQUENT EVENTS**

- a) On January 21, 2019, the Company closed a non-brokered private placement by issuing 3,000,000 common shares at a price of CAD \$0.05 per share for gross proceeds of CAD \$150,000.
- b) On March 3, 2019, the Company announced the closing of the water rights sale, and received the remaining net proceeds of \$5.37 million (Note 4).



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**SERVICE AGREEMENT**

THIS SERVICE AGREEMENT (the "Agreement") is dated effective the 1<sup>st</sup> day of April, 2019.

BETWEEN:

**MANEX RESOURCE GROUP INC.**  
1100 – 1199 West Hastings Street  
Vancouver, BC V6E 3T5

("Manex")

AND:

**QUATERRA RESOURCES INC.**  
1100 – 1199 West Hastings Street  
Vancouver, BC V6E 3T5

(the "Company")

WHEREAS:

- A. Manex provides office space, and administrative, corporate and other services to the Company;
- B. The parties wish to formalize such arrangement by entering into this Agreement on the terms and conditions set out herein;

NOW THEREFORE in consideration of the premises and the mutual covenants and agreements herein contained, the parties hereto covenant and agree with the other as follows:

**1. APPOINTMENT**

- 1.1 The Company hereby appoints Manex and Manex hereby accepts such appointment to provide office space, and administrative, corporate and other services to the Company.

**2. OFFICE ACCOMMODATIONS**

- 2.1 Manex agrees to provide to the Company the following office space and accommodations (collectively, the "**Office Accommodations**"):
  - (a) an address, telephone number, meeting and board rooms, appropriate furniture, computer equipment and software, telephone, copiers, fax, and other reasonable office related equipment; and
  - (b) dedicated office space, that being the office currently in use by Thomas Patton, together with the adjoining office.

**3. SERVICES**

- 3.1 Manex agrees to provide to the Company the following services (collectively, the "**Services**"):
-

- (a) maintenance of share capital records and liaison with the Company's transfer agent;
  - (b) maintenance of records for common shares, stock options, warrants and exercise of convertible securities such as options and warrants;
  - (c) coordinate annual general meetings; assistance with preparation of annual meeting materials inclusive of information circular and U.S. Forms 20-F/40-F as applicable;
  - (d) attending board and/or committee meetings for preparation of minutes or resolutions; and
  - (e) assistance with office administration.
- 3.2 Manex will provide, as requested, corporate strategic and contract advice, corporate finance and financing advice, geological, corporate development, accounting and administrative services and services related to divestiture of the Company's assets and assistance in equity raises relative to maintenance of the subscription book, fund transfers and all matters relating to closing of subscription agreements inclusive of debt or equity funding agreements ("**Specified Services**").
- 4. LEGAL SERVICES**
- 4.1 Manex does not provide legal services to the Company and the Company agrees to obtain its own legal advice and counsel.
- 5. REMUNERATION**
- 5.1 The Company hereby agrees to pay Manex:
- (a) \$7,500 per month in advance for Office Accommodations and provision of the Services; and
  - (b) fees for the Specified Services rendered at the rates outlined at Schedule "A".
- 5.2 The Company further agrees to reimburse Manex for the actual out-of-pocket expenses and/or disbursements incurred on behalf of the Company plus 15% thereof by Manex, its consultants, advisors, sub-agents and employees, in connection with the provision of any of the services hereunder including, but not limited to, office supplies, couriers and filing fees, as well as any tax imposed (other than income tax) on any of Manex's fees, out-of-pocket expenses or disbursements (collectively, the "Expenses"), PROVIDED ALWAYS THAT Manex will provide to the Company receipts or vouchers detailing such Expenses and, if the statute implementing any tax imposed obligates Manex to collect and remit that tax, Manex shall be at liberty to add that tax to its accounts as a separate item AND PROVIDED FURTHER that the Company shall advance from time to time and at any time, upon request by Manex, funds sufficient to cover anticipated Expenses to be incurred on behalf of the Company, it being acknowledged by the Company that, in the absence of such advance, Manex may but will not be obligated to cause such Expenses to be incurred on behalf of the Company.
- 5.3 The Company agrees to pay Manex for travel time of a maximum of eight (8) hours per person per day charged at the rates outlined in Schedule "A".

5.4 The Company agrees that it is responsible for all business-related taxes including GST and any other applicable taxes and acknowledges that the fees set out in Section 5.1 and in Schedule "A" do not include business-related taxes.

## **6. ACCOUNTS**

6.1 Manex will provide the Company with an invoice at the beginning of each month for Office Accommodations and Services for that month. Manex will provide another invoice for any Expenses and Specified Services for the preceding month.

6.2 All invoices are due and payable upon presentation. The Company agrees to pay Manex promptly upon receipt of such invoices and agrees to pay interest to Manex on the unpaid balance thereof at the rate of prime plus 2% per annum calculated from the thirtieth (30<sup>th</sup>) day after receipt of the invoice to the date of payment. Manex may, at its option, immediately cease providing services to the Company in the event of any non-payment of an account or accrued interest thereon. Manex may, without notice in the event of any non-payment of an account or accrued interest thereon, pursue any collection remedy available to it at the cost of the Company including court costs, filing fees and legal costs on a solicitor and his own client basis.

## **7. TERMINATION**

7.1 Either party may terminate the Agreement with sixty (60) days written notice to the other party.

7.2 In the event of default of either party, the non-defaulting party may give the defaulting party written notice of default which specifies the obligations which the defaulting party has failed to perform. If the defaulting party fails to remedy such default within thirty (30) days of receiving the notice of default, or such other period of time as may be determined by mutual agreement, the non-defaulting party may terminate the Agreement by written notice to the defaulting party.

## **8. NON-DISCLOSURE**

8.1 Manex shall not, either during the term of the Agreement or within five (5) years after the termination of this Agreement, disclose to any person, or make use of itself, any information or trade secrets relating to the Company, its business, policies, methods, scientific data, information or other private affairs which Manex shall have acquired in any manner.

## **9. NON-EMPLOYMENT OF MANEX STAFF**

9.1 During the term of this Agreement and for a period of five (5) years thereafter, the Company shall not hire or otherwise engage any employee of Manex, or any person previously employed by Manex within one (1) year thereof, without the prior written consent of Manex.

## **10. GENERAL**

10.1 The Company represents and warrants to Manex that the Company is duly incorporated, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has the power and capacity to enter into this Agreement and to carry out its terms, and the execution and delivery of this Agreement by the Company has been duly and validly authorized by all necessary corporate action.

- 10.2 Manex covenants and agrees to provide the Services hereunder in a faithful and diligent manner and to conduct the Services in an efficient, trustworthy and business-like manner to the advantage and benefit of the Company.
- 10.3 Neither the Agreement nor any rights or benefits arising hereunder are assignable without the prior written consent of the other party.
- 10.4 Any notices to be given by either party to the other shall be well and sufficiently given if delivered personally or by email or if sent by double registered mail, postage prepaid, to the parties hereto at the respective addresses set out above, or to such other address or addresses as the parties hereto may notify to the other from time to time in writing. Such notice shall be deemed to have been given at the time of delivery, if delivered in person or by email, or forty-eight (48) hours from the date of posting if mailed from Vancouver, British Columbia.
- 10.5 This Agreement shall be construed and enforced in accordance with, and the rights of the parties shall be governed by, the laws of the Province of British Columbia and the laws of Canada applicable therein.
- 10.6 This Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective successors and permitted assigns.

IN WITNESS WHEREOF the parties hereto have executed this Agreement as of the day and year first above written.

**MANEX RESOURCE GROUP INC.**

*/s/ Lawrence Page*  
Per: \_\_\_\_\_  
Authorized Signatory

**QUATERRA RESOURCES INC.**

*/s/ Thomas C. Patton*  
Per: \_\_\_\_\_  
Authorized Signatory

SCHEDULE "A"

FEEES FOR SPECIFIED SERVICES

<b>Position</b>	<b>Rate (per hour)</b>
Geological Staff	
Senior	\$105
Junior	\$80
Corporate Development	\$100
Corporate Secretarial (Corporate Paralegal)	\$70
Accounting	\$110

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**SUBSIDIARIES OF QUATERRA RESOURCES INC.**

<u>Name</u>	<u>Jurisdiction of Incorporation or Organization</u>
Quaterra Alaska, Inc.	Alaska, United States
Singatse Peak Services LLC	Nevada, United States
Six Mile Mining Company	Alaska, United States
Quaterra International Limited	British Virgin Islands
QTA International Nieves Limited	British Virgin Islands

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**CERTIFICATION OF THE PRINCIPAL EXECUTIVE OFFICER  
FILED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Thomas Patton, certify that:

1. I have reviewed this annual report on Form 20- F of Quaterra Resources Inc.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: April 3, 2019

/s/ Thomas Patton  
Thomas Patton  
Chief Executive Officer

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**CERTIFICATION OF THE PRINCIPAL FINANCIAL OFFICER  
FILED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Lei Wang, certify that:

1. I have reviewed this annual report on Form 20- F of Quaterra Resources Inc.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d- 15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: April 3, 2019

/s/ Lei Wang  
Lei Wang  
Chief Financial Officer

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**CERTIFICATION OF THE PRINCIPAL EXECUTIVE OFFICER  
FURNISHED PURSUANT TO SECTION 906 OF THE SARBANES- OXLEY ACT OF 2002**

In connection with the annual report of Quaterra Resources Inc. (the "Company") on Form 20-F for the period ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report") to which this certification is attached, I, Thomas Patton, Chief Executive Officer of the Company, certify solely for the purposes of 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 3, 2019

/s/ Thomas Patton  
\_\_\_\_\_  
Thomas Patton  
Chief Executive Officer

*This certification is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Act of 1934 (whether made before or after the date of the Report), irrespective of any general incorporation language contained in such filing.*

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**CERTIFICATION OF THE PRINCIPAL FINANCIAL OFFICER  
FURNISHED PURSUANT TO SECTION 906 OF THE SARBANES- OXLEY ACT OF 2002**

In connection with the annual report of Quaterra Resources Inc. (the "Company") on Form 20-F for the period ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report") to which this certification is attached, I, Lei Wang, Chief Financial Officer of the Company, certify solely for the purposes of 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 3, 2019

/s/ Lei Wang  
\_\_\_\_\_  
Lei Wang  
Chief Financial Officer

*This certification is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Act of 1934 (whether made before or after the date of the Report), irrespective of any general incorporation language contained in such filing.*

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